
# 2014 – 2015 Undergraduate Calendar

**Effective date of information, unless otherwise noted: July 1, 2014.**

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The publication of information in the Calendar does not bind the University to the provision of courses, programs, services, or facilities as listed herein.

Students are responsible for informing themselves of the University's procedures and policies and the specific requirements associated with the degree, diploma or certificate sought.

Students are responsible for informing themselves of the risks associated with field and laboratory studies. By participating in such studies they shall be deemed to have accepted personal responsibility for all such risks (including, without limitation, all risks identified by course instructors/supervisors and in literature that has been published by the University or that has otherwise been made available to students), to have agreed to abide by the safety rules and procedures established by their instructors/supervisors for such activities, and to have waived the liability of the University of Northern British Columbia and its instructors/supervisors in respect of such activities.

Students are responsible for informing themselves of the details of international travel programs and whether the program offered to them is a UNBC-sponsored academic program.

EVERY STUDENT ACCEPTED FOR REGISTRATION WITH THE UNIVERSITY OF NORTHERN BRITISH COLUMBIA SHALL BE DEEMED TO HAVE AGREED TO BE BOUND BY THE REGULATIONS AND POLICIES OF THE UNIVERSITY AND OF THE PROGRAM IN WHICH THAT STUDENT IS ENROLLED.

The University of Northern British Columbia specifically reserves the right to exercise its sole, absolute, and unfettered discretion in admitting individuals to the University, its programs, and courses.

The University of Northern British Columbia shall incur no liability for loss or damage suffered or incurred by any student or third party as a result of delay, alteration, or termination of services, courses, programs, tuition, or fees by reason of: acts of God, fire, strikes, lock-outs, damage to University property, inability to procure or produce materials, civil unrest or disobedience, financial exigency, or any other cause of any kind.

The University of Northern British Columbia is a smoke-free institution. Smoking may be permitted in designated areas only.



The 2014 – 2015 *University of Northern British Columbia Undergraduate Calendar* was prepared by the Office of the Registrar.

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# Faculty

Aldiabat, Khaldoun, Assistant Professor, Nursing-BSc (Jordan) MsN (Jordan) PhD (Calgary)

Anderson, Margaret, Professor Emerita, First Nations—BA MA PhD (Michigan)

Antoniazzi, Clara, Senior Lab Instructor, Nursing—(New Caledonia), BSN (Northern British Columbia) MHSc (Deakin) RN

Aravind, Alex, Professor, Computer Science—BSc MSc (India) MTech (Indian Institute of Technology) PhD (Indian Institute of Science)

Arocena, Joselito, Professor, Soil and Environmental Sciences—BSc MSc (Philippines, Los Banos) PhD (Alberta)

Aukema, Brian, Adjunct Professor, Ecosystem Science and Management – BCS/Bsc (Redeemer) MS (Wisconsin-Madison) PhD (Wisconsin-Madison)

Babicz, Walter, Adjunct Professor, Political Science – BEd (British Columbia) Juris Doctor (Victoria)

Bai, Ping, Senior Lab Instructor, GIS—BSc (Beijing) MSc (Windsor)

Banks, Kathryn, Assistant Professor, Nursing-BN (Dalhousie) MSN (British Columbia) PhD (Alberta)

Banner-Lukaris, Davina, Assistant Professor, Nursing—BSN (Wales) PhD (West England)

Barayabar, Jose Pablo, Adjunct Professor, Anthropology, BSS (Peru) MSc (London) PhD (Illinois)

Beaumont, Sherry, Professor, Psychology—BA Hons (St Thomas) MA PhD (Waterloo)

Beeler, Karin, Professor, English—BA Hons (British Columbia) MA PhD (Alberta)

Beeler, Stan, Professor, English—BA Hons MA (Dalhousie) PhD (Alberta)

Beveridge, Erin, Senior Lab Instructor, Mathematics and Statistics—BSc (Northern British Columbia)

Bidgood, Bruce, Associate Professor, Social Work—BA (Brock) MA PhD (Wilfred Laurier)

Binnema, Theodore, Professor, History—BA (Calvin College) MA PhD (Alberta)

Bird, Ranjana, Professor, Biology BSc (Waterloo) MSc PhD (Guelph)

Blair, Jenia, Senior Lab Instructor, Biology—BSc (Victoria) MSc (Northern British Columbia)

Bleiker, Katherine, Adjunct Professor, Ecosystem Science and Management – BSc (Victoria) MSc (Northern British Columbia) PhD (Montana)

Bluskov, Iliya, Professor, Mathematics and Statistics—BSc (Bulgaria) MSc (Victoria) PhD (Simon Fraser)

Bogdanski, Bryan, Adjunct Professor, Economics, Ecosystem Science and Management—BA (Queens) MA (Simon Fraser) PhD (British Columbia)

Booth, Annie, Professor, Ecosystem Science and Management (Forestry)—BA (Victoria) MES (York) PhD (Wisconsin) MCIP

Bouchard, Michel, Associate Professor, Anthropology—BA (Toronto) MA (Laval) PhD (Alberta)

Bowles, Paul, Professor, Economics—BSc Hons (Southampton) MA (Sussex) PhD (London School of Economics)

Brown, Charles, Adjunct Professor, Mathematical, Computer, and Physical Sciences (Computer Science)– BSc MSc (British Columbia) PhD (Simon Fraser)

Brown, Willow, Associate Professor, Education—BEd (Saskatchewan) MEd (U of Alaska SE) PhD (Saskatchewan)

Bryce, Benjamin, Assistant Professor, History—BA (British Columbia) MA PhD (York)

Budde, Robert, Professor, English—BEd BA MA (Manitoba) PhD (Calgary)

Burton, Philip, Associate Professor, Ecosystem Science and Management—BSc (Hons) (Saskatchewan) MS (Hawaii) PhD (Illinois)

Callaghan, Russell, Associate Professor, Northern Medical Program-BA MA (British Columbia) PhD (Toronto)

Carroll, Alan, Adjunct Professor, Ecosystem Science and Management—BSc (Simon Fraser) PhD (UNB)

Casperson, David, Associate Professor, Computer Science—BSc Hons (Simon Fraser) MA PhD (Waterloo)

Chen, Jing, Assistant Professor, Business—BS (Shanghai) MS (Beijing) PhD (Michigan)

Chen, Liang, Professor, Computer Science—BSc (Huazhong) PhD (Institute of Software, Acadamia Sinica)

Choi, Sungchul, Associate Professor, Business—BBA (Pusan) MBA (Pusan) PhD (Alberta)

Clague, John, Adjunct Professor, Ecosystem Science & Management—BSc (Occidental) MSc (Berkley) PhD (British Columbia)

Clough, Phillip, Lecturer, Business – MA (Royal Roads)

Connell, David, Associate Professor, Planning—BA (Toronto) BComm Hons (Windsor) MBA (Windsor) PhD (Guelph)

Constantin, Alina, Senior Lab Instructor, Northern Medical Program – MD (Carol Davila) MSc PhD (York)

Costello, Allan, Assistant Professor, Ecosystem Science & Management – BSc (Memorial) PhD (British Columbia)

Cousineau, Stephanie, Adjunct Professor, History—BA Hons (Calgary) MA (New Brunswick) PhD (Calgary)

Coxson, Darwyn, Professor, Ecosystem Science and Management—BSc (Lethbridge) PhD (McMaster)

Croft, Elizabeth, Assistant Professor, Business—BA (British Columbia) MBA (York & Laval) PhD (British Columbia)

Cronshaw, Steven, Professor, Business, Psychology —BA BComm (Saskatchewan) MA PhD (Akron)

Curry, John, Associate Professor, Planning—BSc Hons (McGill) MA (Waterloo) PhD (British Columbia) MCIP

Cuthbertson, Mike, Lecturer, Business—BComm (British Columbia) CA

Dale, Mark, Professor, Ecosystem Science and Management—BSc MSc (Toronto), PhD (Dalhousie)

Dawson, Russell, Professor, Ecosystem Science and Management, and Canada Research Chair, Avian Ecology—BSc PhD (Saskatchewan)

Dayanandan, Ajit, Associate Professor, Economics—MA MPhil (Kerala) PhD (Sydney)

de Leeuw, Sarah, Associate Professor, Health Sciences, Northern Medical Program—BA (Victoria) MA (Northern British Columbia) PhD (Queen's)

DeLong, Craig, Adjunct Professor, Ecosystem Science & Management—BSc (Victoria) MSc (Northern British Columbia)

Deo, Balbinder, Associate Professor, Business—BSc MSc (Amritsar) MBA (Shimla) PhD (Ludhiana and Manitoba)

Dery, Stephen, Associate Professor, Environmental Science and Engineering, and Canada Research Chair, Northern Hydrometeorology—BSc MSc (York) PhD (McGill)

DeWiel, Boris, Associate Professor, Political Science—BA (Athabasca) MA PhD (Calgary)

Dickson, Lisa, Associate Professor, English—BA (Guelph) MA PhD (McMaster)

Dobrowolski, Edward, Assistant Professor, Mathematics and Statistics –MS PhD (Wrolaw)

Domning, Christine, Senior Lab Instructor—BSc (British Columbia)

Egger, Keith, Professor, Ecosystem Science and Management—BSc (Calgary) PhD (Victoria)

Emmons, Scott, Senior Lab Instructor, GIS—BSc (Northern British Columbia)

Erasmus, Daniel, Senior Lab Instructor, Biochemistry—BSc MSc (Stellenbosch) PhD (British Columbia)

Fellers, Wendy, Lecturer, Business—MBA (Seattle) CGA

Fondahl, Gail, Professor, Geography—BA (Dartmouth College) MA PhD (California, Berkeley)

Fraser, Tina, Associate Professor, Education, and Adjunct Professor, First Nations—BSc (Idaho) MEd (Simon Fraser) PhD (British Columbia)

Fredeen, Arthur, Professor, Ecosystem Science and Management—BSA Hons (Saskatchewan) PhD (California, Berkeley)

Fredj, Karima, Associate Professor, Economics—BA (Tunisia) MSc (Montreal) PhD (McGill)

Garcia, Oscar, Professor, Ecosystem Science and Management, and Endowed Chair, Forest Growth and Yield—MSc (Chile) PhD (Georgia)

Ge, Xin, Associate Professor, Business—BA MA (Nanjing) PhD (Alberta)

Geertsema, Marten, Adjunct Professor, Ecosystem Science and Management—BSc MSc (Alberta) PhD (Utrecht)

George, Anne, Adjunct Professor, Health Sciences-BA (Acadia) MLS (British Columbia) PhD (British Columbia)

Gillingham, Michael, Professor, Ecosystem Science and Management—BSc (McGill) PhD (British Columbia)

Gorrell, Andrea, Associate Professor, Chemistry—BSc Hons (Texas A & M) PhD (Iowa State)

Grainger, Susan, Adjunct Professor, Ecosystem Science and Management—BHMED (British Columbia) BSc (Oregon)

Graveline, Fyre Jean, Professor, First Nations Studies—BSW (Calgary) MSW (Manitoba) PhD (Dalhousie)

Gray, Sarah, Associate Professor and Canada Research Chair, Integrative Physiology of Diabetes, Northern Medical Program—BSc PhD (Victoria)

Green, Scott, Associate Professor, Ecosystem Science and Management—AAS (New York) BA (Moody, Chicago) PhD (Wisconsin)

Greenwood, Margo, Professor, First Nations Studies, and Academic Leader NCCAH—BEd (Alberta) MA (Victoria) PhD (British Columbia)

Guest, Kristen, Associate Professor, English—BA MA (Western) PhD (Toronto)

Haeussler, Sybille, Adjunct Professor, Ecosystem Science & Management-BSF Hons (British Columbia), MSc (Oregon State), PhD Hons (Quebec)

Hagiwara, Ami, Lecturer, International Studies—BA (Nihon), Teaching Certificate (Nihon)

Hall, Kevin, Professor, Geography—BA Hons (Swansea) MPhil (Reading) PhD (Orange Free State) DSc (Natal)

Halseth, Greg, Professor, Geography and Canada Research Chair, Rural and Small Town Studies —BA (British Columbia) MA PhD (Queen's)

Hanlon, Neil, Professor, Geography —BA (Ryerson) MA PhD (Queen's)

Haque, Waqar, Professor, Computer Science and Business—BSc Hons (Pakistan) MSc (Alberta) MSc PhD (Iowa State)

Harder, Henry, Professor, Health Sciences Program, Psychology—BEd MA EdD (British Columbia)

Hardy, Cindy, Professor, Psychology—BA Hons (British Columbia) MA PhD (Concordia) R. Psych

Harris, Luke, Associate Professor, Health Sciences and Adjunct Professor, Northern Medical Program—BSc Hons (Acadia) PhD (Alberta)

Harrison, Edward, Assistant Professor, Education—BEd MEd (British Columbia) PhD (Alberta)

Hartley, Ian, Professor, Ecosystem Science and Management and Physics—BSc MScF (New Brunswick) PhD (British Columbia)

Hartman, Bryan, Professor, Education—BA Ed. Cert. MA (British Columbia) PhD (Alberta)

Hawkes, Brad, Adjunct Professor, Ecosystem Science and Management – BSF (British Columbia) MSc (Alberta) PhD (Montana)

Hawkins, Chris, Adjunct Professor, Ecosystem Science and Management —BSc Hons MSc (Simon Fraser) PhD (Australian National)

Hay, William, Lecturer, Education—BA Bed (St. Thomas) MEd (New Brunswick)

Healy, Theresa, Adjunct Professor, Environmental Planning—MA (Saskatchewan) PhD (SFU)

Heard, Doug, Adjunct Professor, Ecosystem Science and Management—BSc (Waterloo) MSc (British Columbia)

Helle, Steve, Associate Professor, Environmental Engineering—BEng MEng (McGill) PhD (British Columbia)

Hemingway, Dawn, Associate Professor, Social Work—BA (Simon Fraser) MSc MSW (Northern British Columbia)

Henderson, Earl, Adjunct Professor, First Nations Studies—BA MA (Northern British Columbia)

Hirt, Andreas, Adjunct Professor, Computer Science-BSc (Northern British Columbia) MSc (Calgary) PhD (Calgary)

Hoffman, Ross, Associate Professor, First Nations Studies—BA (Hons) (Trent) BEd (Toronto) MEd (Victoria) PhD (Trent))

Holler, Jacqueline, Associate Professor, History, Women's Studies—BA MA (Simon Fraser) PhD (Emory)

Holyk, Travis, Adjunct Professor, First Nations Studies—BA (Okanagan) MA (Northern British Columbia)

Horne, Dee, Professor, English—BA (McGill) MA PhD (Toronto)

Howard, Julie, Senior Lab Instructor, Psychology—BSc (Alberta) MSc (Northern British Columbia)

Huber, Dezene, Associate Professor, Ecosystem Science and Management, and Canada Research Chair, Forest Entomology and Chemical Ecology—BSc (Calgary) PhD (Simon Fraser)

Hussein, Ahmed, Professor Emeritus, Physics—BSc (Alexandria) MSc PhD (Alberta)

Hutchings, Kevin, Professor, English, and Canada Research Chair in Literature, Culture, and Environmental Studies—BA (Guelph) MA (McMaster) PhD (Hamilton)

Huynh, Ngoc, Senior Lab Instructor, Nursing – BA (Simon Fraser)

Hyndman, Jennifer, Professor, Mathematics and Statistics—BMath (Waterloo) MA PhD (Colorado)

Iwama, George, Adjunct Professor, Ecosystem Science & Management, BSc MSc PhD (British Columbia)

Jackson, Christine, Senior Lab Instructor, Geography—BSc (British Columbia) BEd (Western)

Jackson, Peter, Professor, Environmental Engineering, Environmental Science, and Environmental Studies—BSc Hons PhD (British Columbia)

Jago, Charles, Professor Emeritus, History – BA Hons (Western Ontario) PhD (Cambridge)

James, Ryan, Senior Lab Instructor, Education—BA (Lethbridge) MEd (Northern British Columbia)

Jensen, Erik, Professor, Physics—BSc Hons (Victoria) PhD (Cambridge)

Johnson, Chris, Associate Professor, Ecosystem Science and Management—BSc Hons (Victoria) MSc PhD (Northern British Columbia)

Johnson, Alyce, Adjunct Professor, First Nations Studies – BEd MEd (British Columbia) PhD (Trent)

Jokinen, Nancy, Associate Professor, Social Work – MSW (Lakehead) PhD (Calgary)

Jones, George, Senior Lab Instructor, Physics – BSc PhD (Windsor)

Jull, Michael, Adjunct Professor, Ecosystem Science and Management—BSF MSc (British Columbia)

Keahey, Deborah, Adjunct Professor, English — BA Hons (Manitoba) MA PhD (Michigan)

Keeler, Gwen, Senior Lab Instructor, Nursing-BA (Victoria) BSc (British Columbia Institute of Technology)

Keen, Kevin, Associate Professor, Mathematics and Statistics—BSc Hons (Simon Fraser) MSc (Montreal) PhD (Toronto)

Keener, Lee, Professor, Mathematics and Statistics—BA (Amherst College) MSc (Rensselaer Polytechnic) MSc (Oregon) PhD (Rensselaer Polytechnic)

Kitchenham, Andrew, Professor, Education—BEd MEd (Victoria) PhD (James Cook) PhD (Wyoming)

Klepetar, Amy, Assistant Professor, Nursing—BA (Dartmouth) BScN (John Hopkins) MSc (Utah) RN

Koehn, Corinne, Associate Professor, Education—BA MA (Victoria) PhD (Victoria) R. Psych

Korkmaz, Elie, Professor, Physics—BSc (Lebanese) MSc PhD (Indiana)

Kotowich-Laval, Marian, Senior Lab Instructor, Education—MA (Royal Roads)

Kranz, Allan, Senior Lab Instructor, Computer Science—BSc (Northern British Columbia)

Krehbiel, Richard, Adjunct Professor, Environmental Planning – Juris Doctor (Saskatchewan)

Kumar, Pranesh, Professor, Mathematics and Statistics—MSc PhD (Indian Agricultural Research Institute)

Kunkel, Titilope, Senior Lab Instructor, First Nations Studies —BSc (Lagos) MBA (Thames Valley) NMRES (Northern British Columbia)

Kuo, Kuo-Hsing, Associate Professor, Northern Medical Program,—MD (National Taiwan) MSc PhD (British Columbia)

Kutney, Gerald, Adjunct Professor, Environmental Science – PhD (Toronto)

Lacharite, Jason, Assistant Professor, Political Science—BA (Victoria) MA (Yonsei) PhD (Monash)

Lautensach, Alexander, Assistant Professor, Education—BEd (Toronto) MSc (Guelph) MScT (McMaster) PhD (Otago)

Lavallee, Lorraine, Assistant Professor, Psychology—BA MA PhD (British Columbia)

Lavoie, Josée, Adjunct Professor, Health Sciences—BSc MA (McGill) PhD (London)

Lazenby, Richard, Professor, Anthropology and Adjunct Professor, Northern Medical Program —BA/MA (Simon Fraser) PhD (McMaster)

Lee, Chow H., Professor, Chemistry—BSc Hons (New South Wales, Australia) PhD (Flinders, Australia)

Lewis, Kathy, Professor, Ecosystem Science and Management—BSF (British Columbia) MS (Virginia Polytech and State) PhD (Oregon State)

Li, Han, Professor, Psychology—BEd Hons (Hua-Zhong NU) MPH (North Carolina) MA PhD (Victoria)

Li, Jianbing, Professor, Environmental Engineering—BASc MaSc (Wuhan) PhD (Regina)

Lindgren, B. Staffan, Professor, Ecosystem Science and Management—MPM PhD (Simon Fraser)

Loukacheva, Natalia, Associate Professor,Political Science and Canada Research Chai, Aboriginal Governance and Law—LL.B/LL.M PhD (Urals State Law Academy) SJD (Toronto)

MacLeod, Martha, Professor, Community Health Science, Nursing—BA MA (Toronto) PhD (Edinburgh) RN

MacMillan, Peter, Associate Professor, Community Health, Education—BSc Ed. Cert. MA (British Columbia), PhD (Alberta)

MacPhail, Fiona, Professor, Economics—BA Hons MA (Guelph) MA (Sussex) PhD (Dalhousie)

Madak, Paul, Professor, Psychology—BA (St. Bonaventure) MA PhD (Manitoba)

Maher, Patrick, Adjunct Professor, Outdoor Recreation and Tourism Management—BA Honours (Lakehead) PhD (Lincoln)

Mandy, Margot, Professor, Chemistry—BSc Hons (Acadia) MSc PhD (Toronto)

Mann, Patrick, Adjunct Professor, Physics – BSc (Western Ontario) MSc (Lakehead) PhD (Oxford)

Manson, Donald, Adjunct Professor, Geography—BA (Dalhousie) MA (Northern British Columbia)

Margolin, Indrani, Associate Professor, Social Work—BA Hons (Guelph) MSW (Wilfrid Laurier) PhD (Toronto)

Margulis, Matias, Assistant Professor, International Studies-BA MA (Toronto) PhD (McMaster)

Martel, Gordon, Professor Emeritus, History—BA Hons (Simon Fraser) MA (Tufts and Harvard) PhD (Toronto)

Massicotte, Hugues, Professor, Ecosystem Science and Management—BScA (Laval) MSc PhD (Guelph)

Maurice, Sean, Senior Lab Instructor, Northern Medical Program, BKinesiology (Calgary) PhD (British Columbia)

McDonald, Jim, Professor, Anthropology—BA Hons (Manitoba) MA (Alberta) PhD (British Columbia)

McDonald, VernaLynn, Assistant Professor, Education—BA (Alberta) MEd (British Columbia) Ma EdD (US International, San Diego)

McGill, William, Professor, Ecosystem Science and Management—BSA Hons MSc (Manitoba) PhD (Saskatchewan)

Meletis, Zoe, Associate Professor, Geography—BA (McGill) MScPl (Toronto) PhD (Duke)

Menounos, Brian, Professor, Geography and Canada Research Chair Glacier Change—BA MA (Colorado) PhD (British Columbia)

Michalos, Alex, Professor Emeritus, Political Science—BA (Western Reserve) MA BD PhD (Chicago)

Michel, Paul, Adjunct Professor, First Nations—BA MEd (Simon Fraser)

Migabo, Saphida, Senior Lab Instructor, Ecosystem Science and Management—BSc (Kenya) MSc (Alberta) PhD (Cornell)

Mills, Antonia, Professor, First Nations—BA Hons PhD (Harvard)

Morris, Jason, Lecturer, Political Science BA (Simon Fraser) MA (Northern British Columbia)

Morrison, William, Professor Emeritus, History—BA Hons MA (McMaster) PhD (Western)

Mullins, Philip, Assistant Professor, Outdoor Recreation & Tourism Management—BA (Lakehead) MA (Alberta)

Murphy, Michael, Associate Professor, Political Science, and Canada Research Chair—BA MA (Western Ontario) PhD (McGill)

Murray, Brent, Associate Professor, Ecosystem Science and Management—BSc MSc (Alberta) PhD (McMaster)

Nixon, Gregory, Assistant Professor, Education—BA (Alberta) MEd (Lethbridge) PhD (Louisiana State)

Nolin, Catherine, Associate Professor, Geography—BA (Calgary) MA PhD (Queen's)

Northrop, Jeffrey, Adjunct Professor, Chemistry—BS (Maryland) PhD MD (Stanford)

Nyse, Deanna, Adjunct Professor, FIrst Nations Studies—BEd MEd (British Columbia)

O'Neill, Linda, Associate Professor, Education—BA MEd (Victoria) PhD (Victoria)

Opio, Chris, Associate Professor, Ecosystem Science and Management—BScF (New Brunswick) MEDes (Calgary) PhD (Alberta)

Otter, Ken, Professor, Ecosystem Science and Management—BSc (British Columbia) MSc PhD (Queen's)

Owen, William, Associate Professor, Psychology—BSc Hons (Augustana University College) MA PhD (Saskatchewan)

Owens, Philip, Professor, Environmental Science, and Endowed Chair, Landscape Ecology—BSc (Coventry) MSc (British Columbia) PhD (Exeter)

Parker, Katherine, Professor, Ecosystem Science and Management, and Ian McTaggart Cowan Muskwa Kechika Research Professor—BA MA PhD (Washington State)

Parkes, Margot, Associate Professor, Health Sciences, and Canada Research Chair, Community Health/Environmental Health/Rural, Remote, Aboriginal and Northern Health—MB ChB (Otago) MA (Brussel) PhD (Otago)

Parshotam, Umesh, Senior Lab Instructor, Chemistry and Adjunct Professor, Northern Medical Program—BSc (Texas) PhD (Western)

Pateman, Kerry, Senior Lab Instructor—Planning, BA (British Columbia)

Pawlowska-Mainville, Agnieszka, Assistant Professor, First Nations—BA (McGill) MA (Manitoba) PhD (Manitoba)

Payne, Geoffrey W., Associate Professor, Northern Medical Program—BSc MSc PhD (Memorial)

Peters, Heather, Associate Professor, Social Work—BA (Saskatchewan) BSW (British Columbia) MSW (Carleton) PhD (British Columbia)

Petticrew, Ellen, Professor and FRBC Chair in Landscape Ecology, Geography—BSc Hons (Queen's) MSc (British Columbia) PhD (McGill)

Picketts,Ian, Adjunct Professor, Ecosystem Science and Management—BA (Queen's) MSc PhD (Northern British Columbia)

Pierce, Joanna, Associate Professor, Social Work—BSW MSW (Northern British Columbia)

Plourde, Guy, Professor, Chemistry—BSc (Quebec) MSc PhD (Manitoba)

Poirier, Lisa, Assistant Professor, Ecosystem Science and Management—BSc (Guelph) MPM PhD (SFU)

Polajnar, Jernej, Associate Professor, Computer Science—BSc MSc (Belgrade) PhD (Southern California)

Potter, Grant, Senior Lab Instructor, Centre for Teaching and Learning—BA (Acadia) BEd MEd (British Columbia)

Prkachin, Glenda, Associate Professor, Psychology—BA Hons MA (Carleton) PhD (British Columbia)

Prkachin, Kenneth, Professor, Community Health Science, Psychology—BA MA PhD (British Columbia) R.Psych

Procter, Dennis, Assistant Professor, Education—BSc Hons (Canterbury) BEd (Calgary) Ed. Cert. MSc (British Columbia) PhD (Alberta)

Rader, Stephen, Professor, Chemistry—BA (Swarthmore College) PhD (California-San Francisco)

Rahemtulla, Farid, Assistant Professor, Anthropology—BA (Alberta) MA (Toronto) MA PhD (Simon Fraser)

Rea, Roy, Senior Lab Instructor, Ecosystem Science and Management—BS (California State) MSc (Northern British Columbia) PhD(Norwegian Life Sciences)

Reid, Matthew, Associate Professor, Physics—BSc (Northern British Columbia) MSc PhD (Alberta)

Reimer, Kerry, Professor, Chemistry—BSc (British Columbia) MSc PhD (Simon Fraser)

Rex, John, Adjunct Professor, Geography—BSc (Memorial) MSc PhD (Northern British Columbia)

Rocha, Elizabete, Adjunct Professor, Psychology – BA (British Columbia) MSc (Northern British Columbia) PhD (Saskatchewan)

Romanets, Maryna, Associate Professor, English, Women's Studies—MA (Chernivtsi) PhD (Ukranian National Academy of Arts and Sciences), PhD (Saskatchewan)

Rutherford, Michael, Professor, Environmental Science—BSc Hons (British Columbia) PhD (Alberta)

Ryan, Daniel, Associate Professor, Mathematics and Statistics – BSc MSc PhD (Guelph)

Safaei Boroojeny, Jalil, Associate Professor, Economics—BA MA (Shiraz, Iran) PhD (Manitoba)

Sanborn, Paul, Associate Professor, Ecosystem Science and Management—BA (Western) MSc (Alberta) PhD (British Columbia)

Sanchez-Fortun Stoker, Jamie, Adjunct Professor, Physics – MPhys PhD (Newcastle)

Sangha, Dave, Assistant Professor, Social Work—BA BSW MSW (British Columbia)

Schiller, Catharine, Assistant Professor, Nursing-BScN (Ryerson) MSc (Toronto) Juris Doctor (Western Ontario)

Schmidt, Glen, Professor, BSW Coordinator Social Work—BA BSW (Manitoba) MSW (British Columbia) PhD (Memorial)

Schorcht, Blanca, Associate Professor, English—BA MA PhD (British Columbia)

Scott, Charles, Lecturer, Business—BA (British Columbia) MA (Waterloo)

Seidel, Andrew, Professor, Planning – BArch (Pratt) MCP (Harvard) PhD (Michigan)

Sharp, Karyn, Adjunct Professor, Anthropology—BA Hons (Radford) MA (Utah)

Shegelski, Mark, Professor, Physics—BSc Hons (Calgary) MSc PhD (British Columbia)

Sherry, John, Assistant Professor, Education—BA (San Diego) MS PhD (Fordham)

Shrimpton, Mark, Professor, Ecosystem Science and Management—BSc (Victoria) MSc PhD (British Columbia)

Shubair, Mamdouh, Assistant Professor, Health Sciences—BSc MSc PhD (Waterloo)

Shultis, John, Associate Professor, Outdoor Recreation and Tourism Management—BSc Hons (Trent) PhD (Otago)

Siakaluk, Paul, Associate Professor, Psychology—BA Hons (Calgary) MSc (Calgary) PhD (Alberta)

Sinclair, Finlay, Adjunct Professor, Environmental Planning-BA (Simon Fraser)

Skeates, Sue, Assistant Professor, Nursing—BHS (Open Learning) MAdEd (St. Francis Xavier) MA (California College)

Smith, Angèle, Associate Professor, Anthropology—BA (Toronto) MA (McMaster) PhD (Massachusetts)

Smith, Heather, Professor, International Studies—BA (Alberta) MA PhD (Queen's)

Smith, Kevin, Associate Professor (Health Sciences) – BSc (First Class Hons) (The Napier Polytechnic of Edinburgh)PhD (MRC Clinical Research Centre, Harrow)

Smith, Nathan, Assistant Professor, History—BA Hons (York) MA (Toronto), PhD (Toronto)

Sommerfeld, Anne, Senior Lab Instructor, Health Sciences—HBScN (Lakehead) RN

Stark, Martha, Adjunct Professor, Chemistry-BA (Swarthmore) PhD (California)

Stevenson, Susan, Adjunct Professor, Ecosystem Science and Management—BA (Swarthmore) MSc (British Columbia)

Stubley, Tammy, Assistant Professor, Social Work—BA (Cape Breton) BSW (Victoria) MSW (British Columbia)

Sui, Jueyi, Professor, Environmental Engineering—BEng MEng (Hefei) DrIny (Germany)

Summerville, Tracy, Associate Professor, Political Science—BA Hons MA (Western) PhD (Laval)

Swainger, Jonathan, Professor, History—BA (Lethbridge) MA (Calgary) PhD (Western)

Tait, Robert, Professor, Psychology —BA MA (Queen's) PhD (Iowa)

Tallman, Rick, Associate Professor, Business—BSc (Manitoba) MBA (Toronto) Marketing Management Certificate (Western) PhD (Manitoba)

Tang, Youmin, Professor and Canada Research Chair, Environmental Science—BSc MSc (Nanjing) PhD (British Columbia)

Thien, Deborah, Adjunct Professor, Geography – BA (Victoria) MA (Northern British Columbia) PhD (Edinburgh)

Thomas-Reilly, R. Gregory, Nursing—BA (Toronto) BSc (McMaster) MSc (Royal Roads) PhD (London) PGDip (London)

Thring, Ron, Professor, Environmental Engineering—BSc (Botswana and Swaziland) MASc (Bradford UK) MSc (Saskatchewan) PhD (Sherbrooke)

Tippett, William (BJ), Adjunct Professor, Community Health—BA (Trent) MSc (Essex) PhD (York)

Transken, Si Chava, Associate Professor, Social Work, Women's Studies—BA BSW (Laurentian) MA PhD (Toronto)

Usman, Lantana, Associate Professor, Education—Ed. Cert. BEd MBA MEd (Ahmadu Bello) PhD (Alberta)

Van Pelt, Linda, Assistant Professor, Nursing—Nursing Diploma (BCIT) BSN (Open University) BHS (TRU) MScN-FNP (Northern British Columbia)

Wagner, Shannon, Professor, Disability Management—BA MSc PhD (Northern British Columbia)

Walters, Samuel, Professor, Mathematics and Statistics—MA PhD (Dalhousie)

Wang, Baotai, Professor, Economics—BA MA (People's University of China) MA (Windsor) PhD (Dalhousie)

Wang, You Qin (Jean), Senior Lab Instructor—HPCP BSc Hons (Ocean University) MSc (Manitoba) PhD (Manitoba)

Ward, Arlene, Adjunct Professor, Disability Management—BSc (British Columbia) MSc (Calgary)

Welsh, Cedar, Senior Lab Instructor, Ecosystem Science & Management – BSc (Trent) MSc (Northern British Columbia)

Wessell Lightfoot, Dana, Associate Professor, History—BA MA PhD (Toronto)

Whalen, Catherine, Assistant Professor, Education—BEd (New Brunswick) MA (Royal Roads) PhD (Calgary)

Wheate, Roger, Associate Professor, Geography/GIS Coordinator—BSc Hons (St Andrews) MA (Queen's) PhD (St Andrews)

Whitcombe, Todd, Associate Professor, Chemistry—BSc Hons PhD (Victoria)

Wilkening, Ken, Associate Professor, International Studies—BA MS PhD (U Wisconsin Madison)

Wilson, Allan, University Librarian – BA (Hons) (Brock University) MLSc (Masters of Library Science) (University of Toronto)

Wilson, Erin, Assistant Professor, Nursing – BSN (Manitoba) MScN (British Columbia)

Wilson, Gary, Associate Professor, Political Science—BA (Carleton) MA PhD (Toronto)

Wimmers, Guido, Associate Professor, Integrated Wood Engineering and Design— PhD (Innsbruck)

Windsor, James, Lecturer, Geography—BA (Waterloo) NMRM (Manitoba) MPA (Queen's)

Winwood, Paul John, Associate Professor, Northern Medical Program—BSc (London) MB BS (London)

Wright, Pamela, Associate Professor, Outdoor Recreation and Tourism Management—BSc (Lakehead) MSc (Ohio State) PhD (Ohio State)

Young, Jane, Assistant Professor, Ecosystem Science and Management—BSc (York) MSc (Guelph) PhD (Toronto)

Young, John, Associate Professor, Political Science—BA Hons (Alberta) MA (Carleton) PhD (Toronto)

Zahir, Saif, Professor, Computer Science—ME (Wisconsin) PhD (Pittsburgh)

Zimmer, Lela, Associate Professor, Nursing—Dipl Nursing (BCIT) BSN (Northern British Columbia) PhD (Alberta)

# Officers of the University

## UNBC Board of Governors

| | |
|---|---|
| Dr. Mark Dale (Interim) | President and Vice-Chancellor |
| Dr. John MacDonald | Chancellor |
| Ms. Louise Burgart | Order-in-Council Appointment (College of New Caledonia Region) |
| Mr. Don Prior | Board Vice Chair—Order-in-Council Appointment |
| Dr. Kathy Lewis | Elected Faculty Member |
| Mr. Simon Yu | Order-in-Council Appointment (Member at Large) |
| Ms. Shannon Norum | Elected Undergraduate Student Member |
| Ms. Judy Mason | Order-in-Council Appointment (Alumni) |
| Dr. Jonathan Swainger | Elected Faculty Member |
| Mr. Harry Nyce, Sr. | Order-in-Council Appointment (First Nations) |
| Mr. Ryan Matheson | Order-in-Council Appointment (Alumni) |
| Mr. Stephen Bennett | Elected Graduate Student Member |
| Ms. Carolee Clyne | Elected Staff Member |
| Mr. John Turner | Board Chair—Order-in-Council Appointment (Northern Lights College Region) |
| Mr. Andy Clough | Order-in-Council Appointment |

## Senate

| | |
|---|---|
| Dr. John MacDonald | Chancellor |
| Dr. Mark Dale (interim) | President and Vice Chancellor, and Chair of Senate |
| Dr. John Young (Acting) | Provost |
| Dr. Blanca Schorcht | Dean, College of Arts, Social, and Health Sciences |
| Dr. Daniel Ryan | Dean, College of Science and Management |
| Dr. Kevin Smith | Dean, Graduate Programs |
| Dr. Ranjana Bird | Vice President, Research |
| Mr. Aaron LeBlanc | Director, Ancillary and Continuing Studies |
| Mr. Allan Wilson | University Librarian |
| Mr. Troy Hanschen | Registrar and Secretary of Senate (non-voting) |

### College of Arts, Social and Health Sciences Faculty Members

Ms. Eleanor Annis
Dr. Lisa Dickson
Dr. R. Luke Harris
Dr. Kuo-Hsing Kuo
Dr. Jalil Safaei Boroojeny
Dr. Paul Siakaluk
Dr. Shannon Wagner
Dr. Baotai Wang

### College of Science and Management Faculty Members

Dr. Daniel Erasmus
Dr. Scott Green
Dr. Elie Korkmaz
Dr. Kevin Keen
Dr. Catherine Nolin (Vice Chair)
Dr. Kerry reimer
Dr. Todd Whitcombe
Dr. Saif Zahir

### Faculty Members at Large

Dr. Balbinder Deo
Dr. Rick Tallman

### Students – Undergraduate

Mr. Julian Brown
Mr. Daniel Burke
Mr. Linda Horianopoulos
Ms. Kirsten Reimer
Mr. Wendel Schwab

### Students – Graduate

Mr. Robert Giardino
Mr. Jeff Kormos
Mr. Kirk Walker

### Lay Senators

Ms. Chantal Carriere
Ms. Lisa Handfield
Ms. Rheanna Robinson
Mr. Allan Stroet

### WWN Representative

Ms. Deanna Nyce

### Regional Senators

vacant (South-Central Region)
Mr. Rick Brouwer (Northwest Region)
Ms. Moira Green (Peace River-Liard Region)
vacant (Aboriginal/First Nations Communities)

# University Administrative Officers

## Academic Administration

*President and Vice Chancellor*—Mark Dale (Interim), BSc MSc (Toronto) PhD (Dalhousie)

*Provost and Vice President, Academic*—John Young (Acting), BA Hons (Alberta) MA (Carleton) PhD (Toronto)

*Vice Provost Medicine*—Paul John Winwood, Northern Medical Program, BSc (London) MB BS (London)

*Vice President Research*—Ranjana Bird, BSc (Waterloo) MSc PhD (Guelph)

*Vice Provost, Student Engagement*—William Owen, BSc Hons (Augustana University College) MA PhD (Saskatchwen)

*Dean of the College of Arts, Social and Health Sciences*—Blanca Schorcht, BA Hons (Alberta) MA (Carleton) PhD (Toronto)

*Dean of the College of Science and Management*—Daniel Ryan, BSc MSc PhD (Guelph)

*Dean of Graduate Programs*—Dr. Kevin Smith, BSc (First Class Hons) (The Napier Polytechnic of Edinburgh) PhD (MRC Clinical Research Centre, Harrow)

*Dean of Regional Programs* - vacant

*Registrar and Secretary to Senate*—Troy Hanschen, BA (Simon Fraser)

## Ancillary Services and Continuing Studies

*Director*—Aaron LeBlanc, BHK (British Columbia), MBA (Thompson Rivers)

## Athletics

*Athletic and Recreation Director*—Loralyn Murdoch, BPE (Alberta) MEd (Victoria)

## Awards and Financial Aid

*Co-ordinator*—Linda Fehr

## Bookstore

*Manager*—Mardeana Berg

## External Relations

*Vice-President of External Relations*—Rob van Adrichem, BA MA (Northern British Columbia)

## Facilities

*Director of Facilities Management*—Shelley Rennick, BComm MNRES (Northern British Columbia)

## Finance

*Vice President, Administration and Finance*—Eileen Bray, MBA (Edinburgh) CMA

*Director, Finance and Budgets*—Colleen Smith, BComm Hons (Co-op) (Memorial) CA

*Financial Services and Systems Manager*—Leanne Murphy, BBA (Thompson Rivers University) CMA

*Treasury Services Manager*—William Chew, BA, Lic. Acct. (British Columbia), CIM CMA

## First Nations Centre

*Director*—Paul Michel, MEd (Simon Fraser)

## Health and Safety Office

*Risk & Safety Coordinator*— Teresa Chernowski

## Human Resources

*Director*—Sheila Page, BA (British Columbia), CHRP

## Information Technology Services

*Chief Information Officer*—Gregory Condon, BA BSc (Dalhousie)

## Purchasing, Contract and Risk Management

*Director*—Sheila Keith

## Office of Regional Operations

*Dean of Regional Programs*—vacant

*Regional Chair, Northwest*— Philip Burton, BSc (Hons) (Saskatchewan) MS (Hawaii) PhD (Illinois)

*Regional Chair, Peace River–Liard*—vacant

*Regional Chair, South Central*—vacant

## Office of the Registrar

*Registrar and Secretary to the Senate*—Troy Hanschen, BA (Simon Fraser)

*Associate Registrar—Enrolment Services* — Pamela Flagel, BA MA (Northern British Columbia)

*Associate Registrar—Registration Services* — Shelley McKenzie, BComm MBA (Northern British Columbia)

## Security and Parking Office

*Director, Purchasing, Contract and Risk Management*—Sheila Keith

*Manager, Security & Risk*—Sarah Elliott

## Student Career Centre

*Co-ordinator*—Maria Trujillo, Career Development Practice Graduate Cert. (Royal Roads)

## Student Success

*Vice Provost, Student Engagement* — William Owen, BSc Hons (Augustana University College) MA PhD (Saskatchewan)
*Director, International Education*— Sylvester Chen, BA Hons (Jilin Normal) BA MEd (Brock)
*Manager, Wellness Centre*—Sarah Hanson,
*Manager, Residence and Student Life*—Robert Giardino,
*Academic Success Coordinator*—Vivian Fayowksi, BSc (Victoria) MEd (Northern British Columbia)
*Access Resource Centre Coordinator*—Brenda Christensen, BSc (Northern British Columbia)

## University Library

*University Librarian*—Allan Wilson, – BA (Hons) (Brock) MLSc (Toronto)
*Instructor/Data Librarian*—Gail Curry, BSc Hons (McGill) MLS (British Columbia)
*Catalogue Librarian*—Eleanor Annis, BA (Lethbridge) MLIS (Western Ontario) MA (Leicester)
*Digital Initiatives Librarian*—Caitlin Bakker, BA (British Columbia) MLIS (McGill)
*Head, Archives and Special Collections*—Ramona Rose, BA (Memorial) MMSt (Toronto) MA (British Columbia)
*Acquisitions Librarian*—Heather Empey, BA (Augustana) MLIS (Alberta)
*Northern Health Sciences Librarian*—Trina Fyfe, BA (Waterloo) MISt (Toronto)
*Research and Learning Services Librarian*—Kealin McCabe, BA (Wilfred Laurier) MLIS (Western Ontario)
*Archivist, Access & Digital Initiatives Librarian*—Kimberley Stathers, BA (British Columbia) MALIS (British Columbia)
*Records Management Coordinator*—Erica Hernandez-Read, BA MA (British Columbia)
*Liaison Librarian*—Jennifer Rempel, BA MA MLIS (British Columbia)
*Web Services Librarian*—James MacDonald, BA (Lethbridge) MLIS (Alberta)

## Permission for Undergraduates to Take Graduate Course Work

Students in their final year of a Bachelor's degree program at the University of Northern British Columbia who have a grade point average of at least 3.33 (B+) in the last 30 credit hours of course work attempted may be permitted to register in a maximum of six credit hours of graduate courses on the recommendation of the program concerned and with the consent of the Dean of Graduate Programs. If a student is subsequently admitted to a Graduate Program, graduate courses used for credit toward the undergraduate program cannot be used for credit toward the graduate program.

This policy gives academically strong undergraduate students the opportunity to experience graduate level instruction without commitments being made by either the student or the University about admission into graduate programs, or academic credit being awarded for the courses if a student is subsequently admitted to a graduate program. Please note that preclusions stated in the Graduate Academic Calendar will apply. Students are responsible for being aware of preclusions in the Graduate Academic Calendar for cross-listed undergraduate/graduate courses.

Please see the Graduate Studies Officer for further information.

Simultaneous enrolment in a graduate program and an undergraduate program, a diploma program or a certificate program is not permitted.

## Research at UNBC

The University of Northern British Columbia prides itself on being a small institution with a large research mandate and presence. Our faculty members have demonstrated themselves to be highly competitive in securing support for their research, and we are very proud of the achievements of the graduate students who have registered and graduated in our very short history. The principal research values of UNBC are: excellence, innovation, social and economic relevance, and interdisciplinarity. The goals of research at UNBC are to contribute to the advancement of knowledge, and to stimulate economic growth and diversification in ways that are sustainable and that have widespread social support. The research of faculty members and their students, both undergraduate and graduate, give expression to these values and goals, and we are gratified at the impact that their work has already had in the international community as well as in the local and regional communities that are the constituency of the University.

Graduate students have opportunities to engage in research which is at the leading edge of the disciplines, which is relevant to the communities of the north and to the environment, and which is very well supported by granting agencies at the national and the provincial levels. The research programs of students and faculty often occur in partnership with community groups, industry, government agencies, and other interested parties. This is particularly true of the disciplines which engage heavily in research on issues that are of direct relevance to the rural and remote communities, their supporting industries and social structures, and the boreal and northern regions. The graduate students who join UNBC have unique opportunities to engage in research with leaders in their disciplines and in research which has a large and positive societal impact.

## Admission to Graduate Studies

Please contact the Graduate Studies Officer at the Office of the Registrar for more information on admission to Graduate Programs. Also refer to the UNBC Graduate Calendar or visit the Graduate Programs website online at: www.unbc.ca/graduateprograms.

# Admissions

The University of Northern British Columbia is committed to providing the best possible educational experience to its students. While some areas of academic study are available to new students without restriction, to ensure the highest quality learning environment others must be limited in enrolment by the availability of suitable space and instruction. Except for first-entry professional programs, first-year first-entry students are admitted to UNBC by their degree outcome of interest, and must indicate at least their first choice of Degree Group (for example Bachelor of Arts or Bachelor of Science) on their application form. Until such time as students declare a major, they will be assigned either of the two College Deans based upon their declared degree group. Once admitted, if the Major selected would require a transfer between Degree Groups, the approval of the College Dean for the Academic Program including the desired major is required. Transfer from a first-entry professional program to one of the Degree Groups is permitted only by approval of the College Dean for the Academic Program including the desired major.

Transfer students are considered for admission only in the context of a Declaration of Major, and will be admitted, on the basis of space availability and eligibility, by established criteria in the Major of choice.

## How to Apply

To apply for admission to UNBC, please submit a completed application form, including all required documentation and fees, to the Office of the Registrar.

**The online application is available by internet at www.unbc.ca/apply/.**

To receive an application form, contact the Office of the Registrar by mail, by fax at (250) 960-6330 or by phone (250) 960-6300.

Students may also contact the Student Recruitment and Advising Centre (www.unbc.ca/whyunbc) or unbc4u@unbc.ca.

## Application Deadlines

### Canadian Students

General Undergraduate (see Semester Dates and program regulations for professional programs).

| | |
|---|---|
| May Semester | **March 1** |
| September Semester | **March 1** |

**Please note:** While the Canadian Student application deadline for admission is March 1st for September entry, students are encouraged to apply earlier. Applications received after March 1st will be considered on the basis of space availability and eligibility, by established criteria in the Degree Group/Major of choice.

| | |
|---|---|
| January Semester | **November 1** |

### International Students

| | |
|---|---|
| September Semester | **March 1** |
| January Semester | **June 1** |
| May Semester* | |

*Applications are not encouraged for this semester, unless applicants are transferring from a Canadian post-secondary institution.

**Please note:** Applications received after these dates will be processed on the basis of space availability once on-time applications have been allocated.

### Professional and Competitive Entry Programs

**(see Program Regulations for Professional Program Admissions)**

| | |
|---|---|
| Fine Arts | **February 1** |
| Social Work | **February 1** |
| Environmental Engineering | **March 1** |
| Health Sciences | **March 1** |
| Education | **March 15** |
| Nursing | **March 31** |

# Admission Requirements by Degree Groups

| Bachelor of Arts | Bachelor of Fine Arts<br>*see program regulations* | Bachelor of Commerce | Bachelor of Planning & Bachelor of Science |
|---|---|---|---|
| English 12** | English 12** | English 12** | English 12** |
| | Portfolio | | |
| Three Approved Grade 12 Courses* | Three Approved Grade 12 Courses* | Three Approved Grade 12 Courses*<br><br>Pre-Calculus 12 recommended for prerequisite purposes | Three Approved Grade 12 Courses*<br><br>Pre-Calculus 12 recommended for prerequisite purposes |
| A fifth Grade 12 course*** | A fifth Grade 12 course*** | A fifth Grade 12 course*** | A fifth Grade 12 course*** |
| Minimum admission average 65% | Minimum admission average 67% | Minimum admission average 65% | Minimum admission average 65% |

See next page for additional Degree Groups

* **Approved Grade 12 Courses:** Applications of Mathematics, BC First Nations Studies, Biology, Calculus, Chemistry, Comparative Civilizations, Economics, English Literature, Français, Français Langue Seconde-Immersion, French, German, Geography, Geology, History, Japanese, Latin, Law, Mandarin, Math Foundations, Middle Earth 12, Physics, Pre-Calculus, Principles of Mathematics, Punjabi, Social Justice, Spanish, Sustainable Resources, Technical and Professional Communications, Writing. **Approved Advanced Placement Courses:** AP Biology (General), AP Calculus AB or BC, AP Chemistry, AP Computer Science A or AB, AP English, AP Environmental Science, AP European History, AP French, AP German, AP History of Art, AP Human Geography, AP Latin, AP Microeconomics/Macroeconomics, AP Music Theory, AP Physics B and/or Physics C, AP Psychology, AP Spanish Literature, AP Spanish Language, AP Statistics, AP United States History, AP US Government & Politics, AP World History. **Approved International Baccalaureate Courses:** IB Biology, IB Business Management, IB Chemistry, IB Computer Science, IB Economics, IB English Language A, IB Environmental Systems, IB French Language A and/or French Language B, IB Geography, IB German, IB Greek, IB History, IB History - Asian, IB History - European, IB Latin, IB History and Culture of the Islamic World, IB Mathematics, IB Further Mathematics, IB Music, IB Philosophy, IB Physics, IB Psychology, IB Social & Cultural Anthropology, IB Spanish A and/or Spanish B.

** UNBC accepts English First Peoples 12 as an acceptable equivalent to English 12.

** Approved AB and IB (all standard level and higher level) courses can be used in place of any approved Grade 12 Canadian high school course.

*** **A fifth Grade 12 Course:** Any other of the approved Grade 12 courses, and also any Grade 12 course taught in the secondary school including locally-developed courses (e.g. First Nations Languages), career preparation courses (Construction 12, etc.), or others (Art 12, Band 12, Information Technology 12, Communications 12, CAPP 12, etc.), or any Advanced Placement or International Baccalaureate courses.

**** Nursing: UNBC's partner institutions, the College of New Caledonia (CNC) and Northwest Community College (NWCC) are processing admissions to the Northern Collaborative Baccalaureate Nursing Program. If you wish to apply to our Prince George or Quesnel campuses, please apply through CNC: www.cnc.bc.ca; if you wish to apply to our Terrace campus, please apply through NWCC at www.nwcc.bc.ca

† Students interested in pursuing the BHSc Biomedical Studies Major are strongly encouraged to take Pre-Calculus 12 or Principles of Mathematics 12, and Chemistry 12 before entering the Program.

Admission Average: For all provinces the best grade for each required course will be used (either the course mark or the course mark blended with the provincial exam).

*Note: Table excludes entry to upper division (Social Work) or post-baccalaureate (Education) professional programs.*

# Admission Requirements by Degree Groups

| **Nursing******<br>*see program regulations* | **Bachelor of Health Sciences**<br>*see program regulations* | **Environmental Engineering**<br>*see program regulations* |
|---|---|---|
| English 12** | English 12** | English 12** |
| Foundations of Mathematics 11 or<br>Pre-calculus 11 or<br>Principles of Mathematics 11<br>(67% minimum)<br>Chemistry 11 or equivalent (67% minimum) | Pre-calculus 11 or<br>Principles of Mathematics 11<br>(65% minimum)<br>Chemistry 11 or equivalent (65% minimum) | Principles of Mathematics 12<br>or Pre-Calculus 12 |
| Biology 12 (73% minimum) within 5 years prior to the semester of admission to the NCBNP<br><br>Two other approved*<br>Grade 12 courses | Biology 12 (65% minimum)<br>Two other approved* Grade 12 courses<br><br>Biomedical Studies †<br>see program regulations<br><br>Pre-Calculus 12 recommended for prerequisite purposes | Two provincially examinable<br>Science 12 courses:<br>Chemistry 12<br>Physics 12 (recommended)<br><br>Chemistry 11<br>see program regulations |
| A fifth Grade 12 course*** | A fifth Grade 12 course*** | A fifth Grade 12 course*** |
| Minimum admission average 67% | Minimum admission average 65% | Minimum admission average 75% |

* **Approved Grade 12 Courses:** Applications of Mathematics, BC First Nations Studies, Biology, Calculus, Chemistry, Comparative Civilizations, Economics, English Literature, Français, Français Langue Seconde-Immersion, French, German, Geography, Geology, History, Japanese, Latin, Law, Mandarin, Math Foundations, Middle Earth 12, Physics, Pre-Calculus, Principles of Mathematics, Punjabi, Social Justice, Spanish, Sustainable Resources, Technical and Professional Communications, Writing. **Approved Advanced Placement Courses:** AP Biology (General), AP Calculus AB or BC, AP Chemistry, AP Computer Science A or AB, AP English, AP Environmental Science, AP European History, AP French, AP German, AP History of Art, AP Human Geography, AP Latin, AP Microeconomics/Macroeconomics, AP Music Theory, AP Physics B and/or Physics C, AP Psychology, AP Spanish Literature, AP Spanish Language, AP Statistics, AP United States History, AP US Government & Politics, AP World History. **Approved International Baccalaureate Courses:** IB Biology, IB Business Management, IB Chemistry, IB Computer Science, IB Economics, IB English Language A, IB Environmental Systems, IB French Language A and/or French Language B, IB Geography, IB German, IB Greek, IB History, IB History - Asian, IB History - European, IB Latin, IB History and Culture of the Islamic World, IB Mathematics, IB Further Mathematics, IB Music, IB Philosophy, IB Physics, IB Psychology, IB Social & Cultural Anthropology, IB Spanish A and/or Spanish B.

** UNBC accepts English First Peoples 12 as an acceptable equivalent to English 12.

** Approved AB and IB (all standard level and higher level) courses can be used in place of any approved Grade 12 Canadian high school course.

*** **A fifth Grade 12 Course:** Any other of the approved Grade 12 courses, and also any Grade 12 course taught in the secondary school including locally-developed courses (e.g. First Nations Languages), career preparation courses (Construction 12, etc.), or others (Art 12, Band 12, Information Technology 12, Communications 12, CAPP 12, etc.), or any Advanced Placement or International Baccalaureate courses.

**** Nursing: UNBC's partner institutions, the College of New Caledonia (CNC) and Northwest Community College (NWCC) are processing admissions to the Northern Collaborative Baccalaureate Nursing Program. If you wish to apply to our Prince George or Quesnel campuses, please apply through CNC: www.cnc.bc.ca; if you wish to apply to our Terrace campus, please apply through NWCC at www.nwcc.bc.ca

† Students interested in pursuing the BHSc Biomedical Studies Major are strongly encouraged to take Pre-Calculus 12 or Principles of Mathematics 12, and Chemistry 12 before entering the Program.

Admission Average: For all provinces the best grade for each required course will be used (either the course mark or the course mark blended with the provincial exam).

*Note: Table excludes entry to upper division (Social Work) or post-baccalaureate (Education) professional programs.*

## Admission Requirements for Applicants from BC and Yukon High Schools

Successful completion of an approved grade 12 program leading to graduation with an acceptable BC/Yukon high school average calculated on the basis of the five best grade 12 courses from the listings in the Admission Requirements by Degree Group Table above or First Entry Professional Program of your choice (see also "Special Entry").

## Special Early Provisional Admission

Students registered in grade 12 at a BC high school who are planning to attend UNBC in the September immediately following graduation are encouraged to apply for Special Early Admission no later than the end of February. A decision will be made based on the student's self declared Grade 11 and 12 grades and, no later than the end of February, a provisional offer of admission will normally be made to all applicants who meet or exceed the minimum grade point average and course requirements. The conditions associated with special early provisional admission are that the applicant's academic average remains at or above the minimum, that all required courses are successfully completed, and that graduation requirements are satisfied. These conditions will be checked in August upon receipt of the final marks from the Ministry of Education.

The University reserves the right to withdraw a provisional offer of admission if the above conditions are not met.

## Early Provisional Admission from a BC High School

Students registered in grade 12 at a BC high school who are planning to attend UNBC in the September immediately following graduation, are advised to apply for Early Admission (currently before the end of February). All applicants who do this and notify their school counsellor of their application to UNBC will automatically have their interim grade 12 marks submitted to UNBC by the Ministry of Education. A provisional decision will be made based on these grades and a provisional offer of admission will be made to applicants who are considered exceptional. The conditions associated with early provisional admission are that the applicant's academic average remain at or above the minimum, that all required courses are successfully completed and that graduation requirements are satisfied. These conditions will be checked in August upon receipt of the final marks from the Ministry of Education. Where a student does not satisfy the three conditions, the University reserves the right to withdraw the provisional offer of admission.

## BC High School Transcripts

Applicants who are required to submit official BC High School transcripts should contact the BC Ministry of Education:

Ministry of Education – Transcripts
PO Box 9886 Stn Prov Govt
Victoria, BC V8W 9T6
General Information Phone: (250) 356-7270
Or visit the Ministry of Education website:
www.gov.bc.ca/bced

## Headstart Entry from a BC High School

Outstanding students who have completed BC grade 11, can demonstrate an exceptional academic record, and can provide evidence of above average maturity may apply for admission to UNBC. In many cases this may mean concurrently registering in one or two first-year introductory UNBC courses while completing grade 12. However, in exceptional cases, these applicants may be admitted to study as a full-time first-year student at UNBC.

To apply for Headstart entry, the application must be accompanied by an autobiographical letter indicating the applicant's areas of interest and reasons for wishing to attend UNBC, along with letters of recommendation from the high school principal and at least one teacher or counsellor from the school, and a complete high school transcript. Questions and correspondence should be directed to the Office of the Registrar.

## Dual High School/University Credit

High school students in grade 12 who are in good standing, and have the recommendation from their principal or guidance counsellor, may enroll with UNBC in order to earn credits that can be used jointly as elective credits towards high school graduation and as first year university credit towards a degree. This program is designed to allow high school students the opportunity to gain first-hand experience in a university-level course while at the same time earning credits towards their high school diploma. High school students who successfully complete a course(s) can also apply the credits earned towards their future university degree. The courses offered to high school students will be first-year UNBC courses. In order to qualify for dual credit, the British Columbia Ministry of Education requires that the course be approved by the student's home high school before the student registers for the course.

High school students wishing to take a UNBC course to obtain Dual Credit must be in grade 12 and must be in good academic standing at the time of application. In addition, students must obtain the signature of their principal (or guidance counsellor) and a parent or guardian (if under 18 years old) indicating that they are capable of successfully completing a university level course.

While students may take up to three courses from UNBC for Dual Credit, they may only take one course at a time. Upon completion of the course, a transcript will be mailed to the student and to the high school. It should be noted that successful completion of a Dual High School/University Credit course does not guarantee future admission to UNBC.

## International Baccalaureate

Students who are awarded an International Baccalaureate Diploma may be awarded up to 30 credit hours of transfer credit upon receipt of the official transcript from the International Baccalaureate headquarters. Students who are awarded the diploma must have an overall standing of four, with no course below a three. Diploma students are required to present three Higher level subjects and three Subsidiary level subjects in order to be eligible for transfer credits.

Students who are awarded the International Baccalaureate Certificate must have a grade of four in each Higher level subject to be eligible for individual course transfer credit. Subsidiary level subjects are not eligible for transfer credit on a certificate program.

A list of acceptable IB courses is available in the BC Transfer Guide (available online at www.bccat.bc.ca).

### Advanced Placement

Students who take the College Board Advanced Placement courses in high school may be awarded transfer credit upon receipt of the official exam results from the College Board. UNBC Institution Code 2023 is required when ordering official transcripts. Courses completed with a grade of four or above will be awarded transfer credit. Students who have completed AP courses with a grade of three may be considered for Advanced Standing. Advanced Standing allows a student to register in a higher level course without the required prerequisite. However, as credit is not awarded, advanced standing will not reduce the number of credits that a student must accumulate to obtain a UNBC degree. As a result a student must make up this credit by completing another course to be used towards their degree requirements. A listing of acceptable AP courses for transfer credit is available on the BC Transfer Guide's website at http://bctransferguide.ca/guides/ap.

### British Columbia Adult Graduation Diploma

Applicants must be at least 19 years of age and have successfully completed the BC Adult Graduation Diploma and the appropriate entrance requirements for Degree Group at the Grade 12 level with an overall average of 65% or better. Applicants in this category are not required to complete a fifth grade 12 course as noted in the Admission Requirements by Degree Group Table.

## Admission from Secondary Schools and CEGEP in Other Canadian Provinces

### Alberta, the Northwest Territories and Nunavut

Successful completion of an academic grade 12 program that leads to graduation and includes at least five courses with an overall 65% average selected from:

- English Language Arts 30-1
- at least three additional courses selected from the following: Aboriginal Studies 30, Biology 30, Blackfoot Language & Culture 30, Chemistry 30, Chinese Language & Culture 30, Cree Language & Culture 30, English 35, Experiential Science 30 Français 30-1 or 30-2, French 30, French 31A/B/C, French Language Arts 30-1 or 30-2, German 30/30S, German 31, German Language Arts 30, German Language & Culture 30, Gonawo K'e 35, Inuktitut 35, Inuktitut Studies 35, Italian Language & Culture 30, Japanese Language & Culture 30, Latin 30, Mathematics 30-1, Mathematics 31, Physics 30, Pure Mathematics 30, Science 30, Social Studies 30-1 or 30-2, South Slavey 35, Spanish Language & Culture 30, Ukrainian Language & Culture 30/30S, Ukrainian Language Arts 30
- additional level 30 or level 31 courses necessary for the successful completion of grade 12. The fifth course subject must be distinct from the four academic courses (e.g., English Language Arts 30-1 and English Language Arts 30-2 cannot both be used).

### Saskatchewan

Successful completion of an academic level three (grade 12) program that leads to graduation and includes at least seven academic courses with an overall 65% average (five of which are at the 30 level) selected from:

- English A30 and B30
- Math A30, or B30, or C30 or Pre-Calculus 30
- at least three additional courses numbered 30 or 30H selected from the following subjects: Biology 30, Calculus 30, Chemistry 30, Computer Science 30, Economics 30, Français A30 or B30, French 30, Geography 30, Geology 30, German 30, History30, Latin 30, Law 30, Mandarin 30, Mathematics 30,Native Studies 30, Physics 30, Psychology 30, Social Studies 30, Spanish 30, Ukrainian 30, Ukrainian Language Arts 30,
- additional acceptable courses necessary to graduate

### Manitoba

Successful completion of an academic Sr 4 level (grade 12) program that leads to graduation and includes at least five courses with an overall average of 65% selected from:

- English 40S (One of Comprehensive Focus, Literary Focus or Transactional Focus)
- three or more of the additional courses should be selected from the following: Biology 40S, Chemistry 40S, Computer Science 40S, Français 40S, Geography 40S, History 40S, Language 40S, Law 40S, Mathematics 40S, Native Canadian Languages 40S, Physics 40S, Pre Calculus 40S, Social Science 40S/World Issues 40S, Western Civilization 40S
- one additional course from above or another area at the 40A (advanced), 40G (general), or 40S (specialized) level and any further work necessary to graduate

### Ontario

Successful completion of the Ontario Secondary School Diploma (OSSD), or equivalent, including five grade 12 U or 4U/4M courses with an overall 65% average including:

- English 4U
- four additional 4U/4M courses

All high school courses applied as prerequisites for UNBC courses must be drawn from the "University" designation. Not more than one course proposed for admission may be drawn from the "Arts" category.

## Quebec

Successful completion of at least 12 acceptable university preparatory CEGEP courses with a minimum overall average of 70%, selected from:

- at least two pre-university English courses
- 10 additional pre-university courses deemed appropriate for entry into the academic program of choice.

Students who complete more than 12 pre-university CEGEP courses with a minimum grade of 70% in each course may receive up to 30 credit hours of transfer credit.

### Quebec Grade 12

Applicants who successfully complete a Quebec grade 12 program with an overall 65% average must present:

- English
- at least three additional university preparatory courses selected from Mathematics, Sciences, Languages, Literature, Social Sciences, History, Geography
- additional academic subjects required for graduation

## New Brunswick

Successful completion of an academic (college preparatory) program that leads to graduation with an overall 65% average and including at least six courses from:

- English 121 or 122
- at least three additional grade 12 academic courses coded 120/121/122
  selected from Advanced Mathematics, Atlantic Literature, Biology, Calculus, Canadian Literature, Chemistry, Computer Education, Economics Environmental Studies, Français, French, Geography, Geology, History, Latin, Mathematics, Physics, Political Science, Psychology, Sociology, Spanish, Statistics, Writing, World Issues
- additional academic course(s) necessary to graduate

## Prince Edward Island

Successful completion of an academic or advanced academic program that leads to graduation with an overall 65% average and including:

- English 621 or 611
- at least three additional courses numbered 611 or 621 selected from Biology, Chemistry, Computer Studies, Economics, Exploring Civilizations, Français, French, Geography, History, Mathematics, other languages, Physics, Political Science, Sociology
- additional academic course(s) necessary to graduate

## Nova Scotia

Successful completion of an academic program (university preparatory) that leads to graduation with an overall 65% average and including at least five subjects from:

- English 12, or English 12 African Heritage
- at least two courses numbered 12 selected from Biology, Canadian Literature, Chemistry, French, Gaelic, Geography, German, Global History, Latin, Mathematics, Advanced Mathematics, Pre-Calculus Mathematics, other languages, Physics, Spanish
- additional 12 courses from above or from Comparative Religion, Computer Studies, Earth Sciences, Economics, Entrepreneurship, Food Science, Global Geography, Geology, , Law, Modern World Problems, Music, , Political Science, Sociology, Statistics, additional academic course(s) necessary to graduate

## Newfoundland and Labrador

Successful completion of an academic program that leads to graduation with an overall 65% average, and including at least 13 credits selected from:

- English 3201 or completion of the former Language 3101 and either Thematic Literature 3201 or Literary Heritage 3202
- Mathematics 3200, 3201, 3204 or 3205
- at least one of Biology 3201, Chemistry 3202, Physics 3204, Earth Systems 3209
- at least one of Advanced Writing 3103, Computer Technology 3200, Environmental Science 3205, Global Issues 3205,World Literature 3216, World Religions 3101/3106 or Geography, History or languages at the 3000 level
- at least two additional credits at the 3000 level
- additional academic course(s) necessary to graduate

# Post Secondary Admissions

## Statement on Transfer

To apply for admission as a transfer student, a minimum of 15 credit hours of acceptable transfer course work must be presented and a proposed Major must be declared.

Following review and approval of relevant transfer credit by the Office of the Registrar and the Program Chair of the student's selected major, students completing a four-year degree program at UNBC may be eligible to receive up to 90 credit hours of transfer credit from a recognized sending institution.

**Note:**

1. Applicability of transfer credit will vary with the number of electives and/or lower and upper-division requirements for a particular degree.
2. For admission purposes, a minimum transfer grade point average of 2.0 or C (63-66.9%), calculated based on all previous post-secondary institutions attended, is required.
3. Any applicant who has been required to withdraw or has been placed on academic probation by the transferring institution:
   - must wait for three full semesters before being admissible to UNBC, and
   - must outline any work completed or experience gained which would better qualify them to successfully complete work at UNBC
4. No transfer credit will be awarded for any course with a grade of less than 0.67 or D- (50-52.9%).
5. Failure to declare attendance at any post secondary institution could result in severe disciplinary action by the University and transfer credit will not be considered for transcripts provided in this manner. Information on falsifications may be shared with the Member Institutions of the Association of Registrars of Universities and Colleges of Canada.

### Time Limit for Transfer Credit

Transfer credit normally will not be awarded for courses completed in excess of 10 academic years prior to the date of first UNBC registration. Students who wish to have such credit recognized should apply in writing through the Office of the Registrar to the appropriate Program Chair(s). Programs may specify a shorter time period at their discretion.

### Letter of Permission

Please note: UNBC students wishing to complete courses at another university to transfer back to a degree or certificate at UNBC must obtain a Letter of Permission before taking these courses. For more information see Academic Regulation 19 in this Calendar under General Academic Regulations of the Undergraduate Regulations and Policies.

## Admission from a BC College, University, and Yukon College

### University Transfer Programs Including Associate of Arts or Science Degrees

To meet admission requirements, the cumulative grade point average (CGPA) on all transferable courses attempted must be at least 2.0 or C (63-66.9%). While all courses attempted are included in the calculation of a student's admission GPA, no transfer credit will be awarded for any course with a grade of less than 0.67 or D- (50–52.9%).

Transfer credit is awarded according to agreements articulated in the BC Transfer Guide (available online at www.bccat.bc.ca).

Note: UNBC guarantees priority admission and full transfer credit (minimum of 60 credit hours) to students transferring with an Associate of Arts or Science degree.

### Diploma Programs

To meet admission requirements, applicants must present a minimum cumulative GPA of 2.0 or C (63-66.9%).

Transfer credit for articulated courses is awarded at the point of admission. Upon declaration of a major in a related degree program, or direct admission into Nursing or Social Work degrees, students who hold specific Business Administration, Natural Resource Management or Environmental Studies or Nursing or Social Work Diplomas may be eligible for additional block credit.

**Please note:** To receive transfer credit in certain program areas, a higher minimum grade is required.

## 2 + 2 Programs

### Okanagan College Diploma in Environmental Studies (Environmental Management and Interdisciplinary Environmental Arts Options)

Students who have successfully completed the Diploma in Environmental Studies (Environmental management or Interdisciplinary Environmental Arts Option) from Okanagan College, with a cumulative GPA of 2.5 or greater, are eligible for admission into the BA Environmental Studies (Okanagan Completion) Program.

### Northwest Community College Associate of Science Degree – Environmental Geosciences Specialization

Students who have successfully completed the Associate of Science Degree – Environmental Geosciences Specialization from Northwest Community College with a cumulative GPA of 2.0 or greater, are eligible for admission in the BSc (Integrated) (Northwest Community College Completion) Program.

## Admission from a College Outside BC and Quebec

The CGPA on all transferable courses attempted must be at least 2.0 or C (63-66.9%). No transfer credit will be awarded for any course with a grade of less than 0.67 or D- (50-52.9%).

Individual transfer credit is awarded for course work deemed to be university transferable in the home province on an individual basis. Holders of two-year diploma programs may be eligible for block credit, to a maximum of 30 credits.

## Admission from Institutes of Technology

To meet admission requirements, the CGPA on all transferable courses attempted must be at least 2.0 or C.

Transfer credit is awarded towards a relevant UNBC degree program on an individual basis, to a maximum of 30 credits.

## Admission from a College of Applied Arts and Technology (Ontario)

All students admitted from a College of Applied Arts and Technology (CAAT) are strongly encouraged to seek academic advising prior to registering for courses and/or declaring a degree program.

Students completing less than two full semesters at a CAAT will not be considered for admission under this category. Students in this situation should consult the section dealing with admission from high school.

Students who wish to transfer to UNBC after completing at least two full semesters of a diploma program at a CAAT may be considered for admission to first year at UNBC. Students must have a minimum grade point average of 70% on their course work from the CAAT.

Normally, students who meet the grade requirements may be awarded up to 30 credit hours of block transfer if the academic program is relevant to the degree program sought at UNBC.

# Other Admission Categories

## Admission from a Canadian University

The following minimum conditions will apply to all applicants under this category of admission:

- applicants must be in good academic standing at a Canadian university
- the cumulative grade point average must be at least 2.00 (C)
- no credit will be awarded for any course with a grade of less than 0.67 (D-)

## Mature Student Entry

Each mature student application will be reviewed on its own merits. Mature applicants must:

- be Canadian Citizens or permanent residents of Canada
- have been out of secondary school for at least three years
- be 21 years of age on or before the first day of classes
- have attempted fewer than 15 post-secondary academic credits

Students must submit transcripts of any post-secondary work that they have completed for the purpose of prerequisite checks, and a résumé of both academic and other activities (employment, service, etc.) for the past three years. The University may exercise its discretion by admitting on a probationary basis.

## Special Entry

Where applicants do not meet the requirements under any specific category of admission, or where there are extenuating circumstances, application may be made under the category of Special Entry. In these instances, applicants will be assessed on an individual basis and may be asked to provide:

- any and all academic transcripts
- a résumé of both academic and other activities (employment, service, etc.) for the past three years

In addition, applicants under this category may be asked to present themselves for an interview.

Normally, special entry students will enroll on a part-time basis for at least one semester.

Any admissions conditions involving the achievement of a specific grade point average will be reviewed after the first semester. The normal requirement to continue studies would be a C average in a course load not to exceed six credit hours. Failure to achieve the required grade point average will result in further registration being denied. Once admission requirements are cleared, the student will proceed as a regular UNBC student.

## Interest Only

Students who do not intend to pursue a degree or certificate program at UNBC, but want to take courses for credit, may do so under the category of Interest Only to a maximum of 30 credit hours, provided they have not previously been refused admission to UNBC under any other category. This category of admission permits easy access to UNBC studies as minimal documentation at the point of entry is required.
Interest Only students must:

- Enroll on a part-time basis at UNBC (fewer than 9 credit hours)
- Re-apply every semester
- Obtain a minimum semester grade point average of 2.00 in order to remain eligible for re-entry under this category.

**Note:**

1. Interest Only students who wish to continue their studies beyond 30 credit hours in pursuit of a UNBC credential must re-apply, meet the general admission requirements as stated in the Calendar and, as applicable, declare a Major (see Academic Regulation 22).
2. Applicants whose first language is not English should refer to the section English Language Requirements.
3. Applicants currently on academic probation or required to withdraw from any post-secondary institution are not eligible to apply for admission under this category.

## Audit Only

Students wishing to participate in university courses, but not for credit, may apply for audit status. Audit students must submit an application for admission and pay the application fee. Audit students are not required to meet the admission requirements.

Students wishing to audit a course must obtain approval from the instructor. Forms for audit approval are available from the Office of the Registrar. Approval from the instructor in no way guarantees that an audit student will be able to register in the course. Priority for registration will be given to students taking the course for credit.

Audit courses do not meet prerequisites or course/program requirements.

Students wishing to change from audit to credit status must obtain approval from the instructor. Changes in status must take place prior to the last day to add courses in the given semester (prior to the third week of classes).

The degree of participation in a course for an audit student is at the discretion of the instructor. Audit students are not entitled to write the final exam or be granted credit for the course.

**Note:**
Students may re-register in an audit course for credit. Full-time UNBC students are not charged for audit courses. All other audit students are required to pay one-half of the regular tuition fee for the audit course. All other related fees must be paid in full by all audit students.

## Studying at UNBC as a Visiting Student (on a Letter of Permission)

Students who are enrolled and in good standing at another college or university may attend UNBC on a Letter of Permission from their home institution. It is the student's responsibility to ensure that they meet any course prerequisites. Individuals planning to attend UNBC on a Letter of Permission should complete an application for admission, pay the application fee, and arrange to have the Letter of Permission sent, along with a copy of their most recent transcript, directly to the Office of the Registrar. Facsimile versions of this information will be acceptable on a provisional basis subject to receipt of the original.

## Continuing Studies Credit

Certain courses offered through Continuing Studies may earn UNBC credit without the student having to be admitted formally. See "Continuing Studies" under the Services and Facilities section in this calendar or online at www.unbc.ca/continuingstudies.

## Admission to a Second Undergraduate Degree

Students having a recognized first undergraduate degree may be eligible to take a second degree at the Bachelor's level. Students can expect to complete a minimum of 60 credits plus any unmet first- and second-year requirements. UNBC reserves the right to deny admission under this category where the program completed and the program sought are too similar.

## International Admissions

The University of Northern British Columbia welcomes applications for admission from qualified students from other countries. Completed, appropriate secondary qualifications from other countries will be considered for High School admission, and study at recognized universities and colleges will be considered for Transfer admission.

International Students are welcome to consider a Co-operative Education option of their program (see Programs-Co-operative Education).

International applicants must be in good academic standing and be able to demonstrate an acceptable level of proficiency in English. Applicants whose first language is not English should refer to the section English Language Requirements.

Each international application will be reviewed on its own merits. Please refer to page 25 for information on admission deadlines.

## Admission with a General Certificate of Education (or Equivalent)

Students applying for admission from a GCE system (or equivalent) must present a minimum of two Advanced (A) level subjects and three Ordinary (O) level subjects, and have an overall grade point average of C in order to be considered for admission. All A level subjects presented for admission must have a grade of at least C. Students may substitute two Advanced-Subsidiary (AS) level subjects for one A-level.

Students who present A-level subjects with grades of at least C may receive up to six credit hours of transfer credit for each course.

Students who have completed a General Certificate of Education at the Ordinary Level (O level) are not considered eligible for admission to first year at the University of Northern British Columbia.

## English Language Requirements

English is the primary language of instruction and communication at UNBC. Consequently, it is expected that an applicant be able to demonstrate an acceptable level of proficiency in the use of English in order to receive and participate in classroom instruction and discussion as well as to complete written assignments.

Applicants whose first language is not English, regardless of citizenship or country of origin, must submit evidence of English language proficiency prior to admission. French-speaking Canadians and Canadian First Nations language speakers are exempted from this requirement. Students who completed five consecutive years of instruction and examination entirely in the English language immediately before admission are exempted from this requirement.

Acceptable evidence of English language proficiency may be any one of the following:

- TOEFL (Test of English as a Foreign Language) score of 88 or higher in the internet-based test, with not less than 20 in each of the Reading, Listening, Writing or Speaking components; Score of at least 230 in the computer based or at least 570 in the paper based test. UNBC's institutional TOEFL code is 0320.
- IELTS (International English Language Testing System) score of at least 6.5 overall, with not less than 6.0 in any of the four modules.
- LPI (Language Proficiency Index) score of at least 5.
- A final grade of 2.00 (C) or better in the UNBC English Language Studies 50 Component 1 and 2.
- A final grade of 70% or better in English 12 from the British Columbia secondary system.
- A final grade of 75% (B) or better in a University Transferable English course.
- A final grade of 4 or better in Advance Placement (AP) English Literature & Composition or AP Literature & Composition.
- A final grade of 5 or better in International Baccalaureate (IB) English A1 or A2 (higher or subsidiary level).
- CELPIP Academic Test score of 4H or higher in each of the Reading, Listening, Writing, and Speaking components
- CAEL (Canadian Academic English Language) Assessment score of at least 70
- University of Cambridge ESOL grade B on the Certificate of Advance English (CAE).
- Comparable results in any other internationally recognized English Language Assessment test considered as equivalent to TOEFL or IELTS.

In order to be considered valid, these scores must be sent directly from the testing agency/institution to the Office of the Registrar.

# Tuition and Fees

| | |
|---|---|
| Tuition | $163.75 per credit hour |
| Post-baccalaureate Diploma | $240.81 per credit hour |
| Student services fee | $5.00 per credit hour (to a maximum of $75.00) |
| NUGSS Student society fee | $32.58 per semester ($22.40 per semester in regions) |
| NUGSS Health and Dental Plan | $207.00 per policy year (full time only, Prince George students only) |
| NUGSS Building fee | $35.63 per semester (Prince George students only) |
| UPASS | $54.00 per semester (PG only) |
| Student ID Card fee | $2.00 per semester |
| Intramural Recreation & Fitness fee | $55.00 per semester (Prince George students only) |
| PGPIRG fee | $4.00 per semester (full-time students) $2.00 per semester (part-time students) |
| Athletics Intervarsity & Junior Varsity Program fee | $50.00 per semester (Prince George students only) |
| CFUR student radio | $10.18 per semester (Prince George students only) |
| WUSC fee | $5.00 per semester |
| Over the Edge Newspaper Society | $10.18 per semester (Fall and Winter only; Prince George students only) |
| Audit course | part-time students—$81.88 per credit hour; full-time students—free |
| Course Challenge fee | $81.88 per credit hour (50% of regular tuition fee) |

## International Students

| | |
|---|---|
| Tuition – undergraduate | $573.13 per credit hour; all other fees are the same as those for Canadian undergraduate students |
| Medical Insurance | $160.00 per 3-month period (please refer to "Medical Insurance Fee for International Students") |

## Co-op Education Students

| | |
|---|---|
| Co-op Work Term | $491.25 per work term |

## Other Fees

| | |
|---|---|
| Northern Degrees Orientation | $30.00 (one time fee applicable to all new attendees in summer or fall semesters) |
| Winter Orientation | $20.00 (one time fee applicable to all new attendees in the winter semester) |
| Application fee | $35.70 domestic $76.50 international to accompany each application for admission (non-refundable) |
| Document evaluation fee | $40.80 (for out-of-province or out-of country post secondary documents, non-refundable) |
| Registration deposit | $100.00 per semester (non-refundable) |
| Graduation processing fee | $40.80 fee per application for all graduating students (non-refundable) |
| Student ID Card replacement | $15.00 per lost or damaged card |
| Course fees | Certain courses carry additional fees to cover the costs of field trips, lab supplies or readings |
| International exchange application fee | $25.00 per application (undergraduate and graduate, non-refundable) |
| Study abroad application fee | $125.00 US per application to National Student Exchange Program (undergraduate and graduate, non-refundable) |

| | |
|---|---|
| Certified True Copy fee | $25.50 |
| Official Transcript fee | $10.20 per transcript copy |
| Transcript delivery fee | $20.40 |
| Confirmation of enrolment | $10.20 |
| Letter of permission | $10.20 per application |
| NSF fee | $15.00 (on returned cheques) |

Outstanding accounts are subject to a monthly service charge of 2% on the outstanding principal (26.82% per annum).

## Parking Fees

| | |
|---|---|
| Daily | $0.50 per 1.5 hours |
| Semester permit | $180.00 plus taxes |
| Annual permit | $540.00 plus taxes |
| Carpool permit | $31.50 per month plus taxes (for details see Parking Services) |

## Residence Fees

| | |
|---|---|
| Application fee | $25.00 (non-refundable) |
| Confirmation fee | $400.00 (as outlined in the UNBC Residence License Agreement) |
| Residence infrastructure fees | $25.00 per semester |
| Two bedroom units | $2,472.31 per semester, per occupant |
| Four bedroom units | $2,163.74 per semester, per occupant |
| Mandatory Meal Plan | $2,166.00 per semester, per occupant |
| Residence parking taxes | $161.68 per semester, plus |

Housing fees include: telephone services with voice mail, high-speed internet connection, and cablevision services.

For further information about the mandatory meal plan, see food services at www.unbc.ca/food-services.

## Additional Information on Fees

### BC Residents 65 Years or Older

BC residents who are 65 years of age or older, and who are eligible for admission, may register for courses and receive a waiver of tuition. Please note that in those areas where there is a limited number of spaces available or when programs/courses are deemed to be cost-recovery, students under this category of registration may not receive priority or be eligible for the waiver. Students are responsible for all fees.

### Student Services Fee

The student services fees are collected from full-time and part-time students registered for courses to augment services to students.

### NUGSS Health and Dental Plan

All full-time undergraduate students who are registered on the Prince George campus and are members of the Northern Undergraduate Student Society (NUGSS) are automatically enrolled in the NUGSS Health and Dental Plan.

Your student Plan provides you with health and dental coverage for 12 months, from September 1 to August 31 of the following year. If you are already covered by an equivalent extended health and dental plan, you may opt out online during the Change-of-Coverage Period (typically within the first 3 weeks of classes-for exact deadlines visit www.ihaveaplan.ca). Your Plan also gives you the option to enroll your family (spouse and/or dependants) by paying an additional fee. Most members that are not automatically covered, but those who wish to have coverage, are able to enroll themselves for an additional fee. Students starting in January may enroll at a pro-rated rate for 8 months of coverage (January 1 to August 31). For more information, contact www.ihaveaplan.ca or 1-866-358-4431.

### PGPIRG Fee

The PGPIRG fee is collected by UNBC on behalf of the Prince George Public Interest Research Group. The mandate of this group is to organize its members around topics of public interest such as social justice and environmental issues. Please contact the group at (250) 960-7474 for further information.

## Registration Deposit

The registration deposit is required prior to any registration activity. This deposit will be fully credited to your account at the commencement of the semester. The deposit is non-refundable upon cancellation of registration.

## Payment Due Date

All student accounts are payable in full by the first day of the semester and refunds (less the non-refundable registration deposit) will only be available until the end of the second week of classes. After this time the refunds will be discounted as outlined in the fee reduction schedule. A service charge of 2% per month (annualized rate of 26.82%) will be applied to any outstanding balance when the account reaches 30 days past due and every 30 days subsequent until the account is paid in full.

## Financial Hold

Students who fail to pay the outstanding balance of their current account will be placed on financial hold. While on financial hold, no subsequent registration activity will be allowed, no official transcripts of the academic record will be issued, and a student can be denied graduation. The financial hold will be removed when the outstanding balance, including all service charges, is paid in full. Account questions can be addressed to accountsreceivable@unbc.ca.

## Failure to Notify

Any student failing to provide written notification to the Office of the Registrar of their complete withdrawal from a course or slate of courses will be assessed full tuition fees for those registered courses and receive grades of F on their transcript.

## Payments

Payments can be made by cash, debit card, cheque, American Express, MasterCard, Visa, wire transfer, or money order. Please ensure that the correct student number is written on the face of all cheques and money orders submitted to the University. Fees may be paid by the following methods:

- by mail: cheques or money orders should be made payable to the University of Northern British Columbia and must reach UNBC by the due date. Cheques or money orders are requested in Canadian funds drawn on a Canadian bank. The University is not responsible for payments lost in the mail.
- by wire transfer: bank-to-bank wire transfers can be arranged through your financial institution. Wire transfer instructions can be found on our web site at: www.unbc.ca/finance_dept/accounts_receivable/payment_options.html.
- in person: at the Cashier's Office located on Student Services Street during hours of operation. Tuition payments are also accepted at UNBC's regional offices in Terrace, Fort St. John and Quesnel.
- in payment drop box: located by the Security Office. All payments must be enclosed in an envelope. Do not drop cash in box.
- by American Express, MasterCard, Visa, or Debit Card: will be accepted in person by the Cashier.
- by internet: American Express, Mastercard, Visa credit card and Interac debit online payments will be accepted using the website for students.

Any questions regarding making payments may be directed to the Cashiers Office by telephone at (250) 960-5631 or by fax at (250) 960-5251.

Payment inquiries can be addressed to cashier@unbc.ca. Do not e-mail credit card or banking information.

## Refund Policy

Refunds can be applied for at the cashier's counter after the add/drop period. Allow two to three weeks for processing. If there is a credit on a student's account and no refund is requested, the credit will be applied to the next semester.

## Fee Reduction Schedule*

### September Semester (September 3 to December 17)

| | |
|---|---|
| September 17, 2014 | Last day to add/drop without financial penalty |
| October 17, 2013 | Last day to withdraw without academic penalty 50% tuition refund |

### January Semester (January 5 to April 30)

| | |
|---|---|
| January 20, 2014 | Last day to add/drop without financial penalty |
| February 18, 2014 | Last day to withdraw without academic penalty 50% tuition refund |

### May Semester (May 11 to August 2k1)

| | |
|---|---|
| May 26, 2015 | Last day to add/drop without financial penalty |
| June 23, 2015 | Last day to withdraw without academic penalty, 50% tuition refund |

**Spring Intersession (May 11 to June 26)**

| | |
|---|---|
| May 15, 2015 | Last day to add/drop without financial penalty |
| May 29, 2015 | Last day to withdraw without academic penalty, 50% tuition refund |

**Summer Intersession (July 6 to August 21)**

| | |
|---|---|
| July 10, 2015 | Last day to add/drop without financial penalty |
| July 24, 2015 | Last day to withdraw without academic penalty, 50% tuition refund |

NOTE: Exceptions to the refund may apply, subject to approval by the UNBC Board of Governors.

*For condensed courses, the last day to withdraw (50% tuition refund) is indicated in the course specific documentation.

## Medical Insurance Fee for International Students

The University of Northern British Columbia has a compulsory medical insurance policy for international students. International students must provide proof of valid medical coverage for each semester that they register at UNBC. A hold will be placed on a student's file if proof of valid medical coverage is not supplied.

A medical insurance fee of $160 will be assessed further automatically each semester. If students have valid BC Medical Insurance or comparable private insurance, the fee can be waived. Students without medical insurance will be asked to enroll in a university-sponsored plan which costs $160 for three months of coverage.

Students must contact the International Exchange and Student Programs to enroll in the private insurance plan or to receive a waiver of the medical insurance fee. Please note that simply paying the $160.00 fee does not fulfil the policy. The policy requires that international students have valid medical insurance while at UNBC, and that they demonstrate proof of such coverage.

**Note: Standards for accounts receivable billing and collection of student accounts receivable are subject to UNBC Policy on Student Accounts. See UNBC Policy and Procedures Manual on the web at www.unbc.ca/policy under FINANCE. For further information on Student Accounts Receivable, please see the Finance website at www.unbc.ca/finance.**

# Academic Dates

## Academic Year

The academic year extends from September 1 to August 31. Most of the University course offerings are delivered during the day, and courses are available in the evening during the September and January Semesters. Each 12-month academic year begins in September and is composed of the following semesters:

- September Semester - September to December
- January Semester - January to April
- May Semester - May to August

# 2014 – 2015 Semester Dates

## 2014 September Semester

**September**

| | | |
|---|---|---|
| 1 | Monday | Labour Day, University closed |
| 2 | Tuesday | Orientation Day |
| 3 | Wednesday | First day of classes, September Semester<br>**All** September Semester fees due |
| 17 | Wednesday | Last day to add/drop September Semester courses without financial penalty<br>Last day to change September Semester courses from audit to credit and credit to audit |

**October**

| | | |
|---|---|---|
| 13 | Monday | Thanksgiving Day, University closed |
| 16 | Thursday | Last day to withdraw from September Semester courses without academic penalty, 50% tuition refund |

**November**

| | | |
|---|---|---|
| 11 | Tuesday | Remembrance Day, University closed |
| 28 | Friday | Last day of classes |

**December**

| | | |
|---|---|---|
| 3 | Wednesday | First day of exam period |
| 17 | Wednesday | Last day of exam period |
| 20 | Saturday | Maintenance Shutdown,<br>Prince George Campus closed |
| 24-31 | Wed. to Wed. | University closed |

## 2015 January Semester

**January**

| | | |
|---|---|---|
| 1 | Thursday | New Year's Day, University closed |
| 2 | Friday | University closed |
| 5 | Monday | First day of classes<br>**All** January Semester fees due |
| 19 | Monday | Last day to add/drop January Semester courses without financial penalty<br>Last day to change January Semester courses from audit to credit and credit to audit |

**February**

| | | |
|---|---|---|
| 9 | Monday | Family Day, University closed |
| 16-27 | Mon. to Fri. | Mid-Semester Break (no classes Feb 16-27) |
| 17 | Tuesday | Last day to withdraw from January Semester courses without academic penalty, 50% tuition refund |

**April**

| | | |
|---|---|---|
| 1 | Wednesday | Registration Opens for 2015-2016 Academic Year |
| 3 | Friday | Good Friday, University closed |
| 6 | Monday | Easter Monday, University closed |
| 17 | Friday | Last day of classes |
| 20 | Monday | First day of exam period |
| 30 | Thursday | Last day of exam period |

## 2015 May Semester

### and 2015 Spring Intersession

**May**

| | | |
|---|---|---|
| 11 | Monday | First day of classes, May Semester and Spring Intersession<br>**All** May Semester fees due, including Spring/Summer Intersessions |
| 15 | Friday | *Last day to add/drop Spring Intersession courses without financial penalty |
| 18 | Monday | Victoria Day, University closed |
| 26 | Tuesday | Last day to add/drop May Semester courses without financial penalty<br>Last day to change May Semester courses from audit to credit and credit to audit |
| 29 | Friday | Last day to withdraw from Spring Intersession courses without academic penalty, 50% tuition refund<br>Convocation |

**June**

| | | |
|---|---|---|
| 19 | Friday | Last day of classes, Spring Intersession |
| 22 | Monday | First day of exam period, Spring Intersession |
| 23 | Tuesday | Last day to withdraw from May Semester courses without academic penalty, 50% tuition refund |
| 26 | Friday | Last day of exam period, Spring Intersession |
| 27 | Saturday | Maintenance shutdown,<br>Prince George Campus Closed |
| June 29-July 3 | Mon. To Fri. | Summer break begins for May Semester courses (no classes June 29 - July 3) |

## 2015 May Semester continued

### and 2015 Summer Intersession

**July**

| | | |
|---|---|---|
| 1 | Wednesday | Canada Day, University closed |
| 6 | Monday | First Day of classes, Summer Intersession |
| 10 | Friday | *Last day to add/drop Summer Intersession courses without financial penalty |
| 24 | Friday | Last day to withdraw from Summer Intersession courses without academic penalty, 50% tuition refund |

**August**

| | | |
|---|---|---|
| 3 | Monday | BC Day, University closed |
| 14 | Friday | Last day of classes, May Semester and Summer Intersession |
| 17 | Monday | First day of exam period, May Semester and Summer Intersession |
| 21 | Friday | Last day of exam period, May Semester and Summer Intersession |

* For condensed courses, the last day to withdraw (50% tuition refund) is indicated in the course-specific documentation.

# 2014 – 2015 Senate Dates

| | | |
|---|---|---|
| September 24, 2014 | January 28, 2015 | May 27, 2015 |
| October 22, 2014 | February 25, 2015 | June 24, 2015 |
| November 26, 2014 | March 25, 2015 | July 22, 2015 |
| December 10, 2014 | April 22, 2015 | August 26, 2015 |

# 2014– 2015 Undergraduate Student Deadline Dates

## 2014 September Semester

### Course Registration Deadlines

| | |
|---|---|
| September 17 | Last day to add/drop September Semester courses without financial penalty<br>Last day to change September Semester courses from audit to credit and credit to audit status |
| October 16 | Last day to withdraw from September Semester courses without academic penalty |

### Fee & Refund Deadlines

| | |
|---|---|
| September 3 | **All** September Semester tuition & student fees due |
| October 16 | Deadline for 50% tuition refund for September Semester course withdrawals |

### Application Deadline

| | |
|---|---|
| November 1 | Deadline to apply for January Semester undergraduate studies |

### Graduation & Convocation Deadline

| | |
|---|---|
| October 31 | Undergraduate Application to graduate and attend Convocation |

## 2015 January Semester

### Course Registration Deadlines

| | |
|---|---|
| January 19 | Last day to add/drop January Semester courses without financial penalty<br>Last day to change January Semester courses from audit to credit and credit to audit status |
| February 17 | Last day to withdraw from January Semester courses without academic penalty |

### Fee & Refund Deadlines

| | |
|---|---|
| January 5 | **All** January Semester tuition & student fees due |
| February 17 | Deadline for 50% tuition refund for January Semester course withdrawals |

### Application Deadlines

| | |
|---|---|
| February 1 | Deadline to apply for the Bachelor of Social Work Program for the September Semester |
| March 1 | Deadline to apply for the May and September Semesters for undergraduate studies<br>International student deadline to apply for the May and September Semesters<br>Deadline to apply for the Environmental Engineering Program for the September Semester<br>Deadline to apply for the Bachelor of Health Science Program for the September Semester<br>Application deadline for UNBC administered scholarships and bursaries |
| March 15 | Deadline to apply for the Bachelor of Education program for the September Semester |
| March 31 | Deadline to apply to the College of New Caledonia and Northwest Community College for the Northern Collaborative Baccalaureate Nursing Program for the September Semester |

### Scholarship & Bursary Deadline

| | |
|---|---|
| March 1 | Deadline to apply for UNBC administered scholarships & bursaries |

## 2015 May Semester

### Course Registration Deadlines

| | |
|---|---|
| May 15 | Last day to add/drop Spring Intersession courses without financial penalty |
| May 26 | Last day to add/drop May Semester courses without financial penalty<br>Last day to change May Semester courses from audit to credit and credit to audit status |
| May 29 | Last day to withdraw from Spring Intersession courses without academic penalty |
| June 23 | Last day to withdraw from May Semester courses without academic penalty |
| July 10 | Last day to add/drop Summer Intersession courses without financial penalty |
| July 24 | Last day to withdraw from Summer Intersession courses without academic penalty |

### Fee and Refund Deadlines

| | |
|---|---|
| May 11 | **All** May Semester, Spring Intersession, & Summer Intersession tuition & student fees due |
| May 29 | Deadline for 50% tuition refund for Spring Intersession course withdrawals |
| June 23 | Deadline for 50% tuition refund for May Semester course withdrawals |
| July 24 | Deadline for 50% tuition refund for Summer Intersession course withdrawals |

### Application Deadlines

| | |
|---|---|
| June 1 | International Students deadline to apply for the January Semester<br>Deadline to apply for the Northern Advancement Program for the September Semester |

### Student Loans Deadline

| | |
|---|---|
| June 30 | Recommended deadline to apply for the BC Student Assistance Program (BC Student Loans) |

* For condensed courses, the add/drop dates and last day to withdraw (50% tuition refund) are indicated in the course-specific

# Undergraduate Regulations and Policies

## I. Notification of Disclosure of Personal Information to Statistics Canada

Statistics Canada is the national statistical agency. As such, Statistics Canada carries out hundreds of surveys each year on a wide range of matters, including education.

It is essential to be able to follow students across time and institutions to understand, for example, the factors affecting enrolment demand at post-secondary institutions. The increased emphasis on accountability for public investment means that it is also important to understand 'outcomes.' In order to carry out such studies, Statistics Canada asks all colleges and universities to provide data on students and graduates. Institutions collect and provide to Statistics Canada student identification information (student's name, student ID number, Social Insurance Number), student contact information (address and telephone number), student demographic characteristics, enrolment information, previous education, and labour force activity.

The Federal Statistics Act provides the legal authority for Statistics Canada to obtain access to personal information held by educational institutions. The information may be used only for statistical purposes, and the confidentiality provisions of the Statistics Act prevent the information from being released in any way that would identify a student.

Students who do not wish to have their information used are able to ask Statistics Canada to remove their identification and contact information from the national database.

Further information on the use of this information can be obtained from Statistics Canada's website: www.statcan.ca or by writing to the Postsecondary Section, Centre for Education Statistics, 17th Floor, R.H. Coats Building, Tunney's Pasture, Ottawa, K1A 0T6.

## II. BC Freedom of Information and Protection of Privacy Act

The University of Northern British Columbia gathers and maintains information used for the purposes of admission, registration and other fundamental activities related to being a member of the UNBC community and attending a public postsecondary institution in the Province of British Columbia. Information provided to the University by students, and any other information placed into the student record, will be protected and used in compliance with the BC Freedom of Information and Protection of Privacy Act (1992).

## III. Student Conduct Statement of Principles

### 1. Introduction

The University of Northern British Columbia ("University") is an academic community whose purpose is to search for knowledge through teaching, research, and the free exchange of ideas. As such, the University is committed to developing among its members an enduring sense of community rooted in a working and learning environment which emphasizes mutual respect and tolerance and which is free from discrimination, harassment, disruptive behaviour, and violence. The members of the University community include students, faculty, staff, administrators, governors, senators, and, in certain contexts, visitors. In order for the members of the University community to participate fully and effectively in the University's purpose, certain standards of conduct must be recognised and respected.

### 2. Purpose

The purpose of this policy is:

a. to set out the standards of conduct which apply to student members of the University community in connection with their participation in University-related activities and behaviour while on any of UNBC's campuses;
b. to establish procedures for investigating a complaint that a student has breached this policy;
c. to provide penalties for those students who have breached this policy; and,
d. to identify the procedure which will govern an appeal by a student who has been found to have breached this policy.

This policy is intended to address major concerns about student misconduct and is not intended to interfere with faculty and administration's ability to deal with minor acts of misconduct in an informal and consensual manner, where appropriate.

### 3. Definitions

a. "Campus life" is any activity that occurs as part of life on campus. This includes but is not limited to:
    i. being present on campus, whether as a student or the guest of a UNBC student,
    ii. living in Residence,
    iii. working on campus,
    iv. attending classes, university-sponsored events, student society-sponsored events,
    v. conducting university-sponsored research or lab activity, and
    vi. operating a vehicle on campus

b. "Director" is the Director, Student Success
c. "University employee" is a faculty or staff member or a university security officer.

## 4. Statement of Principles

a. Every student has the right to participate freely as a member of the University community subject only to reasonable conditions governing eligibility and the payment, when required, of appropriate fees or charges.
b. Free participation in campus life requires the existence of an environment free from discrimination, violence and threats of violence, direct or indirect physical interference with one person by another person, intimidation, and verbal abuse, whether oral or written.
c. Members of the University community must recognize and accept that the free exchange of ideas will involve exposure to the formulation and expression of ideas with which an individual is in fundamental disagreement or which an individual finds offensive. The University's purpose requires that the formulation and expression of such ideas must be tolerated, provided that neither the formulation nor the expression of such ideas violates any generally applicable laws of Canada or British Columbia or any policies of the University. Toleration does not require acceptance of such ideas, nor does it preclude the formulation and expression of a critical response to such ideas, provided that neither the formulation nor the expression of such a response violates any generally applicable laws of Canada or British Columbia or any policies of the University.
d. Student members of the University are expected to:
    i. comply with the generally applicable laws of Canada and British Columbia;
    ii. honour contractual obligations arising in connection with a student's membership in the University community;
    iii. comply with the applicable academic regulations of the University, and;
    iv. comply with the University's policies.
e. This policy must be interpreted and applied in conformity with both the University's purpose as an academic community and the above Statement of Principles.

## 5. Student Standards of Conduct

Within the framework set out in the Statement of Principles, acts of student misconduct subject to penalty under this policy include but are not limited to:

a. threatening or engaging in behaviour that a reasonable person would perceive to be intimidating or offensive, or that may endanger the health or safety of students, faculty, staff or administration of the University;
b. participating in disruptive action including but not limited to:
    i. disrupting instructional activities including lectures, seminars, labs, examinations and tests;
    ii. physically or verbally abusing another person;
    iii. repetitive or intrusive use of indecent, profane or vulgar language in a public place that disturbs others;
    iv. obstructing the rights and privileges of other members of the University community;
    v. disrupting campus life by electronic means, whether directly or indirectly;
    vi. obscenity
c. harming another person at or in connection with that person's participation in campus life;
d. misappropriating, converting, destroying, permanently defacing, or otherwise damaging University property, resources, or the property and resources of other members of the University community;
e. possessing the property of other members of the University Community without proper authorization;
f. forging, falsifying, misusing, or altering any University data or record whether in physical or electronic form;
g. obtaining or using, whether directly or indirectly, University equipment, material, or services by fraudulent or other unlawful means;
h. possession or use of intoxicants on campus, except within approved areas under the University's Liquor Policy;
i. possession for use or sale of illegal drugs;
j. possession or use of firearms, fireworks, or other inherently dangerous objects on campus;
k. failing to comply with the reasonable directions of a University employee or a University Security Officer, or a Police Officer when they are acting in performance of their duties at or in connection with campus life;
l. breaching any law of general application of Canada or British Columbia in connection with campus life;
m. aiding, abetting, or acting as an accomplice at or in connection with any prohibited conduct; and;
n. any other misconduct which significantly interferes with the University's operations.

## 6. Responding to Apparent Breaches of This Policy

### Emergencies

If a student's conduct appears to pose a threat to the student's own safety or to the safety of another person, any person witnessing the conduct should contact campus security immediately. Where there is a risk of injury or harm to any person or property, the student whose conduct is in question may be required to leave the University's property immediately pending and during an investigation into the alleged misconduct. Campus security must promptly prepare a Report to be given to the Director.

### Reports of Allegations of Student Misconduct

University employees, including faculty, administration and staff may report allegations of student misconduct to the Director on the prescribed form.

### Complaints of Allegations of Student Misconduct

Members of the University community who are not University employees (students, vendors, external stakeholders) may file a Complaint alleging that a student has engaged in misconduct, in breach of this policy.

The person filing the Complaint will be known as the "Complainant." The person about whom the Complaint is made will be known as the "Respondent." Such a Complaint must be made to the Director on the prescribed form and must set out in detail the facts on which the Complaint is based. A Complaint must be made within 45 days of the last event which is the subject of the Complaint, unless the Director allows a longer period of time. In allowing a longer period of time the Director must consider the following factors:

a. the reasons for the Complainant's delay in filing the complaint;
b. whether there will be prejudice to the Respondent or another person as a result of the delay, and;
c. the seriousness of the misconduct alleged against the Respondent.

The Director will, upon receipt of the Report or the Complaint, consider the alleged acts of misconduct and decide:

a. that the allegations, if true, do not constitute misconduct under this policy and decline to act on the Report or the Complaint;
b. not to investigate the Report or the Complaint because the allegations are trivial or frivolous;
c. that the allegations fall under another University policy or fall under both this policy and another University policy, in which case the Director must refer the Report or the Complaint to the University official responsible for the administration of the other University policy and consult with the other University official and determine an orderly method of proceeding that will ensure that all elements of the Report or Complaint will be investigated;
d. that the allegations in the Complaint or the Report should be investigated or otherwise addressed in accordance with this policy.

The Director will notify the person who made the Report or the Complaint of the decision.

Prior to investigating a Complaint and with the consent of the Complainant and the Respondent, the Director may refer a Complaint to mediation by a mediator appointed by the Director. If the Complaint is resolved, the resolution will be put in writing, signed by the parties and filed with the Director. If the Complaint is not resolved through mediation, the Director will investigate the Complaint.

### Reports or Complaints of Criminal Misconduct

If the Director determines on reviewing a Report or a Complaint that the allegations may constitute one or more criminal offences, the Director must inquire as to whether the Complainant has reported or intends to report the allegations to the police. If the Complainant has reported or intends to report the allegations to the police, the Director will coordinate the University's investigation with the police investigation.

### Investigation of Allegations in a Report or Complaint

In conducting an investigation, the Director will engage in detailed interviews of the person who filed the Report or the Complainant; and with the student about whom the Report is made or the Respondent; and with any other witness who the Director believes has information relevant to the investigation; and will review all documents which the Director identifies during the investigation as relevant to the investigation.

After concluding the investigation, the Director must prepare an Investigation Report for the Provost setting out findings of fact and a conclusion about whether those findings constitute a breach of this policy.

### Duties of the Provost in Disciplinary Cases

On receipt of the Investigation Report, the Provost must deliver a copy to the Complainant and to the Respondent. Both the Complainant and the Respondent will be entitled to make a written submission about any matter contained in the Investigation Report. Any such submission must be delivered to the Provost within a time limit established by the Provost, always provided that the time limit must not be less than 5 working days and must be the same for both the Complainant and the Respondent. The Provost has the discretion to extend any time limit previously set.

After the deadline for any submissions has passed, the Provost must review the Investigation Report and all of the submissions received in the case of a Complaint and must make a decision. The Provost has the discretion to accept or vary the Director's conclusion.

If the Provost decides that a breach has not occurred or that the Complaint is trivial, the Provost will dismiss the Report or the Complaint. If the Provost decides that a breach of this policy has occurred, the Provost will decide on the appropriate penalty. The available options include, but are not limited to, the following:

a. a written reprimand, which will form part of the student's permanent record;
b. a performance contract;
c. suspension for a specified period;
d. suspension for an indefinite period, with or without the ability to apply for readmission to the University after a fixed period;
e. eviction from UNBC Residences
f. prohibition from entering UNBC Residences
g. payment in part or for all of the costs for replacing or repairing damage to the University's property;
h. any other action deemed appropriate in the circumstances, including the provision of remedial measures to the Complainant (where applicable).

If the disciplinary response involves any form of suspension, the President must review the Director's Investigation Report and any submissions made by a Complainant and a Respondent and make the decision.

## 7. General Matters

Nothing in this policy affects the President's authority under the University Act to suspend a student or to deal summarily with a matter of student discipline.

It is a serious act of misconduct to file a false and malicious Complaint under this policy or to file a Complaint solely for the purpose of retaliating against another person. Similarly, it is a serious act of misconduct to retaliate in any manner against a person for filing a Complaint or a Report or responding to a Complaint or a Report or for participating in a proceeding under this policy. The University will respond to all such acts of misconduct under the terms of the policies and contracts governing the University's relationship with the person who has engaged in the misconduct.

## 8. Appeal of a decision imposing discipline under the Student Conduct Statement of Principles

A student who is subject to a penalty imposed by the President or Provost (or delegate) (the Decision Maker") under Regulation and Policy III, Student Conduct Statement of Principles ("Student Conduct Policy"), may appeal to the Senate Committee on Student Discipline Appeals ("SCSDA"). The SCSDA is the final adjudicator of appeals under the Student Conduct Policy.

A copy of the procedures for appeals under the Student Conduct Policy is available from the Office of the Registrar. Please note that the procedures include a 15-day time limitation for filing a notice of appeal.

Appeals of academic decisions under Regulation and Policy V: General Academic Regulations and appeals of decisions under Regulation IV: Harassment, Discrimination and Diversity Initiatives are addressed under those regulations and policies.

## 9. Grounds for an Appeal under the Student Conduct Policy

An appeal to the SCSDA is not a full re-hearing of the decision to impose discipline. A student's appeal of the imposition of discipline under the Student Conduct Policy to the SCSDA must be made on one of more of the following bases:

a. The Decision Maker incorrectly applied a University policy and, as a result, the decision was unfair;
b. The student has material evidence that was not reasonably available prior to the time of the decision under appeal, and knowledge of that evidence would probably have led to a different decision;
c. During the process leading up to the imposition of discipline the student did not know the substance of the complaint and was not given, at some point in the process, a reasonable opportunity to respond, or the process was otherwise procedurally unfair.

## 10. Standards of Review

The SCSDA will review the Decision Maker's decision on one or more of the three grounds of appeal listed above, with regard to the standards of review listed below.

a. Where the appeal is under 9 (a), the appropriate standard as to whether the Decision Maker misapplied a University Policy is correctness. The standard of review as to whether the decision was, as a result, unfair, is reasonableness; that is whether a reasonable person, knowledgeable about the facts, would perceive it to be unfair to let a decision based on the incorrect application of the policy stand.
b. Where an appeal is under paragraph 9 (b), the appropriate standard of review is reasonableness; that is whether a reasonable person, knowledgeable about the facts, would perceive it to be unfair to let a decision made without consideration of the new evidence stand.
c. Where an appeal is under paragraph 9 (c), the appropriate standard of review is reasonableness; that is whether a reasonable person, knowledgeable about the facts, would perceive the process to be unfair.

## 11. Outcomes

An appeal under the Student Conduct Policy will result in one of the following three outcomes:

a. The Chair of the SCSDA, in consultation with the Registrar, may dismiss the appeal on a preliminary basis, on the basis that the appeal is frivolous, vexatious or an abuse of process;
b. The SCSDA may uphold the disciplinary decision;
c. The SCSDA may refer the matter back to the Decision Maker for further decision, or for further investigation and then further decision, as the Decision Maker may determine.

In all cases, where an appeal is allowed, the original penalty will remain in effect until the matter is reconsidered and a further decision is made by the Decision Maker.

# IV. Harassment, Discrimination and Diversity Initiatives

The University of Northern British Columbia is committed to providing a working and learning environment in which all students, staff and faculty are treated with respect and dignity. The University of Northern British Columbia acknowledges the right of all individuals in the University community to work or learn without discrimination or harassment because of race, colour, ancestry, place of origin, religion, family status, marital status, physical disability, mental disability, sex, age, sexual orientation, political beliefs or criminal or summary conviction offense unrelated to their employment. An approved policy, available at http://www.unbc.ca/assets/policy/diversity/harassment_and_discrimation_final.pdf, applies to all members of the UNBC community and is administered by the Harassment and Discrimination Advisor. For further information or assistance please contact the Harassment and Discrimination Advisor 960-6618.

# V. General Academic Regulations

## 1. Purpose of Academic Regulations

UNBC is committed to high academic standards as well as to assisting students to achieve their educational goals.

The Academic Regulations provide the framework within which academic programs are completed, and offer academic guidance along the program path.

The University reserves the right to add to, alter, or amend these regulations at any time.

## 2. E-mail Communication

E-mail is one of the official means of communication between UNBC and its students. All students are assigned a UNBC e-mail address upon course registration. The e-mail address assigned to a student by the University will be the only e-mail address used by UNBC for communication with students for academic and administrative purposes. Students are responsible for checking their UNBC e-mail account regularly so as to remain current with administrative and academic notifications. It is the student's responsibility to ensure that time-critical e-mail is accessed, read, and acted upon in a timely fashion. If a student chooses to forward University e-mail to another e-mail address, it is the student's responsibility to ensure that the alternate account is active.

## 3. General Requirements for a Degree With a Major

First-entry undergraduate degree programs require a minimum 120 credit hours with (except for the BA General and BSc Integrated degrees, and professional programs) a major subject. A Major is a set of academic credits that, taken together, offers a strong concentration in a particular subject area or discipline as defined by the University Senate. Special regulations apply to individual degree programs and to honours degrees, the requirements for which should be consulted as well.

## 4. Continuing/Returning Students

A continuing student is one who has registered in one of the last three semesters. Unless such a student has been required to withdraw, or is suspended, the continuing student can return to the University without reapplying. A returning student is one who has not registered in any of the last three semesters. The student must reapply to the University and, if readmitted, will be governed by the general and program regulations in effect at the time of readmission.

## 5. Course Load

A full course load for a student is considered to be five courses (15 credit hours) in any one semester. Not more than 21 credit hours may be attempted in a semester except by permission of the Dean of the College in which the student is majoring or has indicated an intention to complete a degree.

## 6. Full-Time Studies

In any given semester, a full-time student is one who is registered in nine credit hours or more in that semester.

## 7. Part-Time Studies

Any student who registers in fewer than 9 credit hours per semester is considered a part-time UNBC student in that semester. Students applying to UNBC to study part-time are subject to the regular admission requirements.

## 8. Classification of Students

For purposes of classification and reporting, all undergraduate students in first-entry programs will be designated as First Year, Second Year, Third Year, or Fourth Year students.

To be considered a Second Year student, one must have obtained a minimum of 30 semester hours of credit towards a degree, or at least 21 semester hours of credit and be registered for sufficient additional semester hours of credit in the current or next semester to total 30.

To be considered a Third Year student, one must have obtained a minimum of 60 semester hours of credit towards a degree, or at least 51 semester hours of credit and be registered for sufficient additional semester hours of credit in the current or next semester to total 60.

To be considered a Fourth Year student, one must have obtained a minimum of 90 semester hours of credit towards a degree, or at least 81 semester hours of credit and be registered for sufficient semester hours of credit in the current or next semester to total 90.

## 9. Auditing Courses

To audit a course is to attend lectures without being responsible for doing assignments or writing examinations.

No credit is given for a course taken in this manner, but courses audited will be recorded on a student's transcript.

To audit a course, a student needs the permission of the instructor, and in some cases must pay an auditing fee.

Except by the express permission of the instructor, an auditing student does not participate in class discussion.

## 10. Class Attendance

Students are expected to attend classes on a regular basis. Instructors may establish attendance requirements for each class. These expectations must be defined in the course syllabus.

## 11. Challenge for Credit by Examination

Under the conditions set out below, students may challenge for credit in a course by writing an examination during an examination period or at a time designated by the course instructor. To be eligible to challenge for credit, a student must be currently registered at UNBC, or have been admitted to study at UNBC other than on a Letter of Permission. Each Dean, on the advice of the Program Chair, will decide which courses are eligible for challenge exams. Students who have earned credit for the course at UNBC or for the equivalent course at another institution, or who have audited the course at UNBC or another institution, or who are currently registered in the course at UNBC, are not eligible to challenge for credit in the course.

Students may not challenge a prerequisite course after successfully completing the advanced course. Students may not challenge a course which they have previously failed. Grades for course challenges are recorded on the transcript and the grade is included in the calculation of the grade point average.

Application for Course Challenge forms are available at the Office of the Registrar. Students must submit the completed and approved form and payment for the course challenge to the Office of the Registrar not later than the last day of classes in the applicable semester. The fee for course challenge is one-half the regular tuition fee for the course and is non-refundable.

Arrangements for a challenge examination may be cancelled up until the last day of classes in the applicable semester. A student who pays for a challenge exam and does not cancel the arrangement by the deadline or does not write the exam will receive a grade of F.

## 12. Advanced Standing

In cases in which course challenge is not possible or appropriate transfer credit is unable to be granted, the Program Chair or instructor, as appropriate, upon review of the student's background, may grant a student permission to undertake advanced course work without the normal prerequisites. Such advanced standing will not reduce the number of credits that the student must accumulate to obtain a UNBC degree.

## 13. Lower-Division and Upper-Division Courses

All 100 and 200 level course work is designated as "lower-division". Course work done at the 300, 400, and 500 levels is designated as "upper-division".

## 14. Residency Requirement for Graduation

Students must complete a minimum of 30 credit hours of upper-division UNBC course work to receive a UNBC degree.

## 15. Academic Breadth

Students pursuing the degrees of BA, BComm, BHSc, and BSc are required to meet the University's Academic Breadth requirement as a condition of graduation. Each graduate is required to have completed successfully at least 3 credit hours from each of the following four areas, or to have transferred to UNBC from another institution acceptable credit hours such that the requirement is met:

**Arts and Humanities:** At least 3 credit hours of courses with the prefix ENGL, HIST, PHIL, WMST.

**Social Science:** At least 3 credit hours of courses with the prefix ANTH, COMM, ECON, EDUC, ENPL, FNST, INTS, NORS, ORTM, POLS, PSYC, RRT.

**Natural Science:** At least 3 credit hours of courses with the prefix BIOL, GEOG, ENSC, ENVS, FSTY, HHSC, NREM.

**Physical Science:** At least 3 credit hours of courses with the prefix CHEM, CPSC, MATH, PHYS, STAT.

This requirement applies to all students admitted or readmitted to UNBC for studies beginning with the September 2010 Semester or later.

Students pursuing the degrees of BA Nature Based Tourism Management, BSc Biology and BSc Natural Resources Management (majors in Forest Ecology and Management, Outdoor Recreation and Conservation, and Wildlife and Fisheries) are exempt from this regulation because academic breadth has been incorporated within the curricula.

## 16. Official and Unofficial Transcripts

Official transcripts are confidential and are only released on authority of the student. Transcripts issued to an institution, company, or agency are mailed directly to their address, or held for pick-up at the Office of the Registrar in confidential envelopes marked 'Official Transcript'. In extenuating circumstances, offical transcripts may be issued to a student. Third-party requests must be accompanied by a signed authorization from the student.

Each transcript will include the student's complete record at the University. Since credit earned is determined on the results of final examinations, a transcript will not include results of midterm examinations.

Transcripts will not be released without payment of the required transcript fee, and/or if there is an outstanding financial obligation to the University.

Requests for transcripts can be made online through UNBC Student Online Services or by completing a Transcript Request Form available in the Office of the Registrar.

Unofficial transcripts are available to students directly through UNBC Online Services.

## 17. Evaluation of Transcripts

The evaluation of transcripts is the responsibility of the Office of the Registrar. Questions relating to transfer credit should be dealt with at the beginning of a student's program. Except for courses taken during that semester on a Letter of Permission, under no circumstances will consideration be given to transfer credits requested during the final semester (15 credit hours) of a student's program.

## 18. Time Limit for Transfer Credit

Transfer credit is not normally awarded for courses completed in excess of 10 years prior to the date of first UNBC registration. Courses more than 10 years old are normally assigned unspecified credit. Once transfer credit has been granted, a student must maintain their continuing student status (Undergraduate Academic Regulation 4. Continuing/Returning Students) in order for transfer credit to be retained.

## 19. Letters of Permission

A Letter of Permission ensures that courses successfully completed at another institution will be transferred to UNBC for consideration as credit toward the student's degree program. Before taking courses from other post-secondary institutions for credit on a Letter of Permission towards a UNBC credential, a student must:

a. have completed at least 9 semester credit hours of study at UNBC
b. be in good academic standing
c. not have any outstanding obligation to the University, which may include, but is not limited to the following:
    - tuition fees owing
    - library or other fines owing
    - outstanding library loans
    - outstanding equipment or other loans

Course work taken on a Letter of Permission is considered to be transfer credit, and therefore subject to all policies and practices related to transfer credit.

Students who complete courses without having first obtained a Letter of Permission risk not having those courses accepted for transfer credit.

## 20. Criminal Records Review

Under the requirements of the Criminal Records Review Act (2008) UNBC requires, as part of the application process, criminal records reviews for applicants to program areas that involve working with children or other vulnerable persons. The cost of this search is the responsibility of the student. Criminal Records Search forms are available in the Office of the Registrar. Results which identify relevant criminal convictions may disqualify an applicant from admission into a program. Submission of a Criminal Records Search at the point of admission does not preclude either the program or provincial certification bodies from requesting a subsequent Criminal Records Search prior to field placement or professional registration. Criminal Records Searches are requirements for the following programs:

- Bachelor of Education (BEd)
- Bachelor of Science in Nursing (BScN)
- Bachelor of Social Work (BSW)
- Aboriginal Child and Youth Mental Health Certificate
- Child Welfare Certificate (CWC)

## 21. Student Access to Official University Record

Students have the right to inspect their Official University Record, including the student file, under the supervision of a staff member and as maintained by the Office of the Registrar. Students have the right to have access to their financial assistance file, as maintained by the Financial Aid and Awards Office under the supervision of a staff member. Assessment reports and letters of reference submitted by third parties in support of students applying to professional programs will not be available for inspection. Students may inspect their Official University Record during normal office hours, and upon advance request in writing. When students inspect their original records, examination will be permitted only under conditions that will prevent alteration or mutilation. In the event of a dispute as to the accuracy of the information maintained in their Official University Record, a student may appeal to the Registrar.

## 22. Declaring a Major

All undergraduate students other than students enrolled in programs leading to the degrees of BASc, BEd, BFA, BSW or General/Integrated degrees (for which Majors do not apply), are required to declare a Major before the end of the semester in which they will complete 30 credit hours (See Academic Regulation 2). Majors do not apply in the degree of BScN. Students intending to pursue a General or Integrated degree program must declare this intent before the end of the semester in which they will complete 30 credit hours. A student who transfers into the University must declare a Major at the time of application unless the transfer is to any of the degree programs indicated above. Declaration forms are available from the Student Recruitment and Advising Centre.

Students must contact a Student Advisor in their area of study to declare or to change a Major.

## 23. Double Majors

Double Majors are permitted in the BA, BComm, and BSc degree programs. Within the College of Science and Management, students pursuing the BPl degree are permitted to double major only within the degree program. Completion of the double major entails completion of the requirements for each Major. Any courses that are included in the requirements for both Majors may be counted for both. Note: If double majors fall between two degrees, students must select only one degree: BA, BComm or BSc. They do not qualify for more than one.

## 24. Minors, Areas of Specialization, and Areas of Focus

UNBC offers minors in a number of subject areas, as outlined in the Undergraduate Calendar. A minor requires a minimum of 18 credit hours and, in most cases, a maximum of 27 credit hours. At least 12 credit hours of any minor must be completed at the upper-division level. A maximum of two courses (6 to 8 credit hours) used to fulfill the requirements for a major (or another minor) may also be used to fulfill the requirements for a minor, except when specified in program regulations for individual minors. Students are not permitted to include more than two minors in the same degree program. Some degree programs require the mandatory completion of a minor in order to meet degree completion requirements. Please refer to the Undergraduate Programs pages for specific details. Minors are recorded on a student's official transcript.

An Area of Specialization is a set of courses required or expected to be completed within the context of a Major. Areas of Specialization require at least 12 credit hours, and are recorded on a student's official transcript.

An Area of Focus is a set of courses recommended to studetns who may wish to concentrate their studies within their Major. Areas of Focus are not required for the major, and are not recorded on the transcript.

## 25. Co-operative Education

Except by permission of the Co-operative Education Program:

1. no student may be registered in more than one course in addition to a "Co-op Work Semester" during a work term.
2. Co-operative Education students must finish their academic programs on an academic term, not a work term.
3. no student may drop or withdraw from a "Co-op Work Semester" once registered in it.

## 26. Time to Complete an Undergraduate Degree

Except by permission of the Dean, students must complete their undergraduate degree program within 15 years of their first semester of registration.

## 27. Second Undergraduate Degrees

Students who have earned a Bachelor's level degree at UNBC or at any other accredited University may obtain a second Bachelor's degree (or the same Bachelor's degree in the case of the BA or BSc) from UNBC under the following conditions:

1. not more than sixty (60) of the credit hours counted towards the second degree may be taken from the first degree.
2. the major subject in the second degree must be clearly distinct from the major subject in the first degree. Where there is any doubt on this point, the decision of the relevant Dean will be final. Students contemplating second degrees are encouraged to consult the relevant Dean in advance.

## 28. Application of Certain Professional Courses to Earn an Undergraduate Degree

With the approval of both the Program Chair and College Dean, certain credits in the Northern Medical Program at UNBC/UBC and in accredited programs in the health professions at other Universities may be accepted towards the Bachelor of Science Degree. Applications for degrees under this regulation will be considered on a case-by-case basis, and in no case subsequent to the conferral of the professional degree in question. Not more than thirty (30) semester hours of professional credits may be counted.

## 29. Registration after the Published Add/ Drop Date

No student is permitted to register for any course after the last date to add courses as published in the Calendar except on the express written permission of the Dean, on the advice of the instructor and of the Program Chair under whose authority the course is offered, as appropriate.

## 30. Change of Grade after Submission of Final Grades

Except for grade changes resulting from formal Academic Appeal, any changes in final grade after the initial grade submission must be transmitted to the Office of the Registrar through the appropriate Chair, except in cases where a Chair's grades must be approved by the appropriate College Dean.

## 31. Repeating Courses

Except by permission of the Chair, students are allowed to repeat a course only once. Both grades are recorded on a student's transcript, and only the higher grade will be calculated into a student's GPA and be used for credit towards a credential. In the case of more than one failed attempt, only the result of the most recent attempt will be calculated into the GPA. In cases where the repeated course is a required course for a specific degree, two failed attempts may result in the student being required to withdraw from that degree program.

Note: Repeating a course to achieve a higher passing grade may have implications for student loan purposes. See Financial Aid Coordinator.

## 32. Course Exemptions

At the direction of a Student's Academic Program Chair, specific course exemptions from course requirements may be granted. Nevertheless, the total number of credit hours for the degree still must be earned.

## 33. Graduation Constraints

1. Normally, the Program regulations that apply to a student's graduation are those that applied in the Academic Year in which the student was most recently admitted for continuous registration.

2. Students must apply to graduate. Application for graduation must be received by the Student Recruitment and Advising Centre no later than October 31st of the calendar year prior to the year in which graduation is contemplated, accompanied by the appropriate (non-refundable) graduation fee.
3. Students are not permitted to graduate while on Academic Probation (i.e., CGPA less than 2.00) or while any Academic Appeals are pending.
4. Students are not permitted to graduate with deferred grades (DEF) remaining on their transcript.
5. Students who have any outstanding obligation to the University will not be issued an official transcript. Outstanding obligations include, but are not limited to, the following:

    - tuition fees owing
    - library or other fines
    - outstanding library loans
    - outstanding equipment or other loans

## 34. Grounds for Withholding Official Transcripts

In instances of non-payment of any portion of tuition, prescribed fees or University library fines and/or bills, or of delinquency in the return or replacement of University property on loan, or non-repayment of cash advances or loans, or violation of residence license agreement, the University shall not permit a student to register for further courses, and shall not issue an official transcript. The above prohibitions shall be in force until such time as indebtedness to the University has been cleared to the satisfaction of the University.

## 35. Grading

Each course taken for academic credit is assigned a final grade at the end of the semester. The final grade for each course will be indicated by a letter grade and a grade point on the student's transcript.

**Grade Point Average:** Grade Point Average (GPA) is a method of expressing a student's academic performance as a numerical value. Each letter grade is assigned a numerical equivalent, which is then multiplied by the credit hour value assigned to the course to produce the grade point.

**Semester Grade Point Average:** Semester Grade Point Average (SGPA) is computed by dividing the total number of grade points earned by the total number of credit hours taken in a semester. See Academic Regulation 31 (Repeating Courses) for the treatment of repeated courses in GPA calculations.

**Cumulative Grade Point Average:** The UNBC Cumulative Grade Point Average (CGPA) expresses performance as a numerical average for all UNBC courses for all semesters completed. The CGPA is calculated by dividing the total number of grade points earned to date by the total number of credit hours undertaken to date. (Letter grades of P or W are not assigned a numerical value and are not used in calculating the grade point average.) See Academic Regulation 31 (Repeating Courses) for the treatment of repeated courses in GPA calculations. The CGPA provides the numerical value used to determine good academic standing or academic probation.

## 36. International Exchange

In order to be eligible to participate in an international exchange program, UNBC students must have either a UNBC cumulative GPA higher than 2.67, or a GPA in the previous two semesters of at least 18 credit hours higher than 3.00.

## 37. International Exchange Grading

In the case of a formal exchange, the grades from an exchange university are reported using a PASS/FAIL grading system and are not counted towards a student's UNBC SGPA or CGPA.

## 38. Honours and Distinction

Candidates for undergraduate degrees whose CPGA at graduation is 3.00 or better will graduate:

| | |
|---|---|
| > 4.00 | With Distinction |
| > 3.67 to < 4.0 | First Class Honours |
| > 3.50 to < 3.67 | Upper Second Class |
| > 3.00 to < 3.50 | Second Class Honours |

Candidates for the joint (with UBC) Bachelor of Applied Science in Environmental Engineering will be granted a degree With Distinction if they achieve an overall GPA of at least 3.67 on all 200-level and higher courses while registered in the BASc program.

## Calculation of Grade Point Average

The following is an example of how a student's GPA is calculated at the end of a semester:

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. | ENGL 201-3 | B | 3.0 | 3 credit hours x 3.0 | = | 9.00 |
| 2. | ENGL 212-3 | B- | 2.67 | 3 credit hours x 2.67 | = | 8.01 |
| 3. | BIOL 101-4 | C+ | 2.33 | 4 credit hours x 2.33 | = | 9.32 |
| 4. | HIST 302-3 | A+ | 4.33 | 3 credit hours x 4.33 | = | 12.99 |
| 5. | PSYC 301-3 | W | — | | | — |
| | | Total | | 13 credit hours | | 39.32 |

Semester GPA: 39.32/13 = 3.02

## Undergraduate Grading System

| UNBC Grade Point | Letter | Percentage | Definition/Standing |
|---|---|---|---|
| 4.33 | A+ | 90 -100% | |
| 4.00 | A | 85-89.9% | Excellent |
| 3.67 | A- | 80-84.9% | |
| 3.33 | B+ | 77-79.9% | |
| 3.00 | B | 73-76.9% | Good |
| 2.67 | B- | 70-72.9% | |
| 2.33 | C+ | 67-69.9% | Satisfactory |
| 2.00 | C | 63-66.9% | |
| 1.67 | C- | 60-62.9% | Marginal |
| 1.33 | D+ | 57-59.9% | |
| 1.00 | D | 53-56.9% | |
| 0.67 | D- | 50-52.9% | |
| 0.00 | F | 0 -49.9% | Failure |

The following are not included in academic average:

| | | |
|---|---|---|
| P | Passing grade | credit awarded |
| AEG | Aegrotat standing | credit awarded |
| DEF | Deferred grade | no credit awarded |
| W | Withdrawn | no credit awarded |
| WE | Withdrawn under extenuating circumstances | no credit awarded |
| AUD | Audit of course | no credit awarded |
| INP | Course or Thesis work | in progress |
| NGR | No grade reported | |

## 39. Examinations

a. No final examinations may count for more than 50% (fifty per cent) of the total course marks.
b. With the exception of laboratory, clinical or practicum-based final examinations, tests worth, in aggregate, more than 10% of the final grade must not be administered during the final week of classes. Major papers or projects must not be newly assigned during the last two weeks of classes.
c. Program Chairs may make exceptions to parts a) or b) of this policy in extraordinary cases. Such exception must be made before the first day of scheduled classes and have the approval of the Dean.
d. Students are required to write no more than two final exams in any one 24 hour period. When a course has a final examination, it must be administered during the scheduled examination period.
e. Final exams are no longer than three hours in duration. Exceptions must be approved by the program chair.

## 40. Conduct in Examinations

Students must present appropriate identification upon entering the examination room. Appropriate identification is defined as a UNBC student card and/or some other form of photo identification acceptable to the proctor. The following regulations apply to the conduct of examinations:

a. Books, papers, or other materials or devices must not be in the possession of the student during an exam except by the express permission of the examiner. Specifically, without such permission no laptop computers, mobile phone sets, handheld electronic devices or the like may be in possession of the student in the examination room (see Undergraduate Academic Regulation 45.b).
b. No candidate is permitted to enter the examination room more than 30 minutes after the beginning of the examination, or permitted to leave within 30 minutes after the examination has started.
c. Candidates must not communicate in any way with other candidates in the examination room.
d. Candidates must not leave their seats, except when granted permission by the proctor.
e. Candidates must turn in all materials, including rough work, upon leaving the examination room.
f. Food and beverages other than water are not permitted in the examination room.

## 41. Student Access to Final Examinations

The instructor will, on request by a student, informally review the final examination with the student after the semester grade has been released.

Final examinations will be retained by the instructor for a period of one year after the examination period, after which time they may be shredded or destroyed by other acceptable means.

## 42. Religious Holidays/Examination Schedule

In some instances, students may find themselves, for religious reasons, unable to write a final examination on a scheduled day. If the final examination cannot be rescheduled to avoid the conflict, the student concerned shall be evaluated by other means, which may include another examination scheduled at a different time. Students must complete the appropriate form (available from the Office of the Registrar) and notify their instructors of a conflict at least two weeks prior to the examination period.

## 43. Final Examinations Missed

Satisfactory explanation, with supporting documentation as appropriate, for any final examination missed must be made by the student or designate to the Office of the Registrar within 48 hours from the time the examination was written.

Within 48 hours of receiving a submission, the Registrar or designate may advise the Program under which the course is offered to arrange the writing of a special examination in the case of an examination which was missed.

Normally, for explanations of sickness, a doctor's certification is required.

## 44. Deferred Examinations and Grades

a. Students may request a deferred examination or deferred status to complete required term work if medical or compassionate reasons prevent attendance at an examination or completion of assignments. Submission of a deferred (DEF) grade by the instructor and Program Chair, should be received by the Office of the Registrar without exception before the date of the final examination. After that date, the Undergraduate Academic Regulation 43 (Final Examinations Missed) applies. Forms for deferred status are available to Faculty from the Office of the Registrar. If a student is granted a deferral, the exam must be written or the assignment(s) completed and graded before the last day of classes in the following semester, unless prior arrangements have been made with the instructor and notification has been submitted to the Office of the Registrar. If a student is granted a deferral but does not complete the required work, or does not appear for the examination, a grade of F will be assigned. If a student's request for deferred status is refused, the instructor will submit a final grade.

b. Effective September 2004, students are not permitted to graduate with deferred grades (DEF) remaining on their transcript (See Academic Regulation 33 (Graduation Constraints).

## 45. Academic Offenses

Any conduct that violates the standards of the University as set out in the Undergraduate University Calendar, particularly those related to academic honesty, is a serious offense. The formal processes set out in these Regulations are to be followed. The Senate Committee on Academic Appeals provides for impartial review of decisions made at lower levels as defined in these Regulations. Minimum sanctions for an academic offense includes reprimands and reduction of grades; the maximum sanction is dismissal from the student's academic program or suspension from the University (see Academic Regulation 47 (Academic Sanctions)). Such offenses include, but are not limited to the following:

a. **Plagiarism:** Plagiarism occurs when a student submits or presents work of another person in such a manner as to lead the reader to believe that it is the student's original work; self-plagiarism is the submission of work previously submitted for academic credit without prior written and signed approval of the current course instructor.
b. **Cheating:** Cheating takes numerous forms and includes, but is not limited to, the following: copying from another student's work or allowing another student to copy from one's own work; obtaining a copy of an examination before it is officially available; misrepresenting or falsifying references, citations, or sources of information; knowingly recording or reporting false or invented empirical or statistical data; and possession of notes, books, diagrams or other aids during examinations that are not authorized by the examiner (See Regulation 39(a)).
c. **Submitting False Records:** Knowingly submitting false medical or criminal records, transcripts, or other such certificates or information.
d. **Withholding Records:** Non-disclosure of previous attendance at a post-secondary institution, and of the transcript of record pertaining thereto, or of other documentation required by the University.
e. **Misrepresenting One's Own Identity:** Impersonation or the imitation of a student in class, in a test or examination or class assignment. Both the impersonator and the individual impersonated may be charged.
f. **Falsification of Results:** The falsification of laboratory and research results.
g. **Submission of False Information:** The submission of false or misrepresented information on any form used by the University or an agent thereof.
h. **Aiding or Abetting** any of the above academic offences.

## 46. Procedure on Suspicion of an Academic Offence

a. An instructor, invigilator or administrator who suspects plagiarism, cheating, or any other academic offence, and has evidence to support the accusation, will review the contents of the student's file in the Office of the Registrar to determine whether the record indicates a prior academic offense, and will obtain a copy of the UNBC Report Form for Academic Misconduct. The instructor or administrator then will contact the student to inform the student fully of the offence and to present the evidence for it. The student may request that a third party (for example another faculty member, a teaching assistant, a staff member, or the ombudsperson) be present at this or any subsequent meetings.
b. If the issue is resolved at this level, the faculty member or administrator will fill in Part A of the UNBC Report Form for Academic Misconduct and forward it to the Office of the Registrar to be placed in the student's file. Discussions with the Chair or Dean may be held at the request of either the faculty member or the student, and the Dean may also be brought in at any stage if requested by either party.

c. If the matter is not resolved between the student and faculty member or administrator, it will be discussed by the student, faculty member, and the Chair of the program involved or, in the case of professional programs that have their own internal appeals committees, reviewed by those committees. After these discussions or reviews, the Chair and Dean will complete Parts B and C respectively of the Report Form for Academic Misconduct. Whether or not a penalty is imposed, a copy of the Report Form will be placed in the student's file in the Office of the Registrar, and copied to the student.
d. The student may appeal any lower level decision to the Senate Committee on Academic Appeals (see Academic Regulations 50, 51).

## 47. Academic Sanctions

"Every student accepted for registration at the University of Northern British Columbia shall be deemed to have agreed to be bound by the regulations and policies of the University and of the Program in which that student is enrolled" (Academic Calendar notices, p.1). A student not adhering to the University's Regulations and Policies shall be subject to academic sanctions.

A range of penalties is described below:

a. Reprimand: This is a written warning to a student from the Instructor, Program Chair or the Dean of the College that the student's behaviour is considered unacceptable to the University and that a record of the unacceptable behaviour has been placed in the student's file in the Office of the Registrar.
b. Reduction of Grade: A reduction of grade, including assigning a failing grade, may be applied to an examination, test, or assignment or course to which an offense is relevant and will be decided upon by the instructor, in consultation as may be appropriate with the Chair or Dean.
c. Suspension: A student's Dean may recommend suspension, either for a specified period or indefinitely, to the President. On the recommendation of the Dean, the President may suspend a student from the University, either for a specified period or indefinitely. Prior to the President's decision becoming final, the student will be informed in writing of the recommendation. The student will be given 15 working days following such notification to lodge an appeal before the President's final decision becomes effective. Any such appeal must be made in writing to the Registrar and will be reviewed by the Senate Committee on Academic Appeals. Once the matter of suspension is final and upheld, a permanent notation will be placed on the student's transcript.

## 48. Academic Standards - Definition

Students are expected to meet the necessary minimum standards for performance while attending UNBC. Those who fail to meet the minimum standard will be placed on academic probation. The minimum standard is defined as an academic average on nine or more credit hours of UNBC course work that produces a cumulative grade point average (CGPA) of at least 2.00.

## 49. Conditions of Academic Standing

a. **Academic Probation:** "Academic Probation" constitutes a warning to a student that the student's academic performance has been at a level which, if continued, could disqualify the student from graduation; and further that continued performance below the required standard could lead to requirement to withdraw from the University on academic grounds.

   Students may be placed on Academic Probation under the following conditions:

   i. Admission to the University on the basis of an unproven or unsuccessful previous university record.
   ii. A UNBC cumulative GPA of less than 2.00 after attempting nine credits of course work.

Letters of permission will not be given to students on academic probation.

Students who have been placed on Academic Probation who achieve a Semester GPA (SGPA) of 2.00 or greater in subsequent semesters will be allowed to continue their studies at UNBC while on Academic Probation. Students are considered to have returned to good academic standing once their Cumulative GPA (CGPA) is 2.00 or greater. Students are not permitted to graduate while on Academic Probation (see Academic Regulation 33 (Graduation Constraints)).

b. **Requirement to Withdraw:** The following circumstances may result in a requirement to withdraw from UNBC. These are:

   i. Discovery that required documentation for admission was withheld, by the student, from the University;
   ii. Failure to pay for tuition or university services;
   iii. Failure to achieve an SGPA of 2.00 or higher after the completion of 30 credits while on Academic Probation. Normally, in this case, a requirement to withdraw from the University is for three semesters (one full calendar year);
   iv. A decision by the President of the University that the suspension of a student, for reasons of unsatisfactory conduct, unsatisfactory academic performance, or otherwise reasons clearly indicates that withdrawal from UNBC is in the best interest of the University.

Academic credit earned at another post-secondary institution during the requirement to withdraw period will be considered for transfer to UNBC, providing:

   i. Courses meet the University's policy on transfer credit
   ii. Courses do not duplicate successful or unsuccessful course work previously completed at UNBC.

It is recommended that students who are required to withdraw, and plan to return to UNBC at a later date, meet with a Student Advisor to discuss their academic standing and course plan prior to enrolling in courses at another post-secondary institution.

In order to apply for re-admission to the University, students must submit an Application for Admission/Re-admission to the Office of the Registrar. Students must provide, with the application, a letter to the Registrar, stating their rationale for wishing to return to studies at UNBC and documenting any work completed or experience gained which would better qualify them to complete studies at UNBC successfully.

Students who are permitted to return to studies at UNBC, return on academic probation, and are subject to the University's policy on academic standing and continuance found in the current calendar.

c. **Second Requirement to Withdraw:** Students Required to Withdraw from the University a second time normally will not be considered for readmission for at least two full calendar years following the Requirement to Withdraw. Re-admission will only be on presentation of compelling evidence that the student is both able and prepared to succeed in University studies.

## 50. Appeals Process

All students have the natural and reasonable right to appeal grades given during the term, the final grade of a course, and other academic policies and decisions of the University. The Senate Committee on Academic Appeals is the final adjudicator in such matters. All formal appeals must be made through the Registrar, in writing and with necessary documentation, within 15 working days of the receipt of the decision in question. The student's written appeal must state clearly the decision being appealed, the reason(s) why the decision is considered to be unfair, what decision would be considered fair, and why it would be fair. It is incumbent upon the student to advise the University, via the Office of the Registrar, of their current contact information. All written appeals to the Senate Committee on Academic Appeals should indicate whether an in-person hearing is being requested. Otherwise, cases are adjudicated on the basis of the written submissions.

## 51. Senate Committee on Academic Appeals: Procedures

The Senate Committee on Academic Appeals follows the principles of natural justice. That is, its procedures are fair and open, appropriate to the matter under consideration, and provide the opportunity for those affected to put forward their views fully for consideration by the Committee. Following these principles, the Committee develops its own procedures and practices to conduct appeals and is not constrained by strict rules of procedure and evidence.

A quorum consists of a majority of voting members, including at least one student member and two faculty members. No faculty or student committee member with previous direct involvement in the case may hear the appeal. The appellant has the right to challenge the neutrality of any member of the Committee scheduled to hear his/her appeal. The Chair, with the advice of the Committee, will rule on the validity of the challenge.

If the appellant requests an in-person hearing, the interested parties (e.g., the course Instructor(s), Chair and/or Dean) will be notified and may also appear at the appeal, when available. Appeals shall be based on the appellant's written submission (all relevant evidence and documentation related to the matter which is under appeal, and all relevant information contained in the student record). New evidence cannot be presented at the hearing.

If the appellant asks to be present at the hearing yet fails to appear before the Committee on the appointed day and time, the Committee may, without further notice, proceed to hear the appeal based on the written submission. If there are compassionate or medical grounds for nonappearance, the Chair or the Secretary to the Committee must be notified immediately. The Chair will determine the acceptability of these grounds and whether the appeal hearing should be postponed.

All hearings are held in the strictest confidence and normally are attended only by members of the Committee and the parties to the particular appeal. Upon written notification to the Senate Committee on Academic Appeals, appellants may be accompanied by an additional party for the purpose of personal support.

Neither the appellant nor the University shall have the right to representation by legal counsel during appeal hearings except by permission of the committee Chair. The Chair, at the Chair's sole discretion, may allow legal representation where he or she judges the circumstances of the case to be exceptional.

The Secretary to Senate, in consultation with the Committee Chair as appropriate, reviews each request to hear an appeal before any hearing or adjudication. This review is intended to ensure that the nature of the appeal is consistent with the mandate of the Committee and to ensure that the appeal is both valid and could not be resolved by other means. In some instances the review may lead to a reversal of the decision before review, while in other instances it may indicate there are insufficient grounds for an appeal or that further documentation is required. In all cases, however, any decision to hear or not to hear an appeal rests with the Committee.

The Senate Committee on Academic Appeals reviews decisions made at lower levels when requested to do so by the appellant. Normally it rules in two areas. It considers whether appropriate and fair adjudication was exercised in respect of a case and, where it concludes that there was unfairness, it may direct a readjudication using a procedure that it prescribes as being appropriate and fair. It considers whether the penalty assessed was consistent with University Regulations and practice and was not pernicious and, where it concludes that there was a lack of consistency or an unreasonable response, it may state its concerns clearly and direct a reconsideration. The Committee may act, whether a reconsideration has been directed or not, to overturn or to support a decision. Whatever the matter under consideration, the Committee and all parties to the appeal are provided by the Registrar with the same information, sufficient to permit a meaningful hearing. The Committee maintains a record of its deliberations and provides the reason(s) for its decisions.

## 52. Appeal of Term Grades While Course is in Progress

Students who have reason to believe their term grade, while a course is in progress, is inaccurate should meet with their course instructor immediately. If both the instructor and the student agree, on the basis of an informal review, the matter is thereby concluded and a change of grade is submitted if necessary.

Students who wish to appeal grades other than final grades, formally, should initiate the following process:

a. The student obtains an Academic Appeals Form from the Office of the Registrar and submits it to the Program Chair.
b. The Chair meets the instructor(s) on the matter, obtains the instructor's(s') comments and adds the Chair's comments.
c. If no resolution favourable to the student is reached within seven working days, the Chair, without delay, submits the form to the Dean.
d. If no resolution acceptable to the student is reached within seven working days, the Dean, without delay, submits the form to the Registrar for advancement to the Senate Committee on Academic Appeals.
e. At any stage in the process, the student may choose to withdraw the appeal by notifying the Registrar.

An appeal may result in a higher, equal or lower grade. The final recourse for all appeals is the Senate Committee on Academic Appeals.

## 53. Appeal of Final Grade

Students who have reason to believe their final grade in a course, once released by the Office of the Registrar, is inaccurate should meet with their course instructor immediately, if possible (see Academic Regulation 41). If instructor and student agree, on the basis of an informal review, the Office of the Registrar is advised of a grade change and the matter is thereby concluded.

Students who wish to appeal their final grade, formally, should initiate the following process:

a. The student obtains an Academic Appeals Form from the Office of the Registrar and forward submits it to the Program Chair.
b. The Chair meets the instructor(s) on the matter, obtains the instructor's(s') comments and adds the Chair's comments.
c. If no resolution favourable to the student is reached within seven working days, the Chair, without delay, submits the form to the Dean.
d. If no resolution acceptable to the student is reached within seven working days, the Dean, without delay, submits the form to the Registrar for advancement to the Senate Committee on Academic Appeals.
e. At any stage in the process, the student may choose to withdraw the appeal by notifying the Registrar.

An appeal may result in a higher, equal or lower grade. The final recourse for all appeals is the Senate Committee on Academic Appeals. Evaluation of a student's academic performance for continued enrolment will not be done prior to the completion of a grade appeal process, if the grade in question is pertinent to the said evaluation.

## 54. Appeal Procedure on Requirement to Withdraw

"Requirement to Withdraw" on academic grounds is a decision under the purview of the student's College Dean. Therefore, a student's first recourse by way of appeal is the Dean. If the Dean agrees to rescind the requirement, the Dean informs the Office of the Registrar and no further action by the student is necessary.

Otherwise, any academic appeal on a requirement to withdraw must be made in writing to the Registrar and will be reviewed by the Senate Committee on Academic Appeals.

## 55. University Closure/Weather

On rare occasions, the President (or designate) may elect to close the University due to inclement weather or other human or natural circumstance. In such circumstances, classes and examinations will be formally cancelled and will be rescheduled. Assignments due on the date of the closure must be submitted on the next day that the University is open.

# Programs

## Co-operative Education

The Co-operative Education program is based on the principle of integrating a student's academic program with practical work experiences. This principle normally is achieved through an alternating sequence of four month work and study semesters. Recent introductions of parallel and internship co-op models have broadened student and employer opportunities with the possibility of longer work term experiences. This 'hands-on' approach to education extends the learning process beyond the limits of the classroom and into the working world. The Co-op Education program holds many advantages for students, employers and the University. For example, Co-op students are likely to attain higher levels of satisfaction regarding their education, and have a much higher probability of securing relevant, permanent employment immediately after graduation. Employers benefit from hiring bright, capable, highly motivated students who can fill temporary job openings, complete projects, free permanent staff for other tasks, ease the load during a busy season, and potentially fill permanent positions after graduation.

The number of jobs available for Co-op students will vary from semester to semester. Because of this, students cannot be guaranteed Co-op positions.

### Admission to the Program

Intake into the Co-operative Education program occurs once throughout the academic year. Students planning to enter the Co-op program should contact the Student Career Centre and attend information sessions in the month of October.

To qualify and continue in the Co-operative Education option of their degree, a student must:

- be enrolled full time (9 credit hours);
- have a minimum cumulative grade point average of 2.50 with normally no grade lower than D;
- have completed 30 credit hours before beginning the first Co-op Education work term semester.

Students who are required to withdraw from Co-op due to their academic standing may re-apply for admission to the Co-op program based upon re-qualification.

Transfer students should complete a study semester before going out on a work term semester; however, they are encouraged to apply to the program in that semester. Students are normally required to successfully complete three work term semesters. Those students transferring from an approved Co-op program elsewhere and who have successfully completed a work term semester may be exempt from their first and second work term semesters at UNBC (refer to Co-operative Education Transferable Work Terms below). Students who complete the required work term semesters will receive a Co-op designation on their degree.

Students may experience their work term semesters in either the September, January or May semesters. Not all work semesters may be done in the Summer Semester with normally at least one in the September Semester and one in the January Semester. Students must end the Co-operative Education program on an academic term prior to graduation.

### Co-operative Education Transferable Work Terms

Co-operative Education Work Terms successfully completed at a British Columbia post-secondary institution will be eligible for transfer credit, on an individual basis, if they meet the following requirements:

1. The student must be accepted into the UNBC Co-op Education program and apply, in writing, to receive transfer of work terms.
2. The program in which the work term(s) was undertaken is provincially approved under the criteria of the Accountability Council of Co-operative Education of BC, or is nationally approved under the criteria of the Canadian Association for Co-operative Education.
3. The work term(s) is officially recognized, i.e., noted on the transcript, by the institution where the work term originated.
4. The credit for the work term(s) was granted for work experience typical of the same discipline into which the student is transferring.

### Co-operative Education Work Term Credit Challenge

UNBC Co-op Education allows students to challenge a Work Term on the basis of prior, relevant and satisfactory work experience. Students should discuss any potential challenge with the appropriate Co-ordinator for their major. Work Term Challenges are subject to the following:

1. To begin a Work Term Challenge, an Application for Course Challenge form must be initiated with the student's Co-ordinator by December 1 in the September term that the student applies to the Co-operative Education option of their program.
2. The UNBC Course Challenge fee will be assessed with the initiation of the Work Term Challenge forms. Current course challenge fees are listed in the UNBC calendar.
3. The Co-ordinator will assess the Work Term Challenge application and provide recommendations to the Director.
4. Applicants will be advised of the decision within two weeks of the submission.
5. Work Term credit by challenge is limited to the first two Work Term courses within the major.
6. Assessment of the Work Term Challenge will be carried out by the Student Career Centre based on the following:

- An aggregate of 560 hours (minimum) relevant paid work experience not previously counted toward Work Term credit, practicum, internship and similar options.
- Verification required of employment and evaluation of performance from the employer(s).
- Job descriptions outlining prior work experience, providing evidence that the student has acquired professional and personal knowledge and skills appropriate to the discipline or interdisciplinary field.
- A portfolio appropriate to the discipline or interdisciplinary field which meets UNBC Co-op Education Work Term guidelines.

7. Once the challenge is approved, the result will be entered on the student's academic record on a pass or fail basis.

## Parallel Co-op Work Terms

A parallel work term is a mode which allows students to complete a work term by working 15 to 20 hours per week for a period not to exceed eight months. For example, a student can now work half-time for eight months rather than full-time for four months. Students are expected to be enrolled in a minimum of two courses for each semester of a parallel work term.

## Self-Developed Work Terms

The purpose of the new policy on self-developed work terms is to recognize that some students find some work placements as a result of their own contacts and networks. Students who wish to discuss whether a particular work term should be declared self-developed should talk to their coordinator before beginning that work term, and consult the co-op student handbook for the criteria used to define a self-developed work term.

## The Co-op Process

Once a student is registered in the Co-op program, he or she has the opportunity of applying for positions with employers. Students are able to choose appropriate employers from posted job descriptions.

Students submit their resumés directly to employer(s) who choose a number of student applicants to interview. Once the interview process is complete, employers will make an offer to the successful applicant. Co-op students are expected to be flexible and responsive to appropriate work opportunities through BC and elsewhere.

Course descriptions for the Co-op option can be found in the UNBC course finder under the prefix COOP.

## Canadian Association for Co-operative Education

### Definition of Co-operative Education

UNBC is a member of the Canadian Association for Co-operative Education (CAFCE). A co-operative education program is a program that formally integrates a student's academic studies with work experience in co-operative employer organizations. The usual plan is for the student to alternate periods of experience in appropriate fields of business, industry, government, social services and the professions according to the following criteria.

- Each work situation is developed and/or approved by the co-operative educational institution as a suitable learning situation.
- The co-operative education student is engaged in productive work rather than merely observing.
- The co-operative education student received remuneration for the work performed.
- The co-operative education student's progress on the job is monitored by the co-operative education institution.
- The co-operative education student's performance on the job is supervised and evaluated by the student's employer.
- The time spent in periods of work experience must be at least thirty percent of the time spent in academic study.

For additional information, please visit the Student Career Centre website at www.unbc.ca/careercentre/.

### Internship Courses

Internship courses are for those students who wish to have a more limited practical work experience and are unable to pursue the requirements of the Co-op program.

These courses differ from the Co-op program in that they are for one semester only. Specifically, the Internship courses will be one semester in length (four months) and will be for course credit rather than a paid employment experience. The employer, student and faculty supervisor will together agree on a term assignment. The student will be responsible for completing this assignment and defending it at the end of the term to the employer and faculty member.

Please note: the Internship courses are completely separate from the practica found in such programs as Nursing, Social Work and Education.

# Integrated Analytical Skills & Knowledge Program (IASK)

The Integrated Analytical Skills & Knowledge Program at UNBC offers first-year students a rich and unique learning experience. Supported by seven academic units in the College of Arts, Social and Health Sciences (Anthropology, Economics, English, First Nations Studies, International Studies, Political Science, and Northern Studies), IASK delivers an integrated and interdisciplinary curriculum. IASK is cohort based: small groups of students will work together across courses. Intake for IASK is limited to 65 students who self-select to take part in the Program. IASK courses are accepted as meeting the degree requirements for the seven departments listed above.

The IASK is made up of 18 credit hours spread out over two terms. However, IASK does not occupy the full first year, as students can register for other courses and programs. That is, 9 credit hours are taken in the September Semester and 9 credit hours are taken in the January Semester. The courses blend content and teaching in ways that prepare students for success in university and beyond.

Curriculum in IASK focuses on learning outcomes and on content breadth across the Liberal Arts. Learning outcomes in IASK include the following: 1) Appropriate depth and breadth of knowledge and skills; 2) Analytical, critical, and creative thinking skills; 3) Liberality, inclusiveness, and an appreciation of diversity; 4) Personal growth, leadership skills and effective communication; 5) Life-long learning and intellectual development; 6) Engaged citizenship from the local to global levels.

IASK is recommended for students entering UNBC for the first time in one of the seven academic units listed above and who desire to work with a small group of students in a learning environment designed to facilitate student engagement with their peers. Through interaction with a small group of professors, this program will also assist first-year students to achieve improved academic performance throughout their four years at UNBC.

Curriculum:

- IASK 101-3 Ways of Knowing
- IASK 102-3 Waves of Globalization
- IASK 103-3 Foundations of Learning I
- IASK 104-3 Peoples, Places and Culture
- IASK 105-3 What is Security?
- IASK 106-3 Foundations of Learning II
- IASK 107-3 Special Topics

# International Exchange Program

Exchange programs between the University of Northern British Columbia and other institutions are defined by the terms of formal exchange agreements.

Students participating in exchange programs generally pay their tuition fees to UNBC, but select their courses at the university they will be visiting (this policy may vary with each exchange agreement). Grades are recorded at the receiving institution and forwarded to UNBC at the end of the semester or academic year. In the case of a formal exchange, grades will be reported by UNBC using a pass/fail grading system and will not be counted towards a student's cumulative grade point average.

Students are permitted to spend a maximum of one academic year* on a formal exchange. To participate in an international exchange, students must be nominated by UNBC and then wait for written approval from the receiving university. Students are required to register and pay their fees to UNBC before leaving on exchange. For more information on exchange opportunities and application procedures, contact International Exchange and Student Programs.

Study abroad where a formal agreement does not exist must be conducted by means of a letter of permission. In such cases tuition fees are paid to the receiving institution.

## Selection Criteria for International Exchange Participants

The International Exchange and Student Programs Office has developed the following criteria to select UNBC students to participate in formal international exchanges. Criteria are outlined in descending order of importance.

### Grade Point Average

- a minimum cumulative GPA of 2.67 is required.
- in exceptional circumstances, a minimum of 2.67 over the last 30 credit hours may be considered.
- in some cases a higher CGPA is required by the receiving institution.

### Statement of Interest

- students are asked to submit a one- to two-page essay outlining the potential impact of participation in the exchange on their academic program and the expected contribution to their career plans.
- the quality of writing used in the statement of interest will also be considered.

### Academic Study Plan

- the study plan should demonstrate that exchange participation will contribute to a student's degree program and/or elective requirements.
- students will complete a study plan for both their first and second choice of destinations, but they will only be required to obtain advisor/faculty signatures for their first choice at the initial state of the application process.

### Letters of Academic Reference (3)

- applicants are asked to present two academic references and one personal reference.
- academic referees are asked to comment on the student's ability to succeed academically in an exchange.
- letters of reference should be from UNBC faculty members or the applicant must provide an explanation as to why another academic reference is valid.

### Curriculum Vitae/Resumé

- the Committee will look for community and or campus participation.
- a résumé may also include information on cross-cultural interest and experience.
- relevant experience in the workforce or as a volunteer will also be taken into consideration.

### Academic Year

- senior students will have had more time to develop academic maturity, and less opportunity to participate in exchanges in preceding years, and thus may be given priority over more junior students.
- students are permitted to submit application materials for exchange upon completion of at least one semester of study at UNBC. However, students must complete a minimum of 30 credit hours of academic study at UNBC before departing on an international exchange.

### Special Criteria

- students should meet specific criteria for particular exchanges.
- applicants must meet language requirements for some exchanges.

## Other UNBC Exchanges

- students may participate in a maximum of one academic year of exchange.
- all other things being equal, the committee will give priority to students who have not previously participated in a UNBC exchange program.

## Additional Considerations

- only complete applications will be considered.
- an interview may be required for final selection.
- recent UNBC alumni may be considered as exchange participants if there are no qualified applicants among current UNBC students.

## Budget Planner

- to assist students in planning their exchange, this form must be completed.

# Northern Advancement Program

## Introduction

The First Nations Centre, in keeping with its mandate to serve the native student population, offers a transition year of study in September of each year to students who would like to attend the University of Northern British Columbia. The program of study is important and relevant to students from both smaller rural communities and/or First Nations communities.

The University is situated in the territories of 78 Bands and 16 Tribal Councils as well as many urban First Nations organizations. The population of the region is about 300,000 of which First Nations people comprise approximately 10 percent.

The First Nations Centre does not limit its services to First Nations students. All programs and studies offered through the First Nations Centre are open to all UNBC students—native and non-native alike.

Students from smaller rural communities and First Nations students traditionally have had the most difficulty in adjusting to university in a larger centre because of cultural and sociological differences. The program is aimed at providing these students with assistance in making the transition to university. It will allow students to take full advantage of the educational opportunities offered, and prepare them for subsequent employment. The program will also ensure that a higher percentage of students will successfully complete their degrees as a result of their adjustment to, and enjoyment of, university life in a larger centre.

## Program Description

The Northern Advancement program has been developed utilizing existing UNBC programs in the First Nations Centre in addition to the courses, ARTS 101-3 (Learning Strategies) and ARTS 102-3 (Research Writing). These new courses will provide a foundation for further study in a variety of fields at UNBC. The cornerstone of the Northern Advancement program is ARTS 101-3 and ARTS 102-3. The First Nations Centre programs have an emphasis on support services for students from smaller rural and First Nations communities.

ARTS 101-3 and ARTS 102-3 will provide an effective bridge for students entering UNBC. The transition and study skills component will begin two weeks prior to the start of classes and students will be required to attend a detailed orientation to the University that will include an off-campus two-day retreat. The courses will continue throughout the critical first year with students receiving instruction in developing skills in the following areas:

- library skills
- research skills
- text reading skills
- writing skills
- study skills
- public speaking
- group development
- stress management
- note taking skills
- assertiveness training
- career planning and
- test taking skills

In addition, since First Nations philosophy is one that is based on holistic learning, emphasis will be placed on developing support networks for personal growth as well as helping students in the program deal with personal issues that impede their academic success.

The delivery of ARTS 101-3 and ARTS 102-3 will be supported by the First Nations Centre. These include the assistance of First Nations community elders for cultural programming and personal guidance. In addition to elders, existing UNBC staff and faculty will be utilized to deliver specific components and courses of the program. A program co-ordinator from the First Nations Centre will coordinate the Northern Advancement Program, teach skill level sessions, and assist in community liaison and student recruitment.

## Program Objectives

The program will provide a foundation for further study in a variety of fields at the University of Northern British Columbia. The cornerstone of the program is the emphasis on support services for First Nations students and students from smaller rural communities.

The objectives of this program are:

- to provide an orientation to university facilities and admission procedures
- to provide a supportive learning environment that facilitates the transition into university life
- to provide cultural activities which build self-esteem and respect for First Nations traditions and cultural values

## Admission Requirements

Students will be required to complete a regular UNBC Admission Application form and indicate the Northern Advancement program as their academic intention.

Applicants must meet regular UNBC admission standards.

Each mature student application will be reviewed on its own merits. Mature applicants must:

- be permanent residents of British Columbia
- have been out of secondary school for at least three years and
- be at least 21 years of age on or before the first day of classes

## Application Process

Students are encouraged to begin admission inquiries as soon as possible in the new calendar year.

The deadline for submission of applications, complete with all required documentation, for September registration is June 1. Complete files are given first preference for acceptance into the program. As spaces available in the program are limited, not all students who are eligible will be admitted.

To be considered for the Northern Advancement program, students must also submit the following with their application form:

- one official transcript from high school and all post-secondary institutions attended (photocopies or facsimiles are not accepted as official);
- a letter of intent outlining their career goals and the importance of the Northern Advancement program in achieving those goals;
- a letter of support from a high school teacher and/or band administrator, education coordinator or sponsoring organization.

Once admitted to UNBC:

- students are required to attend a two-week orientation session prior to the first day of classes which includes an off-campus two-day retreat with staff. Course timetables will be provided during orientation week.

## Course Requirements

Normally this is a maximum five year UNBC credit program (some students may choose to complete the degree in four years). The program is designed to facilitate 25 students per year. Northern Advancement program students are advised to complete nine to twelve credit hours in each of their first and second semesters as follows:

**Semester One**

| | |
|---|---|
| ARTS 101-3 | Learning Strategies |
| FNST 100-3 | The Aboriginal Peoples of Canada |
| Elective | (three credit hours) |

**Semester Two**

| | |
|---|---|
| ARTS 102-3 | Research Writing |
| Electives | (six to nine credit hours) |

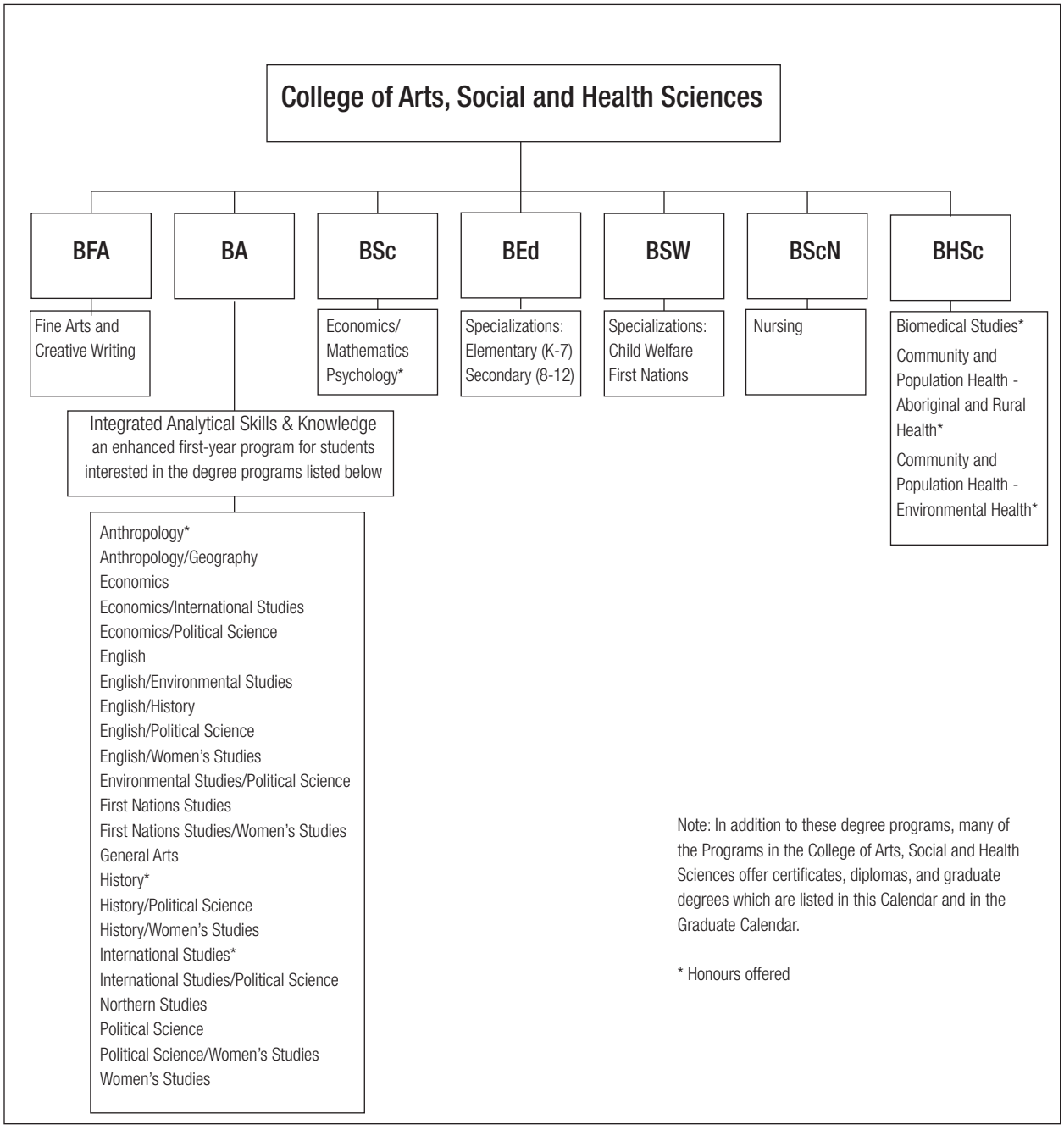
# Student Success Initiative

University 101-3 (Introduction to Higher Education) is a three-credit, multidisciplinary elective that is an appropriate foundation course for most university degree programs. It offers an introduction to the university and its many services, an explanation of the methods of academic inquiry employed in the various disciplines, and an opportunity to learn and practice the study skills and learning strategies that are required for academic success. Students are given opportunities to use the information from this course to improve their academic performance in the other courses they are studying.

University 101-3 is most appropriate for students who are in their first year of study at a university, including those who have transferred from regional colleges. It is also appropriate for mature students who have been away from academic study for a period of time.

For additional information, see the description of the course that is located in the course description section of the Calendar under the title, UNIV 101-3.

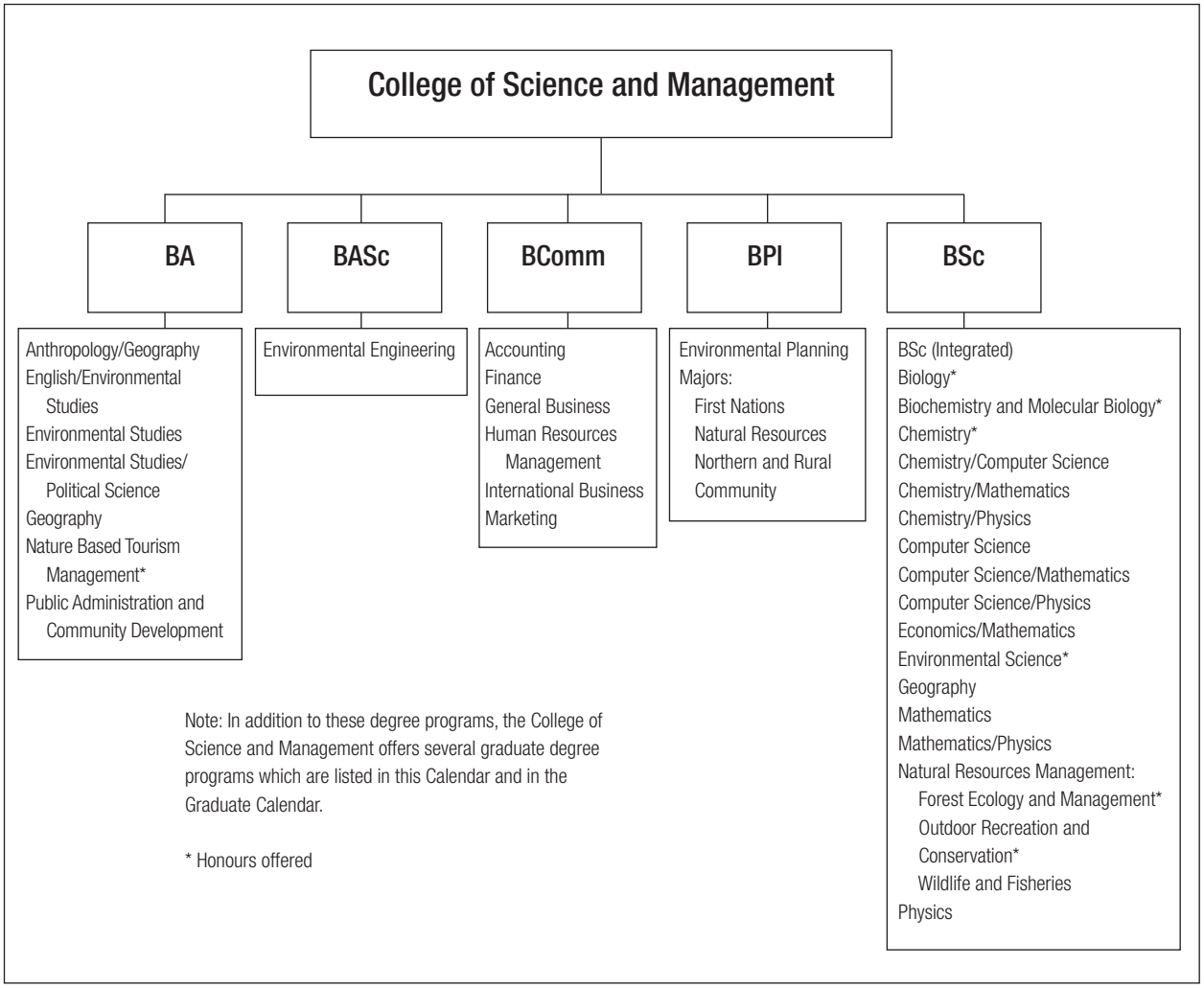
# CASHS Academic Structure




## College of Arts, Social and Health Sciences

The College of Arts, Social and Health Sciences (CASHS) includes the following Programs: Anthropology, Community Health Science, Disability Management, Economics, Education, English, First Nations Studies, Integrated Analytical Skills and Knowledge, Gender Studies, Health Sciences, History, International Studies, Northern Studies, Nursing, Political Science, Psychology, Social Work, and Women's Studies. Through its teaching, research and service, the College actively promotes an understanding and appreciation of humanity, and the development of human resources in northern British Columbia. The College links northern BC to the world, and the world to northern BC. It is concerned with people, health, culture and values, and is committed to enhancing opportunities for individuals, building stronger, healthier communities, and improving quality of life.

# CSAM Academic Structure




## College of Science and Management

The College of Science and Management (CSAM) includes the following: BA degree with majors in: Anthropology and Geography, Geography, Environmental Studies, English and Environmental Studies, Environmental Studies and Political Science, Nature-Based Tourism Management, and Public Administration and Community Development; BASc degree with a major in: Environmental Engineering; BComm degree with majors in: Accounting, Finance, General Business, Human Resources Management, International Business, and Marketing; BPI degree with three environmental planning majors: First Nations Planning, Natural Resources Planning, Northern and Rural Community Planning; BSc (Integrated); BSc degree with majors in: Biology, Biochemistry and Molecular Biology, Chemistry, Chemistry and Computer Science, Chemistry and Mathematics, Chemistry and Physics, Computer Science, Computer Science and Mathematics, Computer Science and Physics, Economics and Mathematics, Environmental Science, Geography, Mathematics, Mathematics and Physics, Natural Resource Management (Forest Ecology and Management), Natural Resource Management (Outdoor Recreation and Conservation), Natural Resource Management (Wildlife and Fisheries), and Physics.

Through research, teaching and outreach, the College aims to integrate the sciences, business administration, and management of natural resources and environments in ways that are recognized internationally for their roots in traditional and basic knowledge, their value to rural and remote communities, citizens and industries, and their global pertinence.

# Academic Breadth Requirement

The University of Northern British Columbia encourages all of its students to embrace Academic Breadth in both knowledge and skills. The ideal graduate has demonstrated literacy and numeracy in study, has acquired breadth of knowledge outside the chosen discipline(s) of study, and has developed the habit of analytical and critical thought. Certain degree programs lend themselves to a formal requirement for Academic Breadth in study.

Students pursuing the degrees of BA, BComm, BHSc, and BSc* are required to meet the University's Breadth requirement, as set out below, as a condition of graduation. Each graduate is required to have completed successfully at least three credit hours from each of the four Quadrants, or to have transferred to UNBC from another institution acceptable course(s) such that the requirement is met.

This requirement applies to all students admitted or readmitted to UNBC for studies beginning with the September 2010 Semester or later.

*At least 3 credit hours from:*
**Arts and Humanities**

*English (ENGL)*
*History (HIST)*
*Philosophy (PHIL)*
*Women's Studies (WMST)*

*At least 3 credit hours from:*
**Physical Science**

*Chemistry (CHEM)*
*Computer Science (CPSC)*
*Mathematices (MATH)*
*Physics (PHYS)*
*Statistics (STAT)*

*At least 3 credit hours from:*
**Natural Science**

*Biology (BIOL)*
*Georgraphy(GEOG)*
*Environmental Science (ENSC)*
*Environmental Studies (ENVS)*
*Forestry (FSTY)*
*Health and Human Science (HHSC)*
*Natural Resources Ecosystem Management (NREM)*

*At least 3 credit hours from:*
**Social Science**

*Anthropology (ANTH)*
*Commerce (COMM)*
*Economics (ECON)*
*Education (EDUC)*
*Environmental Planning (ENPL)*
*First Nations Studies (FNST)*
*International Studies (INTS)*
*Northern Studies (NORS)*
*Outdoor Recreation and Tourism Managment (ORTM)*
*Political Science (POLS)*
*Psychology (PSYC)*
*Resource Recreation and Tourism (RRT)*

*Students pursuing the degrees of BA Nature Based Tourism Management, BSc Biology and BSc Natural Resources Management (majors in Forest Ecology and Management, Outdoor Recreation and Conservation, and Wildlife and Fisheries) are exempt from this regulation because academic breadth has been incorporated within the curricula.

## University Learning Outcomes

Graduates from the University of Northern British Columbia will demonstrate knowledge, skills and abilities appropriate for their degree in the following areas:

- Academic breadth and depth
- Analytical, critical, and creative thought
- Liberality, inclusiveness and an appreciation of diversity
- Personal growth, leadership skills and effective communication
- Engaged citizenship from the local to the global level
- Lifelong learning and intellectual development

Each academic degree Program, individually, is structured so as to address these outcomes.

# BA (General)

The Bachelor of Arts (General) degree provides a broad education in the arts. Students are required to complete 120 credit hours including a minimum of 60 credit hours of upper-division course work. Ninety credit hours (including 30 credit hours at the upper level) must consist of Humanities and Social Science courses. For the purpose of the Bachelor of Arts (General) all courses from the following areas are considered Humanities or Social Science:

- Anthropology
- Arts
- Economics
- Education
- English
- Environmental Planning
- Environmental Studies
- First Nations Studies
- History
- International Studies
- Northern Studies
- Philosophy
- Political Science
- Social Work
- Women's Studies

Coursework from Commerce, Geography, Health and Human Sciences, Natural Resources Management, Outdoor Recreation and Tourism Management and Psychology has been approved on a case by case basis depending on its content. Please contact your program advisor for a list of approved courses in these areas.

The minimum requirement for completion of the Bachelor of Arts (General) is 120 credit hours.

## Program Requirements

### Lower-Division Requirement

Students must complete 54 credit hours of lower-division (100 and 200) level course work.

### Upper-Division Requirement

Students must complete a minimum of 60 credit hours of upper-division (300 and 400 level) course work.

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

### Minor Recommendation

Majors are not a component of the BA (General); however, students are strongly urged to include in their degree a completed minor from any of those programs within Arts or Social Sciences which offers a BA, or from the Philosophy or Russian Studies minor: i.e., from the following list:

- Anthropology (BA program)
- Economics (BA program)
- English (BA program)
- Environmental Studies (BA program)
- First Nations Studies (BA program)
- Geography (BA program)
- History (BA program)
- International Studies (BA program)
- Northern Studies (BA program)
- Outdoor Recreation and Tourism Management (BA program)
- Philosophy (Minor program)
- Political Science (BA Program)
- Russian Studies (Minor program)
- Women's Studies (BA Program)

Alternatively, students may complete a minimum of 18 credit hours from any of these programs.

# BSc (Integrated)

The Bachelor of Science (Integrated) provides a broad science base and integrates more than one area of study. The program is built upon a foundation of Biology, Chemistry, Mathematics and Physics. The program allows students to transfer into single-discipline science majors built on a foundation of Biology, Chemistry, Mathematics and Physics, or alternatively to switch from them to the BSc (Integrated). This program may be useful to students planning to pursue studies in various post-baccalaureate professional areas. Students should consult with the appropriate professional school(s) to ensure inclusion of all the required courses to be eligible for entry into programs in the desired professional area. Prior to starting the first year of study, students are strongly encouraged to consult with an appropriate Student Advisor for their anticipated Area of Specialization.

Areas of Specialization are:

1. Biology, Ecology and Biochemistry & Molecular Biology
2. Chemistry, Biochemistry and Molecular Biology
3. Computer Science
4. Environmental and Earth Sciences
5. Geography (Science) and GIS
6. Mathematics and Statistics
7. Natural Resources and Forestry
8. Physics

Students enrolled in the Bachelor of Science (Integrated) must successfully complete a total of 120 credit hours including a minimum of 45 credit hours from upper-division (300- or 400- level) courses, and not less than 15 credit hours, at any level, of Humanities and Social Science courses. Humanities and Social Science courses may be selected from among the areas that are considered Humanities and Social Science for purposes of the BA (General). Students must complete two areas of Specialization listed above. Students must ensure completion of course prerequisites before registering in any course.

## Program Requirements

### Lower-Division Requirement

BIOL 103-3 Introductory Biology I
BIOL 104-3 Introductory Biology II
BIOL 123-1 Introductory Biology I Laboratory
BIOL 124-1 Introductory Biology II Laboratory
CHEM 100-3 General Chemistry I
CHEM 101-3 General Chemistry II
CHEM 120-1 General Chemistry Lab I
CHEM 121-1 General Chemistry Lab II
MATH 100-3 Calculus
or MATH 105-3 Enriched Calculus
and MATH 101-3 Calculus II
or
MATH 152-3 Calculus for Non-majors
and STAT 240-3 Basic Statistics
PHYS 100-4 Introduction to Physics I
or PHYS 110-4 Introductory Physics I: Mechanics
PHYS 101-4 Introduction to Physics II
or PHYS 111-4 Introductory Physics II: Waves & Electricity

### Upper-Division Requirement

Students must complete 18 upper-division credit hours within each of two areas of Specialization for a minimum of 36 credit hours.

*Note that if a course falls into more than one Area of Specialization, it may be counted in only one Area of Specialization.*

1. Eligible courses for the Biology, Ecology, and Biochemistry & Molecular Biology Area of Specialization

BCMB 306-3 Intermediary Metabolism
BCMB 307-3 Proteins
BCMB 308-3 Biochemistry Lab II
BCMB 330-3 Nucleic Acids
BCMB 340-3 Physical Biochemistry
BCMB 405-3 Topics in Biochemistry
BCMB 409-3 Enzymology
All upper-division BIOL courses

2. Eligible courses for the Chemistry, Biochemistry & Molecular Biology Area of Specialization

BIOL 423-3 Molecular Evolution and Ecology
BIOL 424-3 Molecular Cell Physiology
BIOL 425-3 Applied Genetics and Biotechnology
All upper-division BCMB and CHEM courses.

3. Eligible courses for the Computer Science Area of Specialization

Students considering this Area of Specialization should include in the first year:
CPSC 100-4 Computer Programming I
CPSC 141-3 Discrete Computational Mathematics
CPSC 101-4 Computer Programming II
All upper-division CPSC courses except CPSC 311-3 Computer Applications Programming

4. Eligible courses for the Environmental and Earth Sciences Area of Specialization

| | |
|---|---|
| ENPL 305-3 | Environmental Impact Assessment |
| ENPL 402-3 | Terrain Assessment |
| FSTY 315-3 | Forest Soil Management |
| FSTY 425-3 | Soil Formation and Classification |
| FSTY 455-3 | Biogeochemical Processes in Soil Systems |
| GEOG 310-3 | Hydrology |
| GEOG 311-3 | Concepts in Geomorphology |
| GEOG 405-3 | Fluvial Geomorphology |
| GEOG 411-3 | Quaternary and Surficial Geology |
| GEOG 412-3 | Geomorphology of Cold Regions |
| GEOG 414-3 | Weathering Processes |
| NREM 410-3 | Watershed Management |
| PHYS 307-3 | Selected Topics in Environmental Physics |

All upper-division ENSC courses except ENSC 417-6 Designing Solutions in Environmental Engineering

5. Eligible courses for the Geography (Science) and GIS Area of Specialization

| | |
|---|---|
| GEOG 300-3 | Geographic Information Systems |
| GEOG 310-3 | Hydrology |
| GEOG 311-3 | Concepts in Geomorphology |
| GEOG 405-3 | Fluvial Geomorphology |
| GEOG 411-3 | Quaternary and Surficial Geology |
| GEOG 412-3 | Geomorphology of Cold Regions |
| GEOG 413-3 | Advanced GIS |
| GEOG 414-3 | Weathering Processes |
| GEOG 432-3 | Remote Sensing |
| GEOG 457-3 | Advanced Remote Sensing |

6. Eligible courses for the Mathematics & Statistics Area of Specialization

All upper-division MATH courses except MATH 342-3 Biostatistics.

7. Eligible courses for the Natural Resources and Forestry Area of Specialization

All upper-division FSTY courses except FSTY 310-3 Forest Economics
All upper-division NREM courses except NREM 306-3 Society, Policy and Administration
All upper-division NRES courses

8. Eligible courses for the Physics Area of Specialization

All upper-division PHYS courses except PHYS 307-3 Selected Topics in Environmental Physics

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

## BSc (Integrated) Northwest Community College Degree Completion Program

This 60 credit-hour program of study is available only to students who have completed an Associate of Science Degree – Environmental Geosciences Specialization from Northwest Community College.

### Degree Requirements

1. Northwest Community College Associate of Science Degree – Environmental Geosciences Specialization (minimum Cumulative GPA of 2.0)

2. Nine credit hours of required courses, as follows:

| | |
|---|---|
| GEOG 300-3 | Geographic Information Systems |
| ENVS 414-3 | Environmental and Professional Ethics |
| NRES 421-1 | Professional Writing |
| NRES 422-2 | Undergraduate Report |

Total: 9 credit hours

3. Three credit hours of any level Humanities and Social Sciences

4. Eighteen credit hours in each of two Areas of Specialization (Specialization in Biology, Ecology, and Biochemistry & Molecular Biology and Specialization in Environmental and Earth Sciences):

#### Required courses for the Biology, Ecology and Biochemistry & Molecular Biology Area of Specialization

**300 Level**

| | |
|---|---|
| BIOL 301-3 | Systematic Botany |
| BIOL 307-3 | Ichthyology and Herpetology |

**400 Level**

| | |
|---|---|
| BIOL 402-3 | Aquatic Plants |
| BIOL 406-3 | Fish Ecology |
| BIOL 411-3 | Conservation Biology |
| BIOL 414-3 | Fisheries Management |

Total: 18 credit hours

#### Required courses for the Environmental and Earth Sciences Area of Specialization

Select 18 credit hours from the following eight courses:

| | |
|---|---|
| ENPL 305-3 | Environmental Impact Assessment |
| ENSC 308-3 | Northern Contaminated Environments |
| ENSC 404-3 | Waste Management |
| ENSC 451-3 | Groundwater Hydrology |
| FSTY 425-3 | Soil Formation and Classification |
| GEOG 312-3 | Geomorphology of Cold Regions |
| GEOG 320-3 | Sedimentology |
| GEOG 411-3 | Quaternary and Surficial Geology |

Total: 18 credit hours

5. Elective credit hours in any subject as necessary to ensure completion of a minimum of 60 credit hours.

# Anthropology (BA Program)

Michel Bouchard, Associate Professor
Richard Lazenby, Professor
Jim McDonald, Associate Professor
Angèle Smith, Associate Professor
Farid Rahemtulla, Assistant Professor
Erin Gibson, Adjunct Professor

Website: www.unbc.ca/anthropology

Anthropology is the integrated biological and sociocultural investigation of humankind, from the time of our pre-human ancestors to the present, including the study of both small- and large- scale societies. The program includes courses in archaeological, biological, linguistic and sociocultural anthropology. While a small number of mandatory courses will ensure that all students in the program share basic understanding of the range of anthropological approaches, students are able to select courses within the program and from other parts of the curriculum to focus on specific interests. The following suggestions illustrate the range of possibilities: a student with an interest in language could select courses within the programs in First Nations Studies, International Studies, English and Psychology; a student intending to enter a graduate program in archaeology might select courses from First Nations Studies, Geology, Geography, History and Environmental Studies programs; a student planning to work in the subfield of sociocultural anthropology could select courses from First Nations Studies, International Studies, Northern Studies, Women's Studies and Social Work; a student interested in biological (or medical) anthropology would include courses in Biology, Environmental Studies and Statistics; and a career in museology or cultural property management might benefit from a background in Resource Recreation and Tourism or administration as well as First Nations Studies, International Studies, History and Northern Studies.

Anthropology prepares students for entrance to a number of graduate programs (Archaeology, Biological and Sociocultural Anthropology, Museology); several types of professional programs (Law, Library and Information Science, Communicative Disorders, Social Work, Education, etc.) or employment in government or the private sector. Students aiming towards specific career goals should discuss their interests with advisors in the program at an early stage.

## Major in Anthropology

Students majoring in anthropology must take 42 credit hours in Anthropology courses (fourteen courses). Students may not take more than 60 credit hours of Anthropology without written permission of the Department Chair.

The minimum requirement for completion of a Bachelor of Arts with a major in Anthropology is 120 credit hours.

## Program Requirements and Recommendations

### Lower-Division Recommendation

**100 Level**

| | |
|---|---|
| ANTH 102-3 | Anthropology: A World of Discovery |

### Lower-Division Requirements

**200 Level**

| | |
|---|---|
| ANTH 200-3 | Biological Anthropology |
| ANTH 205-3 | Introduction to Archaeology |
| ANTH 213-3 | Peoples and Cultures |

### Upper-Division Requirements

**300/400 Level**

One of:

| | |
|---|---|
| ANTH 300-3 | Methods in Social Anthropology |
| ANTH 301-3 | Archaeological Lab Methods |
| ANTH 310-3 | Applied Anthropology |
| ANTH 312-3 | Human Adaptability |

One of:

| | |
|---|---|
| ANTH 315-3 | Anthropological Theory |
| ANTH 325-3 | Archaeological Theory |

ANTH 460-3 Anthropology Capstone

Eight additional 3 credit hour courses in Anthropology of which four courses must be upper-level.

### Subject Requirement

Students wishing to pursue graduate degrees in anthropology or work as practicing anthropologists are encouraged to take an additional five upper-level courses, including field school courses and internships.

### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# BA Honours – Anthropology

The BA Honours - Anthropology provides a higher level of training and specialization for students planning to proceed to academic and professional postgraduate study. Acceptance into the Anthropology Honours Program is by written application to the Department Chair, in which the student identifies the subdiscipline of interest, provides a statement of career objectives, and attaches an unofficial copy of their current transcript. The Honours Program is open to all students majoring in Anthropology who:

1. have completed 60 credit hours of course work
2. have completed all lower level requirements for the major in Anthropology
3. possess a Cumulative GPA of 3.33.

In addition to the requirements for the Major in Anthropology, the Honours student will complete 12 additional credit hours, for a minimum total of 132 credit hours to graduate. These 12 credit hours derive from three courses, in a directed sequence of study.

ANTH 500-3 Method and Theory Seminar
ANTH 501-3 Research Prospectus
ANTH 502-6 Honours Thesis

The minimum requirement for completion of a BA Honours - Anthropology is 132 credit hours.

# Joint Major in Anthropology and Geography (BA)

The minimum requirement for completion of a Bachelor of Arts with a Joint Major in Anthropology and Geography is 120 credit hours.

## Program Requirements

### Recommendation

ANTH 102-3 Anthropology: A World of Discovery

Students wishing to pursue graduate degrees in Anthropology or Geography are encouraged to take additional anthropology or geography courses up to 90 credit hours.

### Lower-Division Requirement

One of:
- GEOG 100-3 Environments and People: The Geography of Natural Hazards
- GEOG 101-3 Human Geographies of Global Change

ANTH 200-3 Biological Anthropology
ANTH 205-3 Introduction to Archaeology
ANTH 213-3 Peoples and Cultures

ECON 205-3 Statistics for Social and Management Sciences
or STAT 240-3 Basic Statistics

Four of:
- GEOG 200-3 British Columbia: People and Places
- GEOG 202-3 Economic Geography of Resources and Sustainability
- GEOG 203-3 Roots, Ruggedness, and Rituals: A Geography of Canada
- GEOG 204-3 Introduction to GIS for the Social Sciences
- GEOG 206-3 Society and Space
- GEOG 209-3 Migration and Settlement
- GEOG 220-3 World Regions: Latin America and the Caribbean
- GEOG 222-3 World Regions: Russia

### Upper-Division Requirement

One of:
- ANTH 300-3 Methods in Social Anthropology
- ANTH 301-3 Archaeological Lab Methods
- ANTH 310-3 Applied Anthropology
- ANTH 312-3 Human Adaptability

One of:
- ANTH 315-3 Anthropological Theory
- ANTH 325-3 Archaeological Theory

ANTH 460-3 Anthropology Capstone

Three Upper-Division Anthropological courses (9 credit hours) excluding ANTH 499: Independent Study

Six of:
- GEOG 301-3 Cultural Geography
- GEOG 305-3 Political Ecology
- GEOG 306-3 Geography of International Development: Places, People, Policies, and Promises
- GEOG 307-3 Changing Arctic: Human and Environmental Systems
- GEOG 308-3 Environments of Health and Care
- GEOG 401-3 Tenure, Conflict, and Resource Geography
- GEOG 403-3 First Nations and Indigenous Geography
- GEOG 420-3 Geographies of Environmental Justice

21 additional credit hours of upper-division courses in any subject.

### Elective and Academic Breadth

Elective course hours as necessary to ensure completion of a minimum of 120 credit hours, including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Minor in Anthropology: Archaeological Anthropology

The minor in Archaeological Anthropology requires completion of a total of seven courses (21 credit hours ), consisting of four lower-division courses (12 credit hours) and three upper-division courses (9 credit hours). A maximum of two courses (6 credit hours) used to fulfill program requirements for a major (or another minor) may also be used to fulfill requirements for a minor in Archaeological Anthropology.

## Requirements & Recommendations

### Recommended

ANTH 102-3 Anthropology: A World of Discovery

### Requirements

ANTH 203-3 Archaeology of the Americas
ANTH 205-3 Introduction to Archaeology
ANTH 212-3 Archaeology of the Old World

Select 9 credit hours from:

- ANTH 301-3 Archaeological Lab Methods
- ANTH 325-3 Archaeological Theory
- ANTH 335-3 Archaeological Heritage Management
- ANTH 380-(3-6) Special Topics in Archaeology
- ANTH 409-3 Topics in British Columbia Archaeology
- ANTH 425-3 Introduction to Zooarchaeology
- ANTH 430-3 Stone Tools in Archaeology
- ANTH 440-(3-6) Internship
- ANTH 460-3 Anthropology Capstone
- ANTH 498-(3-6) Special Topics in Anthropology
- ANTH 499-(3-6) Independent Study

# Minor in Anthropology: Biological Anthropology

The minor requires completion of a total of six courses (18 credit hours), consisting of two lower-division courses (6 credit hours) and four upper-division courses (12 credit hours). With approval of the Chair, a maximum of one course (3 credit hours) used to fulfill requirements for a non-Anthropology major (or another minor) may also be used to fulfill program requirements for the minor in Biological Anthropology.

### Recommendations

ANTH 102-3 Anthropology: A World of Discovery

### Requirements

ANTH 200-3 Biological Anthropology
ANTH 312-3 Human Adaptability

Select 9 credit hours from:

- ANTH 311-3 Nutritional Anthropology
- ANTH 320-3 Biology of Circumpolar Peoples
- ANTH 411-(3-6) Topics in Biological Anthropology
- ANTH 420-3 Races, Racism, and Human Biology
- ANTH 460-3 Anthropology Captsone
- ANTH 499-(3-6) Independent Study

# Minor in Anthropology: General Anthropology

The minor requires completion of a total of six courses (18 credit hours), consisting of two lower-division courses (6 credit hours) and four upper-division Anthropology courses (12 credit hours) no more than two of which may be be chosen from any single existing Anthropology Minor Area of Focus.

### Recommendations

ANTH 102-3 Anthropology: A World of Discovery

### Requirements

One of:

- ANTH 200-3 Biological Anthropology
- ANTH 205-3 Introduction to Archaeology
- ANTH 213-3 Peoples and Cultures

### Upper-Division Requirement

ANTH 315-3 Understanding Theory

Four additional courses, three of which must be upper-division courses.

# Minor in Anthropology: Sociocultural Anthropology

The minor requires completion of a total of six courses (18 credit hours ), consisting of two lower-division courses (6 credit hours) and four upper-division courses (12 credit hours).

## Requirements

Select 6 credit hours from:

| | |
|---|---|
| ANTH 211-3 | Anthropology Through Film |
| or ANTH 213-3 | Peoples and Cultures |
| ANTH 315-3 | Understanding Theory |

Select 12 credit hours from:

| | |
|---|---|
| ANTH 300-3 | Methods in Social Anthropology |
| ANTH 303-3 | Archives/Texts/Museums |
| ANTH 304-3 | Kinship and Social Organization |
| ANTH 305-3 | Circumpolar Ethnography |
| ANTH 306-3 | Culture and Communication |
| ANTH 310-3 | Applied Anthropology |
| ANTH 400-3 | Topics in Anthropological Theory |
| ANTH 401-3 | Anthropological Perspectives on Inequality |
| ANTH 404-3 | Indigenous Peoples of the World |
| ANTH 405-3 | Landscape, Place and Culture |
| ANTH 406-3 | Feminist Perspectives |
| ANTH 407-3 | Topics in BC Ethnography |
| ANTH 410-3 | Theory of Nation and State |
| ANTH 413-(3-6) | Environmental Anthropology |
| ANTH 414-3 | Religion, Ideology, and Belief Systems |
| ANTH 415-3 | Economic Anthropology |
| ANTH 419-3 | Political and Legal Anthropology |
| ANTH 421-3 | Ethnographic Field Methods |
| ANTH 422-3 | Ethnographic Research Project |
| ANTH 423-3 | Urban Anthropology |
| ANTH 460-3 | Anthropology Capstone |

# Biochemistry & Molecular Biology (BSc Program)

Kathy Lewis, Professor and Co-Chair
Todd Whitcombe, Associate Professor and Co-Chair
Keith Egger, Professor
Chow Lee, Professor
Mark Shrimpton, Professor
Andrea Gorrell, Associate Professor
Dezene Huber, Associate Professor and Canada Research Chair, Forest Entomology and Chemical Ecology
Brent Murray, Associate Professor
Geoffrey Payne, Associate Professor
Stephen Rader, Associate Professor
Daniel Erasmus, Senior Lab Instructor

Website: www.unbc.ca/biochemistry

Biochemistry and Molecular Biology (BCMB) investigates how molecules work in living systems. There is no clear line dividing living from non-living systems; rather, there is a gradual increase in complexity from clearly inanimate molecules up to obviously complex organisms. The goal of biochemistry and molecular biology is to understand how simple, inanimate molecular interactions support life and how living systems are shaped by their molecular foundation.

The BCMB degree has two main components: learning about molecules, and learning about the scientific method. The former involves acquiring expertise in the foundations of biochemistry, such as organic and physical chemistry, and then exploring biological molecules and how they operate in living systems. The latter involves exploring how science asks questions to understand the workings of nature, while developing competence in laboratory skills and analysis. These two aspects are linked in that understanding how information is acquired is as important as the information itself, since different experimental systems can yield different insights into complex biological problems.

BCMB majors continue on to successful careers in a diverse range of fields, notably medicine, teaching, pharmacy, the biotechnology industry, science policy, and law. BCMB majors acquire strong skills in laboratory techniques, and are therefore qualified for many kinds of research positions, including graduate programs such as immunology, molecular genetics, and developmental biology. For students with interests in human health but not necessarily its molecular basis, UNBC also offers a degree in Health Science (the BHSc degree), which focuses on the social determinants of health and how health care is delivered. BCMB majors are encouraged to pursue their interests by combining the BCMB degree with minors in other fields, such as computer science, physics, business, or education.

## Major in Biochemistry and Molecular Biology

The major in Biochemistry and Molecular Biology requires students to take at least 74 credit hours of Biochemistry and Molecular Biology-oriented courses, of which 33 credit hours must be upper division (i.e., 300 or 400 level). The minimum requirement for completion of a Bachelor of Science with a major in Biochemistry and Molecular Biology is 127credit hours.

### Program Requirements

#### Lower-Division Requirement

**100 Level**

| | |
|---|---|
| BIOL 103-3 | Introductory Biology I |
| BIOL 104-3 | Introductory Biology II |
| BIOL 123-1 | Introductory Biology I Laboratory |
| BIOL 124-1 | Introductory Biology II Laboratory |
| CHEM 100-3 | General Chemistry I |
| CHEM 101-3 | General Chemistry II |
| CHEM 120-1 | General Chemistry Lab I |
| CHEM 121-1 | General Chemistry Lab II |
| PHYS 100-4 | Introduction to Physics I |
| or PHYS 110-4 | Introductory Physics I: Mechanics |
| PHYS 101-4 | Introduction to Physics II |
| or PHYS 111-4 | Introductory Physics II: Waves & Electricity |

One of the following three options:

| | |
|---|---|
| MATH 100-3 | Calculus I |
| and MATH 101-3 | Calculus II |
| or | |
| MATH 105-3 | Enriched Calculus |
| and MATH 101-3 | Calculus II |
| or | |
| MATH 150-3 | Finite Mathematics for Business and Economics |
| and MATH 152-3 | Calculus for Non-majors |

Students are strongly encouraged to take MATH 100-3 or MATH 105-3, and MATH 101-3, for the first-year Mathematics requirement.

**200 Level**

| | |
|---|---|
| BIOL 203-3 | Microbiology |
| BIOL 210-3 | Genetics |
| CHEM 201-3 | Organic Chemistry I |
| CHEM 203-3 | Organic Chemistry II |
| CHEM 204-3 | Introductory Biochemistry |
| CHEM 250-1 | Organic Chemistry Lab I |
| CHEM 251-1 | Organic Chemistry Lab II |
| BCMB 255-2 | Biochemistry Lab I |
| STAT 240-3 | Basic Statistics |
| or STAT 371-3 | Probability and Statistics for Scientists and Engineers |

#### Upper-Division Requirement

**300 Level**

| | |
|---|---|
| BIOL 311-3 | Cell and Molecular Biology |
| BCMB 306-3 | Intermediary Metabolism |
| BCMB 308-3 | Biochemistry Lab II |
| BCMB 340-3 | Physical Biochemistry |

**400 Level**
BCMB 404-3 Proteins and Enzymology

Four of:
- BCMB 401-3 Basic Science of Oncology
- BCMB 402-3 Macromolecular Structure
- BCMB 403-3 Advanced Nucleic Acids
- BCMB 405-3 Special Topics in Biochemistry
- BIOL 312-3 Molecular Cell Physiology
- BIOL 323-3 Evolutionary Biology
- BIOL 423-3 Molecular Evolution and Ecology
- BIOL 425-3 Applied Genetics and Biotechnology

### Subject Requirements

Twelve additional credit hours chosen from the following, of which at least 6 credit hours must be at the 300 or 400 level:

Any 200-level or above BCMB, BIOL or CHEM courses
- CPSC 450-3 Bioinformatics
- HHSC 301-3 Pathophysiology
- PSYC 317-3 Psychobiology
- PSYC 318-3 Sensation and Perception
- PSYC 419-3 Neuropsychology

**Note:** NRES 430-6 can count towards this requirement with permission of the Program Chair.

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of 127 credit hours including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15). Note: no more than 3 credit hours of continuing education courses may be used towards the BCMB major.

## BSc Honours – Biochemistry and Molecular Biology

The BSc Honours in Biochemistry and Molecular Biology offers students a higher level of specialization and research experience, especially for students planning to pursue postgraduate work.

Honours students must complete the degree requirements for the BSc – Biochemistry and Molecular Biology Major. In addition to the total number of credit hours required for the Biochemistry and Molecular Biology Major, each student must complete 6 credit hours of undergraduate thesis course work, normally BCMB 430-6, under the supervision of a faculty member. Another undergraduate thesis course can be substituted with approval of the BCMB Curriculum Chair.

Students may apply to the BCMB Honours Program after completion of 60 credit hours in the Biochemistry and Molecular Biology major with a Cumulative GPA of not less than 3.33. Meeting these minimum requirements does not guarantee entry to the Honours Program. Entrance to the Honours Program in Biochemistry and Molecular Biology is at the discretion of the BCMB Program, and is contingent on the availability of a faculty member willing to supervise the undergraduate research thesis. Maintenance of a Cumulative GPA of 3.33 is required to remain in the Honours Program.

The minimum requirement for completion of a BSc Honours – Biochemistry and Molecular Biology is 133 credit hours.

## Minor in Biochemistry and Molecular Biology

The minor in Biochemistry and Molecular Biology is designed to provide students with a core of study in the field of Biochemistry and Molecular Biology. The program of study includes a grounding in chemistry and biology since these are the disciplines from which modern biochemistry and molecular biology arose. The minimum requirement for completion of the minor in Biochemistry and Molecular Biology is 42 credit hours, of which at least 12 credit hours must be at the upper-division level.

**100 Level**
- BIOL 103-3 Introductory Biology I
- BIOL 104-3 Introductory Biology II
- BIOL 123-1 Introductory Biology I Laboratory
- BIOL 124-1 Introductory Biology II Laboratory
- CHEM 100-3 General Chemistry I
- CHEM 101-3 General Chemistry II
- CHEM 120-1 General Chemistry Lab I
- CHEM 121-1 General Chemistry Lab II

**200 Level**
- BIOL 210-3 Genetics
- CHEM 201-3 Organic Chemistry I
- CHEM 203-3 Organic Chemistry II
- CHEM 204-3 Introductory Biochemistry
- BCMB 255-2 Biochemistry Lab I

Note: Students are allowed to double-count all applicable first- and second-year courses; however, they must take upper-division courses for the minor that are not included in their major requirements or upper-division subject requirements to ensure completion of 12 upper-division credit hours outside of their major. Students must ensure that all prerequisites are fulfilled prior to taking a course at the 300 and 400 level.

**300 and 400 Level**
12 credit hours must be chosen from the following:
- BCMB 306-3 Intermediary Metabolism
- BCMB 308-3 Biochemistry Lab II
- BCMB 340-3 Physical Biochemistry
- BCMB 401-3 Basic Science of Oncology
- BCMB 402-3 Macromolecular Structure
- BCMB 403-3 Advanced Nucleic Acids
- BCMB 404-3 Proteins and Enzymology
- BCMB 405-3 Topics in Biochemistry and Molecular Biology
- BIOL 311-3 Cell and Molecular Biology
- BIOL 312-3 Molecular Cell Physiology
- BIOL 323-3 Evolutionary Biology
- BIOL 423-3 Molecular Evolution and Ecology
- BIOL 425-3 Applied Genetics and Biotechnology
- CHEM 405-3 Topics in Biochemistry

# Biology (BSc Program)

Kathy Lewis, Professor and Chair
Russell Dawson, Professor, and Canada Research Chair, Avian Ecology
Keith Egger, Professor
Katherine Parker, Professor, and Ian McTaggart Cowan Muskwa Kechika Research Chair
Darwyn Coxson, Professor
Art Fredeen, Professor
Michael Gillingham, Professor
Staffan Lindgren, Professor
William McGill, Professor
Hugues Massicotte, Professor
Ken Otter, Professor
Mark Shrimpton, Professor
Philip Burton, Associate Professor
Scott Green, Associate Professor
Dezene Huber, Associate Professor, and Canada Research Chair, Forest Entomology and Chemical Ecology
Chris Johnson, Associate Professor
Brent Murray, Associate Professor
Allan Costello, Assistant Professor
Lisa Poirier, Assistant Professor
Jane Young, Assistant Professor
Brian Aukema, Assistant Adjunct Professor
Bryan Bogdanski, Assistant Adjunct Professor
Alan Carroll, Adjunct Professor
Doug Heard, Adjunct Professor
George Iwama, Adjunct Professor
Susan Stevenson, Adjunct Professor
Jenia Blair, Senior Lab Instructor
Saphida Migabo, Senior Lab Instructor
Roy Rea, Senior Lab Instructor

Website: www.unbc.ca/biology

The Bachelor of Science in Biology is a broadly based undergraduate program in biology that is designed to present the major concepts of contemporary biology at the molecular, cellular, organismal, population and community levels. The degree is designed to have sufficient flexibility for the student to follow interests ranging from microbial to plant to fish or wildlife biology. Capitalizing on the northern setting of the University, there is an emphasis on northern flora and fauna, morphological, biochemical, physiological and behavioural modifications to temperate and arctic conditions and the dynamics of microbial, plant and animal populations in northern ecosystems.

## Major in Biology

The major in Biology requires students to take at least 65 credit hours of biology-oriented courses, of which 42 credit hours must be upper-division (i.e., 300 or 400) level. Note: NRES 430-6 can count as up to six credit hours toward this requirement (with permission of the Ecosystem Science and Management Program Chair).

The minimum requirement for the completion of a Bachelor of Science with a major in Biology is 126 credit hours.

## Program Requirements

### Lower-Division Requirement

**100 Level**

BIOL 103-3 Introductory Biology I
BIOL 104-3 Introductory Biology II
BIOL 123-1 Introductory Biology I Laboratory
BIOL 124-1 Introductory Biology II Laboratory
CHEM 100-3 General Chemistry I
CHEM 101-3 General Chemistry II
CHEM 120-1 General Chemistry Lab I
CHEM 121-1 General Chemistry Lab II

NRES 100-3 Communications in Natural Resources and Environmental Studies
or ENGL 170-3 Writing and Communication Skills

MATH 152-3 Calculus for Non-majors
or MATH 100-3 Calculus I
or MATH 105-3 Enriched Calculus

PHYS 100-4 Introduction to Physics
or PHYS 110-4 Introductory Physics I: Mechanics

PHYS 101-4 Introduction to Physics I
or PHYS 111-4 Introductory Physics II: Waves & Electricity

*Recommended: MATH 101-3 Calculus II

Students who are interested in pursuing professional programs should contact the program advisor regarding the correct course sequences required for individual programs.

**200 Level**

BIOL 201-3 Ecology
BIOL 202-3 Invertebrate Zoology
BIOL 203-3 Microbiology
BIOL 204-3 Plant Biology
BIOL 210-3 Genetics
CHEM 201-3 Organic Chemistry I
CHEM 203-3 Organic Chemistry II
CHEM 204-3 Introductory Biochemistry
STAT 240-3 Basic Statistics

Students must also take 6 additional credit hours of courses at the 200 level or above. Students are encouraged to explore a diversity of courses during their undergraduate biology education. While biology content is not specifically required, biology students may find relevant courses among the following prefixes: ANTH, BCMB, CHEM, ENPL, ENSC, ENVS, FNST, FSTY, GEOG, HHSC, INTS, NOLS, NREM, NORS, ORTM, PHIL, PHYS, POLS, PSYC, and STAT.

It is recommended that students consult with a Student Advisor in terms of their interests and the content of various courses.

### Upper-Division Requirement

**300 Level**

BIOL 311-3 Cell and Molecular Biology
BIOL 323-3 Evolutionary Biology
BIOL 325-3 Ecological Analyses

One of:

- BIOL 304-3 Plants, Society and the Environment
- BIOL 321-3 Animal Physiology

Two of:

- BIOL 301-3 Systematic Botany
- BIOL 307-3 Ichthyology and Herpetology
- BIOL 308-3 Ornithology and Mammalogy
- BIOL 318-3 Fungi and Lichens

**400 Level**

BIOL 410-3 Population and Community Ecology
BIOL 411-3 Conservation Biology

One of:

- BIOL 404-3 Plant Ecology
- BIOL 406-3 Fish Ecology
- BIOL 412-3 Wildlife Ecology

### Subject Requirements

Fifteen additional credit hours chosen from the following, of which at least 6 credit hours must be at the 400 level:

Any 300 or 400 level BIOL courses
ENSC 406-3 Environmental Modelling
FSTY 307-3 Disturbance Ecology and Forest Health

### Additional Requirement

At least one course with Social Sciences content must be taken from the following list:

BIOL 304, BIOL 350, BIOL 420, or BIOL 421 (these may also count as Subject Requirements);

or any course with one of the following prefixes:

ANTH, COMM, ECON, EDUC, ENPL, ENVS, FNST, INTS, NORS, ORTM, POLS, PSYC

### Elective Requirement

Elective credit hours must be taken as necessary to ensure completion of a minimum of 126 credit hours.

## BSc Honours – Biology

The Honours in Biology recognizes undergraduate students who both excel at their studies and who complete the Undergraduate Thesis (normally NREM 430-6).

To enter the Honours Program, students must have completed 60 credit hours and obtained a minimum Cumulative GPA of 3.33. Attaining the minimum Cumulative GPA requirement does not guarantee entry into the Honours Program, which is at the discretion of the Ecosystem Science and Management Program. Maintenance of a Cumulative GPA of 3.33 is required to remain in the Honours program.

Honours students are required to complete the degree requirements for the BSc in Biology. In addition, each student must also complete an additional 6 credit hours in the form of an undergraduate thesis chosen from NRES 430-6, ENSC 430-6, or BCMB 430-6 under the supervision of a faculty member.

Note: Students are responsible for finding their own undergraduate thesis research supervisor. Faculty members are under no obligation to supervise honours students.

# Minor in Biology

The minor in Biology offers students in other disciplines the opportunity to gain a solid foundation in the diversity of life and biological processes.

The minor in Biology requires the completion of 26 credit hours, of which 12 credit hours must be at the upper-division (i.e., 300 or 400) level.

A maximum of four courses (consisting of 100 level courses plus two courses at the 200 level or beyond to a maximum of 14 credit hours) which are used to fulfill requirements for a major or another minor may also be used to fulfill program requirements for a minor in Biology.

## Requirements

BIOL 103-3 Introductory Biology I
BIOL 104-3 Introductory Biology II
BIOL 123-1 Introductory Biology I Laboratory
BIOL 124-1 Introductory Biology II Laboratory

One of:
- BIOL 201-3 Ecology
- BIOL 210-3 Genetics

One of:
- BIOL 202-3 Invertebrate Zoology
- BIOL 203-3 Microbiology
- BIOL 204-3 Plant Biology

One of:
- BIOL 301-3 Systematic Botany
- BIOL 307-3 Ichthyology and Herpetology
- BIOL 308-3 Ornithology and Mammalogy

One of:
- BIOL 304-3 Plants, Society and the Environment
- BIOL 311-3 Cell and Molecular Biology
- BIOL 321-3 Animal Physiology

Six additional credit hours in Biology at the 300 or 400 level.

# Minor in Biology and Conservation

The minor in Biology and Conservation provides students with a background in ecological principles and techniques associated with the management and conservation of animal and plant populations and communities associated with a range of ecosystems. Upon completion of the minor, students will have a broad background in genetics and evolution, population and community dynamics, ecological analysis, and the key problems and approaches for conserving biological diversity.

The minor in Biology and Conservation requires the completion of a minimum of 27 credit hours of study (plus associated prerequisites). A maximum of two courses (6 credit hours) used to fulfill the requirements for a major, or another minor, may also be used to fulfill requirements for this minor. Forest Ecology and Management Majors will have the following pre-requisites as part of the major core requirements. Students from other majors will need to fulfill the pre-requisite requirements for this minor.

BIOL 103-3 Introductory Biology I
BIOL 104-3 Introductory Biology II
BIOL 123-1 Introductory Biology I Laboratory
BIOL 124-1 Introductory Biology II Laboratory
BIOL 201-3 Ecology
STAT 240-3 Basic Statistics

## Required Courses

BIOL 210-3 Genetics
BIOL 325-3 Ecological Analysis
BIOL 410-3 Population and Community Ecology
BIOL 411-3 Conservation Biology
Five of the following courses, three of which must be Biology courses:
- NREM 204-3 Introduction to Wildlife and Fisheries
- BIOL 304-3 Plants, Society and the Environment
- BIOL 307-3 Icthyology and Herpetology
- BIOL 308-3 Ornithology and Mammalogy
- BIOL 321-3 Animal Physiology
- BIOL 323-3 Evolutionary Biology
- BIOL 333-3 Field Experience
- BIOL 350-3 Ethnobotany
- BIOL 318-3 Fungi and Lichens
- BIOL 402-3 Aquatic Plants
- BIOL 404-3 Plant Ecology
- BIOL 406-3 Fish Ecology
- BIOL 412-3 Wildlife Ecology
- BIOL 440-3 Internship
- ENPL 305-3 Environmental Impact Assessment
- ENVS 325-3 Global Environmental Change
- NREM 413-3 Agroforestry

# School of Business (BComm Program)

Steven Cronshaw, Professor and Chair
Waqar Haque, Professor
Sungchul Choi, Associate Professor
Balbinder Deo, Associate Professor
Rick Tallman, Associate Professor
Jing Chen, Assistant Professor
Elizabeth Croft, Assistant Professor
Xin Ge, Assistant Professor
Phillip Clough, Lecturer
Mike Cuthbertson, Lecturer
Wendy Fellers, Lecturer
Charles Scott, Lecturer
Titilope Kunkel, Senior Lab Instructor

Website: www.unbc.ca/commerce

The School of Business offers a program leading to the degree of Bachelor of Commerce. This program provides education in business as well as exposure to the liberal arts, social sciences, and natural sciences. The program offers students the ability to major in the areas of Accounting, Finance, General Business, Human Resources Management, International Business or Marketing. Although all students must follow the program of study of at least one of the specified majors, the Bachelor of Commerce degree program has been designed to provide students with an exposure to all aspects of the contemporary business world. The objective of the program is to adequately prepare students to deal with the increasingly complex and dynamic environment in which business and labour must operate. While the program focuses on a wide range of business activities and types of organizations, special emphasis is placed on industries and firms of relevance to the region of northern British Columbia including small business/entrepreneurship, tourism and forestry. Exposure to these industries will occur within individual courses as part of course content, as well as through the use of relevant case studies and practica. In addition, individual courses relating to the industries emphasized are available either within the Commerce program, or through other relevant programs.

The minimum requirement for completion of a Bachelor of Commerce is 120 credit hours.

Students not having the appropriate prerequisites for any courses must consult with the Business Advisor.

## Common Requirements for all Business Students

**Note:** Students enrolling in any course required for a major in the Bachelor of Commerce degree must have completed all prerequisite courses with a minimum of "C-" or better. In exceptional circumstances the Program Chair may waive this requirement on a case by case basis.

### Lower-Division Requirement

**100 Level**

COMM 100-3* Introduction to Canadian Business
ECON 100-3 Microeconomics
ECON 101-3 Macroeconomics

MATH 150-3** Finite Mathematics for Business and Economics
or MATH 220-3 Linear Algebra

MATH 152-3** Calculus for Non-majors
or MATH 100-3 Calculus I

*Students transferring with 30 or more credit hours of courses required for the Commerce degree are exempt from this requirement.

**Students wishing to pursue additional Math courses as electives are advised to choose MATH 100-3 (Calculus I) and MATH 220-3 (Linear Algebra).

**200 Level**

COMM 210-3 Financial Accounting
COMM 211-3 Managerial Accounting
COMM 220-3 Financial Management I
COMM 230-3 Organizational Behaviour
COMM 240-3 Introduction to Marketing
COMM 251-3 Introduction to Management Science
CPSC 250-3 Applied Business Computing
ECON 205-3 Statistics for the Social and Management Sciences
or STAT 240-3 Basic Statistics

### Upper-Division Requirement

**300 and 400 Level**

COMM 300-3 Introduction to Business Law
COMM 320-3 Financial Management II
COMM 330-3 Human Resource Management
COMM 332-3 Business and Professional Ethics
COMM 350-3 Production and Operations Management
COMM 351-3 Management Information Systems
COMM 400-3 Strategic Management
ECON 310-3 Intermediate Microeconomic Theory
ECON 311-3 Intermediate Macroeconomic Theory

# Major in Accounting

Every organization needs to keep track of its financial operations and financial position. Accounting is concerned with the measurement, provision, interpretation and application of financial and economic information for the efficiency and evaluation of an organization's operations. The information provided by the accounting function is employed for effective planning, control and decision making by management, and to report on the organization's financial operations to shareholders, debtholders, government and other stakeholders of the firm. Graduates with an Accounting major are in demand by all sectors of the economy, including government, business, and public accounting firms. An Accounting major is recommended for students who wish to become Chartered Accountants (CAs), Certified General Accountants (CGAs), or Certified Management Accountants (CMAs).

The minimum requirement for a Bachelor of Commerce with a major in Accounting is 120 credit hours.

## Program Requirements

Note: Students enrolling in any course required for a major in the Bachelor of Commerce degree must have completed all prerequisite courses with a minimum of "C-" or better. In exceptional circumstances the Program Chair may waive this requirement on a case by case basis.

## Lower-Division Requirement

**100 Level**

COMM 100-3* Introduction to Canadian Business
ECON 100-3 Microeconomics
ECON 101-3 Macroeconomics

MATH 150-3** Finite Mathematics for Business and Economics
or MATH 220-3 Linear Algebra

MATH 152-3** Calculus for Non-majors
or MATH 100-3 Calculus I

*Students transferring with 30 or more credit hours of courses required for the Commerce degree are exempt from this requirement.

**Students wishing to pursue additional Math courses as electives are advised to choose MATH 100-3 (Calculus I) and MATH 220-3 (Linear Algebra).

Students not having the appropriate prerequisites for any courses must consult with the Business Advisor.

**200 Level**

COMM 210-3 Financial Accounting
COMM 211-3 Managerial Accounting
COMM 220-3 Financial Management I
COMM 230-3 Organizational Behaviour
COMM 240-3 Introduction to Marketing
COMM 251-3 Introduction to Management Science
CPSC 250-3 Applied Business Computing
ECON 205-3 Statistics for the Social and Management Sciences
or STAT 240-3 Basic Statistics

## Upper-Division Requirement

**300 and 400 Level**

COMM 300-3 Introduction to Business Law
COMM 310-3 Intermediate Financial Accounting I
COMM 311-3 Intermediate Financial Accounting II
COMM 312-3 Intermediate Managerial Accounting
COMM 320-3 Financial Management II
COMM 330-3 Human Resource Management
COMM 332-3 Business and Professional Ethics
COMM 350-3 Production and Operations Management
COMM 351-3 Management Information Systems
COMM 400-3 Strategic Management
COMM 411-3 Advanced Management Accounting
ECON 310-3 Intermediate Microeconomic Theory
ECON 311-3 Intermediate Macroeconomic Theory

One of:
COMM 410-3 Accounting Theory
COMM 414-3 Advanced Financial Accounting

Two of:
COMM 313-3 Personal Taxation
COMM 314-3 Corporate Taxation
COMM 315-3 International Accounting
COMM 412-3 Auditing
COMM 413-3 Accounting: Advanced Topics

## Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Major in Finance

Finance involves evaluating profitability and valuing real investments such as capital projects, as well as financial securities such as stocks, bonds, options and futures. In addition to the study of sources of capital and financing decisions of the firm and individual investors, the Finance major also studies the management of financial institutions such as banks and trust companies. The tools of Finance are used by small and large firms, government and individual investors. Instruction in Finance provides valuable information regarding financing and evaluating investment opportunities to students planning to enter into business for themselves. Government and firms employ Finance majors as financial analysts as well as in general management positions. In addition, the financial services industry is one of the fastest growing industries in Canada. Individuals interested in positions in the financial sector, or pursuing either the Chartered Financial Planner (CFP) or Chartered Financial Analyst (CFA) designations, or completing the Canadian Securities Course (CSC), should consider majoring in Finance.

The minimum requirement for a Bachelor of Commerce with a major in Finance is 120 credit hours.

## Program Requirements

**Note:** Students enrolling in any course required for a major in the Bachelor of Commerce degree must have completed all prerequisite courses with a minimum of "C-" or better. In exceptional circumstances the Program Chair may waive this requirement on a case by case basis.

### Lower-Division Requirement

**100 Level**

COMM 100-3* Introduction to Canadian Business

MATH 150-3** Finite Mathematics for Business and Economics
or MATH 220-3 Linear Algebra

MATH 152-3** Calculus for Non-majors
or MATH 100-3 Calculus I

ECON 100-3 Microeconomics
ECON 101-3 Macroeconomics

*Students transferring with 30 or more credit hours of courses required for the Commerce degree are exempt from this requirement.

**Students wishing to pursue additional Math courses as electives are advised to choose MATH 100-3 (Calculus I) and MATH 220-3 (Linear Algebra).

Students not having the appropriate prerequisites for any courses must consult with the Business Advisor.

**200 Level**

COMM 210-3 Financial Accounting
COMM 211-3 Managerial Accounting
COMM 220-3 Financial Management I
COMM 230-3 Organizational Behaviour
COMM 240-3 Introduction to Marketing
COMM 251-3 Introduction to Management Science
CPSC 250-3 Applied Business Computing
ECON 205-3 Statistics for the Social and Management Sciences
or STAT 240-3 Basic Statistics

### Upper-Division Requirement

**300 and 400 Level**

COMM 300-3 Introduction to Business Law
COMM 320-3 Financial Management II
COMM 321-3 Investments and Security Analysis
COMM 330-3 Human Resource Management
COMM 332-3 Business and Professional Ethics
COMM 350-3 Production and Operations Management
COMM 351-3 Management Information Systems
COMM 400-3 Strategic Management
COMM 420-3 Advanced Financial Management
COMM 422-3 Management of Financial Institutions
ECON 310-3 Intermediate Microeconomic Theory
ECON 311-3 Intermediate Macroeconomic Theory

Two of:

COMM 322-3 International Financial Management
COMM 323-3 Risk, Insurance, and Financial Planning
COMM 421-3 Portfolio Theory and Management
COMM 423-3 Financial Engineering
COMM 429-3 Finance: Advanced Topics

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Major in General Business

The General Business major allows students to obtain a reasonable depth of knowledge in all the functional areas of business while maintaining a broad-based education in business management. This combination provides the integrative management skills to operate both within and across functional responsibility areas, an ability valued highly by employers. Therefore, General Business majors are in demand by many firms and government organizations. Students intending to start their own business endeavours would also be well-served by the General Business major.

The minimum requirement for a Bachelor of Commerce with a major in General Business is 120 credit hours.

## Program Requirements

**Note:** Students enrolling in any course required for a major in the Bachelor of Commerce degree must have completed all prerequisite courses with a minimum of "C-" or better. In exceptional circumstances the Program Chair may waive this requirement on a case by case basis.

### Lower-Division Requirement

**100 Level**

COMM 100-3* Introduction to Canadian Business
ECON 100-3 Microeconomics
ECON 101-3 Macroeconomics

MATH 150-3** Finite Mathematics for Business and Economics
or MATH 220-3 Linear Algebra

MATH 152-3** Calculus for Non-majors
or MATH 100-3 Calculus I

*Students transferring with 30 or more credit hours of courses required for the Commerce degree are exempt from this requirement.

**Students wishing to pursue additional Math courses as electives are advised to choose MATH 100-3 (Calculus I) and MATH 220-3 (Linear Algebra).

Students not having the appropriate prerequisites for any courses must consult with the Business Advisor.

**200 Level**

COMM 210-3 Financial Accounting
COMM 211-3 Managerial Accounting
COMM 220-3 Financial Management I
COMM 230-3 Organizational Behaviour
COMM 240-3 Introduction to Marketing
COMM 251-3 Introduction to Management Science
CPSC 250-3 Applied Business Computing
ECON 205-3 Statistics for the Social and Management Sciences
or STAT 240-3 Basic Statistics

### Upper-Division Requirement

**300 and 400 Level**

COMM 300-3 Introduction to Business Law
COMM 302-3 Entrepreneurship
COMM 320-3 Financial Management II
COMM 330-3 Human Resource Management
COMM 332-3 Business and Professional Ethics
COMM 350-3 Production and Operations Management
COMM 351-3 Management Information Systems
COMM 400-3 Strategic Management
ECON 310-3 Intermediate Microeconomic Theory
ECON 311-3 Intermediate Macroeconomic Theory

Twelve credit hours selected from any of the other four majors or from the following (with no more than six credit hours in any one major area):

COMM 331-3 Organizational Theory
COMM 333-3 Women in Organizations
or ECON 301-3 Women and the Economy
COMM 430-3 Organization Studies: Selected Topics
COMM 431-3 Industrial Relations
COMM 432-3 Cross-cultural Workplace Practices
COMM 439-3 HRM: Selected Topics
COMM 450-3 Total Quality Management
COMM 498-(3-6) Special Topics in Business Administration

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Major in Human Resources Management

The success of any company or organization rests on the commitment and imagination of the people who are its members. Effective human resources management enables an organization to build success through people. By attracting qualified employees, developing their talents through training, fairly compensating them for their efforts and protecting their health and safety, we create organizations that are productive, innovative, and satisfying to employees. We provide our students with the knowledge and skills to effectively manage the people in an organization. Human resources management is a professional field that is growing rapidly in Canada and there are many career opportunities within this exciting field.

The minimum requirement for completion of a Bachelor of Commerce with a major in Human Resources Management is 120 credit hours.

## Program Requirements

Note: Students enrolling in any course required for a major in the Bachelor Commerce degree must have completed all prerequisite courses with a minimum of C- or better. In exceptional circumstances the Program Chair may waive this requirement on a case by case basis.

## Lower-Division Requirement

**100 Level**

COMM 100-3* Introduction to Canadian Business
ECON 100-3 Microeconomics
ECON 101-3 Macroeconomics
MATH 150-3** Finite Mathematics for Business and Economics
or MATH 220-3 Linear Algebra
MATH 152-3** Calculus for Non-majors
or MATH 100-3 Calculus

*Students transferring with 30 or more credit hours of courses required for the Commerce degree are exempt from this requirement.

**Students wishing to pursue additional Math courses as electives are advised to choose MATH 100-3 (Calculus I) and MATH 220-3 (Linear Algebra).

Students not having the appropriate prerequisites for any courses must consult with the Business Advisor.

**200 Level**

COMM 210-3 Financial Accounting
COMM 211-3 Managerial Accounting
COMM 220-3 Financial Management I
COMM 230-3 Organizational Behaviour
COMM 240-3 Introduction to Marketing
COMM 251-3 Introduction to Management Science
CPSC 250-3 Applied Business Computing
ECON 205-3 Statistics for the Social and Management Sciences
or STAT 240-3 Basic Statistics

## Upper-Division Requirement

**300 and 400 Level**

COMM 300-3 Introduction to Business Law
COMM 304-3 Employment Law in Canada
COMM 320-3 Financial Management II
COMM 330-3 Human Resource Management
COMM 332-3 Business and Professional Ethics
COMM 334-3 Strategic Human Resource Planning
COMM 335-3 Organizational Effectiveness
COMM 350-3 Production and Operations Management
COMM 351-3 Management Information Systems
COMM 400-3 Strategic Management
COMM 431-3 Industrial Relations
COMM 433-3 Recruitment, Selection and Retention
COMM 434-3 Compensation
COMM 435-3 Organizational Learning, Development and Training
COMM 436-3 Workplace Health and Safety
ECON 310-3 Intermediate Microeconomic Theory
ECON 311-3 Intermediate Macroeconomic Theory

## Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Major in International Business

In recent years the importance of an international perspective for Business students has increased as a result of the increasing globalization of the economy. The International Business major exposes students to the impact of the international environment on the functional areas of business management. In conjunction with courses in the International Studies program, the major in International Business allows students to focus on a country or region of the world, providing education in language, culture and business practice. All students, particularly those majoring in International Business are encouraged to take courses in International Business at institutions / universities abroad approved by the UNBC International Exchange & Students Programs Office in order to gain practical international exposure as part of their Business of Commerce program. For more information on exchange opportunities refer to www.unbc.ca/international.

Graduates are suited to work in firms or government agencies involved in international operations.

The minimum requirement for a Bachelor of Commerce with a major in International Business is 120 credit hours.

## Program Requirements

**Note:** Students enrolling in any course required for a major in the Bachelor of Commerce degree must have completed all prerequisite courses with a minimum of "C-" or better. In exceptional circumstances the Program Chair may waive this requirement on a case by case basis.

### Lower-Division Requirement

**100 Level**

COMM 100-3* Introduction to Canadian Business
ECON 100-3 Microeconomics
ECON 101-3 Macroeconomics

INTS 101-3 Canada and the World
or INTS 205-3 Introduction to International Studies

MATH 150-3** Finite Mathematics for Business and Economics
or MATH 220-3 Linear Algebra

MATH 152-3** Calculus for Non-majors
or MATH 100-3 Calculus I

*Students transferring with 30 or more credit hours of courses required for the Commerce degree are exempt from this requirement.

**Students wishing to pursue additional Math courses as electives are advised to choose MATH 100-3 (Calculus I) and MATH 220-3 (Linear Algebra).

Students not having the appropriate prerequisites for any courses must consult with the Business Advisor.

**200 Level**

COMM 210-3 Financial Accounting
COMM 211-3 Managerial Accounting
COMM 220-3 Financial Management I
COMM 230-3 Organizational Behaviour
COMM 240-3 Introduction to Marketing
COMM 251-3 Introduction to Management Science
CPSC 250-3 Applied Business Computing
ECON 205-3 Statistics for the Social and Management Sciences
or STAT 240-3 Basic Statistics

### Upper-Division Requirement

**300 and 400 Level**

COMM 300-3 Introduction to Business Law
COMM 303-3 Introduction to International Business
COMM 320-3 Financial Management II
COMM 330-3 Human Resource Management
COMM 332-3 Business and Professional Ethics
COMM 350-3 Production and Operations Management
COMM 351-3 Management Information Systems
COMM 400-3 Strategic Management
ECON 310-3 Intermediate Microeconomic Theory
ECON 311-3 Intermediate Macroeconomic Theory

Three of:

COMM 315-3 International Accounting
COMM 322-3 International Financial Management
COMM 432-3 Cross-cultural Workplace Practices
COMM 441-3 International Marketing

### International Studies Requirement

Six credit hours of International Studies courses at any level.

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Major in Marketing

Marketing refers to the set of activities needed to find, build, and serve markets for products and services. Students of marketing will acquire analytical tools from economics, mathematics, statistics and the social and behavioural sciences. A major in Marketing is useful for such positions as account representatives, brand managers, advertising executives and market researchers. Marketing majors may find employment in the private sector, in non-profit organizations, and in government. Marketing concepts and principles are of particular importance to small businesses and new business ventures.

The minimum requirement for a Bachelor of Commerce with a major in Marketing is 120 credit hours.

## Program Requirements

**Note:** Students enrolling in any course required for a major in the Bachelor of Commerce degree must have completed all prerequisite courses with a minimum of "C-" or better. In exceptional circumstances the Program Chair may waive this requirement on a case by case basis.

### Lower-Division Requirement

**100 Level**

COMM 100-3* Introduction to Canadian Business
ECON 100-3 Microeconomics
ECON 101-3 Macroeconomics
MATH 150-3** Finite Mathematics for Business and Economics
or MATH 220-3 Linear Algebra
MATH 152-3** Calculus for Non-majors
or MATH 100-3 Calculus I

*Students transferring with 30 or more credit hours of courses required for the Commerce degree are exempt from this requirement.

**Students wishing to pursue additional Math courses as electives are advised to choose MATH 100-3 (Calculus I) and MATH 220-3 (Linear Algebra).

Students not having the appropriate prerequisites for any courses must consult with the Business Advisor.

**200 Level**

COMM 210-3 Financial Accounting
COMM 211-3 Managerial Accounting
COMM 220-3 Financial Management I
COMM 230-3 Organizational Behaviour
COMM 240-3 Introduction to Marketing
COMM 251-3 Introduction to Management Science
CPSC 250-3 Applied Business Computing
ECON 205-3 Statistics for the Social and Management Sciences
or STAT 240-3 Basic Statistics

### Upper-Division Requirement

**300 and 400 Level**

COMM 300-3 Introduction to Business Law
COMM 320-3 Financial Management II
COMM 330-3 Human Resource Management
COMM 332-3 Business and Professional Ethics
COMM 343-3 Behavioural Marketing
COMM 350-3 Production and Operations Management
COMM 351-3 Management Information Systems
COMM 400-3 Strategic Management
COMM 442-3 Marketing Strategy
COMM 443-3 Marketing Research
ECON 310-3 Intermediate Microeconomic Theory
ECON 311-3 Intermediate Macroeconomic Theory

Two of:

COMM 340-3 Marketing Communications
COMM 341-3 Sales Management
COMM 342-3 Services Marketing
COMM 346-3 Internet Marketing
COMM 347-3 Marketing Channels and Retail Marketing
COMM 441-3 International Marketing
COMM 449-3 Advanced Topics in Marketing

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Minor in General Business

The Minor in General Business is designed for students from outside the School of Business who are interested in obtaining skills and knowledge of business management. It will appeal to students who anticipate becoming involved in the supervision or management of work units or organizations in their careers. Students can obtain a minor in General Business within their degree program by completing 24 credit hours.

The minor consists of 12 credits at the lower-division level (4 courses) and 12 credits (4 courses) at the upper-division level.

## Required

COMM 100-3 Introduction in Canadian Business

Three of:

- COMM 210-3 Financial Accounting
- COMM 211-3 Managerial Accounting
- COMM 220-3 Financial Management I
- COMM 230-3 Organizational Behaviour
- COMM 240-3 Introduction to Marketing
- COMM 251-3 Introduction to Management Science

Four of:

- COMM 300-3 Introduction to Business Law
- COMM 302-3 Entrepreneurship
- COMM 303-3 Introduction to International Business
- COMM 320-3 Financial Management II
- COMM 330-3 Human Resource Management
- COMM 332-3 Business and Professional Ethics
- COMM 343-3 Behavioural Marketing
- COMM 350-3 Production and Operations Management
- COMM 351-3 Management Information Systems
- COMM 431-3 Industrial Relations
- COMM 432-3 Cross-cultural Workplace Practices

A maximum of 4 courses (12 credit hours) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in General Business.

# Chemistry (BSc Program)

Chow H. Lee, Professor
Todd Whitcombe, Associate Professor and Chair
Andrea Gorrell, Associate Professor
Guy Plourde, Associate Professor
Margot Mandy, Associate Professor
Stephen Rader, Associate Professor
Kerry Reimer, Associate Professor
Jeffrey Northrop, Adjunct Professor
Martha Stark, Adjunct Professor
Alida Hall, Senior Lab Instructor
Umesh Parshotam, Senior Lab Instructor
Daniel Erasmus, Senior Lab Instructor

Website: www.unbc.ca/chemistry

Chemistry is the fundamental science that deals with the nature of substances and the changes occurring in them. Chemical reactions are the basis of all life. Everything we are or do depends in one way or another on chemistry. A major or minor in chemistry or minor in biochemistry prepares you for a variety of careers in industry, education, ecology, and public service, or for graduate study and research in chemistry and many related fields.

## Major in Chemistry

The major in Chemistry requires students to take at least 64 credit hours of Chemistry, 36 credit hours of which must be upper-division (i.e., 300 or 400) level.

The minimum requirement for completion of a Bachelor of Science with a major in Chemistry is 128 credit hours.

### Program Requirements

#### Lower-Division Requirement

**100 Level**

BIOL 103-3 Introductory Biology I
BIOL 104-3 Introductory Biology II
BIOL 123-1 Introductory Biology I Laboratory
BIOL 124-1 Introductory Biology II Laboratory
CHEM 100-3 General Chemistry I
CHEM 101-3 General Chemistry II
CHEM 120-1 General Chemistry Lab I
CHEM 121-1 General Chemistry Lab II

CPSC 100-4 Computer Programming I
or CPSC 110-3 Introduction to Computer Systems and Programming
MATH 100-3 Calculus I
or MATH 105-3 Enriched Calculus

MATH 101-3 Calculus II
PHYS 100-4 Introduction to Physics I
or PHYS 110-4 Introductory Physics I: Mechanics
and PHYS 101-4 Introduction to Physics II
or PHYS 111-4 Introductory Physics II: Waves and Electricity

PHYS 110-4 and PHYS 111-4 are strongly recommended.

**200 Level**

CHEM 200-3 Physical Chemistry I
CHEM 201-3 Organic Chemistry I
CHEM 202-3 Inorganic Chemistry I
CHEM 203-3 Organic Chemistry II
CHEM 204-3 Introductory Biochemistry
CHEM 210-3 Analytical Chemistry I
CHEM 250-1 Organic Chemistry Lab I
CHEM 251-1 Organic Chemistry Lab II
MATH 220-3 Linear Algebra

One of :
MATH 200-3 Calculus III
STAT 371-3 Probability and Statistics for Scientists and Engineers

#### Upper-Division Requirement

**300 Level**

CHEM 300-3 Physical Chemistry II
or CHEM 305-3 Physical Chemistry III
CHEM 310-3 Analytical Chemistry II
or CHEM 311-3 Analytical Chemistry III
CHEM 315-3 Physical Chemistry Lab
CHEM 320-3 Inorganic Chemistry II
or CHEM 321-3 Inorganic Chemistry III
CHEM 322-3 Inorganic Chemistry Lab

**400 Level**

CHEM 401-3 Chemistry Seminar
CHEM 406-3 Advanced Laboratory I
CHEM 407-3 Advanced Laboratory II

Nine credit hours of 300 or 400 level Chemistry.*
Three credit hours of 400 level Chemistry.*

*Up to 6 credit hours from BCMB 306-3, BCMB 307-3, BCMB 308-3, BCMB 330-3, BCMB 340-3, BCMB 401-3, BCMB 402-3, BCMB 403-3, BCMB 405-3 BCMB 405-3 or BCMB 409-3 may be used to satisfy these requirements.

#### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 128 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15). A maximum of three credit hours from Continuing Studies may be used towards the elective credits. A total of 54 credit hours of upper-division study (300- and 400-level courses) must be successfully completed to meet degree requirements.

## Course Selection

Students interested in the Chemistry program of study should select courses in their first four semesters according to the schedule below. For availability of courses at the 300 and 400 level, students should consult with the Chair of the Curriculum Committee in the Chemistry program.

**Semester One (September)**

| | |
|---|---|
| BIOL 103-3 | Introductory Biology I |
| BIOL 123-1 | Introductory Biology I Laboratory |
| CHEM 100-3 | General Chemistry I |
| CHEM 120-1 | General Chemistry Lab I |
| CPSC 100-4 | Computer Programming I |
| or CPSC 110-3 | Introduction to Computer Systems and Programming |
| MATH 100-3 | Calculus I |
| PHYS 100-4 | Introduction to Physics I |
| or PHYS 110-4 | Introductory Physics I: Mechanics |

**Semester Two (January)**

| | |
|---|---|
| BIOL 104-3 | Introductory Biology II |
| BIOL 124-1 | Introductory Biology II Laboratory |
| CHEM 101-3 | General Chemistry II |
| CHEM 121-1 | General Chemistry Lab II |
| MATH 101-3 | Calculus II |
| PHYS 101-4 | Introduction to Physics II |
| or PHYS 111-4 | Introductory Physics II: Waves and Electricity |

**Semester Three (September)**

| | |
|---|---|
| CHEM 200-3 | Physical Chemistry I |
| CHEM 201-3 | Organic Chemistry I |
| CHEM 210-3 | Analytical Chemistry I |
| CHEM 250-1 | Organic Chemistry Lab I |

Three (3) Math or elective credits

**Semester Four (Winter)**

| | |
|---|---|
| CHEM 202-3 | Inorganic Chemistry I |
| CHEM 203-3 | Organic Chemistry II |
| CHEM 204-3 | Introductory Biochemistry |
| CHEM 251-1 | Organic Chemistry Lab II |
| MATH 220-3 | Linear Algebra |

Three (3) Math or elective credits

# BSc Honours – Chemistry

The BSc Honours in Chemistry offers students a higher level of education and research experience. It is particularly suitable for students intending to proceed to postgraduate studies.

Admission to the Honours program takes place after the completion of 60 credit hours and requires a minimum Cumulative GPA of 3.33. Attaining the minimum requirement does not guarantee admission to the Honours program which is at the discretion of the Chemistry Program and contingent upon the availability of a faculty member to supervise the undergraduate thesis. To remain in the Honours program, students must maintain a minimum Cumulative GPA of 3.33. All Honours students must complete an undergraduate thesis un the direct supervision of a faculty member.

Students are required to complete 134 credit hours, six of which are the undergraduate thesis, and to satisfy the requirements of the major in Chemistry.

# Joint Major in Chemistry/Computer Science

The minimum requirement for completion of a Bachelor of Science with a Joint Major in Chemistry and Computer Science is 126 credit hours.

MATH 342-3 (Biostatistics) may not be used for credit towards any Mathematics or Computer Science major, minor, or joint major.

MATH 150-3 (Finite Mathematics for Business and Economics) may not be used for credit towards any Mathematics or Computer Science major or joint major.

## Program Requirements

### Literacy Requirement

One of:

| | |
|---|---|
| ENGL 170-3 | Writing and Communication Skills |
| ENGL 270-3 | Expository Writing |

### Lower-Division Requirement

| | |
|---|---|
| CHEM 100-3 | General Chemistry I |
| CHEM 101-3 | General Chemistry II |
| CHEM 120-1 | General Chemistry Lab I |
| CHEM 121-1 | General Chemistry Lab II |
| CHEM 200-3 | Physical Chemistry I |
| CHEM 201-3 | Organic Chemistry I |
| CHEM 202-3 | Inorganic Chemistry I |
| CHEM 203-3 | Organic Chemistry II |
| CHEM 210-3 | Analytical Chemistry I |
| CPSC 100-4 | Computer Programming I |
| CPSC 101-4 | Computer Programming II |
| CPSC 141-3 | Discrete Computational Mathematics |
| CPSC 200-3 | Algorithm Analysis and Development |
| CPSC 230-4 | Introduction to Logic Design |
| CPSC 231-4 | Computer Organization and Architecture |
| CPSC 242-3 | Mathematical Topics for Computer Science |
| CPSC 281-3 | Data Structures I |

MATH 100-3 Calculus I
or MATH 105-3 Enriched Calculus
MATH 101-3 Calculus II
MATH 220-3 Linear Algebra

### Upper-Division Requirement

### Chemisty

CHEM 300-3 Physical Chemistry II
or CHEM 305-3 Physical Chemistry III
CHEM 310-3 Analytical Chemistry II
or CHEM 311-3 Analytical Chemistry III
CHEM 320-3 Inorganic Chemistry II
or CHEM 321-3 Inorganic Chemistry III

Fifteen credit hours of 300- or 400-level Chemistry*.

*Up to 6 credit hours from BCMB 306-3, BCMB 307-3, BCMB 308-3, BCMB 330-3, BCMB 340-3, BCMB 401-3, BCMB 402-3, BCMB 403-3, BCMB 405-3 or BCMB 409-3 may be used to satisfy these requirements.

### Computer Science

CPSC 320-3 Programming Languages
CPSC 321-3 Operating Systems
CPSC 370-3 Functional and Logic Programming

Six credit hours of 300- or 400-level Computer Science*; and
Six credit hours of 400-level Computer Science (excluding the seminar, project, and special topics courses).

*Between the two disciplines, a minimum of 15 credit hours at the 400 level must be completed.

One of:
MATH 335-3 Numerical Analysis I
STAT 371-3 Probability and Statistics for Scientists and Engineers

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 126 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Joint Major in Chemistry/ Mathematics

The minimum requirement for completion of a Bachelor of Science with a Joint Major in Chemistry and Mathematics is 125 credit hours.

MATH 342-3 (Biostatistics) may not be used for credit towards any Mathematics major, minor, or joint major.

MATH 150-3 (Finite Mathematics for Business and Economics) may not be used for credit towards any Mathematics major or joint major.

## Program Requirements

### Lower-Division Requirement

CHEM 100-3 General Chemistry I
CHEM 101-3 General Chemistry II
CHEM 120-1 General Chemistry Lab I
CHEM 121-1 General Chemistry Lab II
CHEM 200-3 Physical Chemistry I
CHEM 201-3 Organic Chemistry I
CHEM 202-3 Inorganic Chemistry I
CHEM 203-3 Organic Chemistry II
CHEM 210-3 Analytical Chemistry I
CPSC 100-4 Computer Programming I
MATH 100-3 Calculus I
or MATH 105-3 Enriched Calculus
MATH 101-3 Calculus II
MATH 200-3 Calculus III
MATH 201-3 Introduction to Complex Analysis
MATH 220-3 Linear Algebra
MATH 230-3 Linear Differential Equations and Boundary Value Problems
PHYS 110-4 Introductory Physics I: Mechanics
PHYS 111-4 Introductory Physics II: Waves and Electricity

### Upper-Division Requirement

### Chemistry

CHEM 300-3 Physical Chemistry II
or CHEM 305-3 Physical Chemistry III
CHEM 310-3 Analytical Chemistry II
or CHEM 311-3 Analytical Chemistry III
CHEM 320-3 Inorganic Chemistry II
or CHEM 321-3 Inorganic Chemistry III

Nine credit hours of 300- or 400-level Chemistry *
Six credit hours of 400 level Chemistry*
*Up to 6 credit hours from BCMB 306-3, BCMB 307-3, BCMB 308-3, BCMB 330-3, BCMB 340-3, BCMB 401-3, BCMB 402-3, BCMB 403-2, BCMB 405-3 or BCMB 409-3 may be used to satisfy these requirements.

### Mathematics

MATH 320-3 Survey of Algebra
MATH 326-3 Advanced Linear Algebra
MATH 335-3 Numerical Analysis I
STAT 371-3 Probability and Statistics for Scientists and Engineers

Six credit hours of 300- or 400-level Mathematics*; and
Six credit hours of 400-level Mathematics

*Between the two disciplines, a minimum of 15 credit hours at the 400 level must be completed.

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 125 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

## Joint Major in Chemistry/Physics

The minimum requirement for completion of a Bachelor of Science with a Joint Major in Chemistry and Physics is 126 credit hours.

PHYS 307-3 (Selected Topics in Environmental Physics) may not be used as Physics credit toward any Physics major, minor, or joint major.

## Program Requirements

### Lower-Division Requirement

CHEM 100-3 General Chemistry I
CHEM 101-3 General Chemistry II
CHEM 120-1 General Chemistry Lab I
CHEM 121-1 General Chemistry Lab II
CHEM 200-3 Physical Chemistry I
CHEM 201-3 Organic Chemistry I
CHEM 202-3 Inorganic Chemistry I
CHEM 203-3 Organic Chemistry II
CHEM 210-3 Analytical Chemistry I
CPSC 100-4 Computer Programming I
MATH 100-3 Calculus I
or MATH 105-3 Enriched Calculus
MATH 101-3 Calculus II
MATH 200-3 Calculus III
MATH 220-3 Linear Algebra
MATH 230-3 Linear Differential Equations and Boundary Value Problems
PHYS 110-4 Introductory Physics I: Mechanics
PHYS 111-4 Introductory Physics II: Waves and Electricity
PHYS 200-3 Thermal Physics
PHYS 202-4 Electromagnetism and Optics
PHYS 205-3 Modern Physics I

### Upper-Division Requirement

CHEM 300-3 Physical Chemistry II
or CHEM 305-3 Physical Chemistry III
CHEM 310-3 Analytical Chemistry II
or CHEM 311-3 Analytical Chemistry III
CHEM 320-3 Inorganic Chemistry II
or CHEM 321-3 Inorganic Chemistry III
CHEM 315-3 Physical Chemistry Lab

Six credit hours of 300- or 400-level Chemistry* and
Six credit hours of 400-level Chemistry*

*Up to 6 credit hours from BCMB 306-3, BCMB 307-3, BCMB 308-3, BCMB 330-3, BCMB 340-3, BCMB 401-3, BCMB 402-3, BCMB 403-3, BCMB 405-3 or BCMB 409-3 may be used to satisfy these upper-division Chemistry requirements.

MATH 336-3 Intermediate Differential Equations
PHYS 300-3 Classical Mechanics
PHYS 302-3 Quantum Mechanics I
PHYS 404-3 Solid State Physics
PHYS 351-3 Optics and Photonics I

Three credit hours of 300- or 400-level Physics and
Six credit hours of 400-level Physics

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 126 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Minor in Chemistry

The minor in Chemistry is designed to provide students with a solid grounding and a core of study in one or more of the subdisciplines of Chemistry. Thus, some flexibility is permitted in satisfying the requirements for a minor. Students have the option to study a range of subdisciplines at the 300 level while counting the 200-level prerequisites toward the minor or to focus on particular subdisciplines through to the 400 level. A maximum of six courses (14 credit hours) of the 100- and 200-level courses used to fulfill requirements for a major (or another minor) may also be used toward a minor in Chemistry.

The minimum requirement for completion of the minor in Chemistry is 29 credit hours.

**100 Level**

| | |
|---|---|
| CHEM 100-3 | General Chemistry I |
| CHEM 101-3 | General Chemistry II |
| CHEM 120-1 | General Chemistry Lab I |
| CHEM 121-1 | General Chemistry Lab II |

**200 Level**

At least nine credit hours from:

| | |
|---|---|
| CHEM 200-3 | Physical Chemistry I |
| CHEM 201-3* | Organic Chemistry I |
| CHEM 202-3 | Inorganic Chemistry I |
| CHEM 203-3* | Organic Chemistry II |
| CHEM 204-3* | Introductory Biochemistry |
| CHEM 210-3 | Analytical Chemistry I |
| CHEM 250-1 | Organic Chemistry Lab I |
| CHEM 251-1 | Organic Chemistry Lab II |

***Note:** Selections made should incorporate prerequisites for intended upper-division courses.

**300 and 400 Level**

At least 12 credit hours from:

| | |
|---|---|
| BCMB 306-3 | Intermediary Metabolism* |
| BCMB 307-3 | Proteins* |
| BCMB 308-3 | Biochemistry Lab II* |
| BCMB 401-3 | Basic Science of Oncology* |
| BCMB 402-3 | Macromolecular Structure* |
| BCMB 403-3 | Advanced Nucleic Acids* |
| BCMB 405-3 | Topics in Biochemistry and Molecular Biology* |
| BCMB 409-3 | Enzymology* |
| CHEM 300-3 | Physical Chemistry II |
| CHEM 301-3 | Advanced Organic Chemistry I |
| CHEM 302-4 | Environmental Chemistry I |
| CHEM 303-3 | Quantum Chemistry |
| CHEM 304-3 | Advanced Organic Chemistry II |
| CHEM 305-3 | Physical Chemistry III |
| CHEM 310-3 | Analytical Chemistry II |
| CHEM 311-3 | Analytical Chemistry III |
| CHEM 312-3 | Organic Chemistry Lab III |
| CHEM 315-3 | Physical Chemistry Lab |
| CHEM 320-3 | Inorganic Chemistry II |
| CHEM 321-3 | Inorganic Chemistry III |
| CHEM 322-3 | Inorganic Chemistry Lab |
| CHEM 400-3 | Topics in Environmental Chemistry |
| CHEM 402-3 | Topics in Organic Chemistry |
| CHEM 403-3 | Topics in Inorganic Chemistry |
| CHEM 404-3 | Topics in Physical Chemistry |
| CHEM 405-3 | Topics in Biochemistry |
| CHEM 408-3 | Environmental Chemistry II |

* Up to 6 credit hours from BCMB 306-3, BCMB 307-3, BCMB 308-3, BCMB 330-3, BCMB 340-3, BCMB 401-3, BCMB 402-3, BCMB 403-3, BCMB 405-3 or BCMB 409-3 may be used toward a minor in Chemistry.

# Computer Science (BSc Program)

David Casperson, Assistant Professor and Chair
Liang Chen, Professor
Waqar Haque, Professor
Alex Aravind, Associate Professor
Jernej Polajnar, Associate Professor
Saif Zahir, Associate Professor
Desanka Polajnar, Adjunct Professor
Andreas Hirt, Adjunct Professor
Allan Kranz, Senior Lab Instructor

Website: www.unbc.ca/computer-science

The Computer Science program gives students a thorough exposure to basic areas like computer architecture, programming languages and methodology, algorithms and data structures, systems programming, operating systems and networking, knowledge-based and database systems, software engineering, and theory. The student will develop the advanced practical computing and problem-solving skills required for professional work in modern industry, based on a strong conceptual foundation and on insights into the nature of this rapidly changing field. Each student will use advanced development tools, and will be encouraged to approach problem-solving from a multidisciplinary point of view. The program emphasizes direct co-operation with industry.

## Major in Computer Science

A major in Computer Science requires at least 20 Computer Science courses and at least 61 credit hours in Computer Science, at least 27 credit hours of which must be upper-division courses, and of those upper-division credits, at least 12 must be taken at the 400 level. MATH 335-3 and STAT 371-3 can count towards this requirement.

The following courses may not be used for credit towards a Computer Science major or joint major:

| | |
|---|---|
| MATH 150-3 | Finite Mathematics for Business and Economics |
| MATH 342-3 | Biostatistics |

The minimum requirement for completion of a Bachelor of Science with a major in Computer Science is 120 credit hours.

### Program Requirements

***Note:** Unless otherwise specified, students enrolling in any Computer Science or Mathematics course with prerequisites are required to have completed all prerequisite courses for that course with a "C-" or better, or have permission to enroll from the Program Chair.

### Lower-Division Requirement

**100 Level**

| | |
|---|---|
| CPSC 100-4 | Computer Programming I |
| CPSC 101-4 | Computer Programming II |
| CPSC 141-3 | Discrete Computational Mathematics |
| ENGL 170-3 | Writing and Communication Skills |
| or ENGL 270-3 | Expository Writing |
| MATH 100-3 | Calculus I |
| or MATH 105-3 | Enriched Calculus |

***Note:** MATH 101-3 Calculus II is strongly recommended.

**200 Level**

| | |
|---|---|
| CPSC 200-3 | Algorithm Analysis and Development |
| CPSC 222-3 | Introduction to Concurrent and Distributed Programming |
| CPSC 230-4 | Introduction to Logic Design |
| CPSC 231-4 | Computer Organization and Architecture |
| CPSC 242-3 | Mathematical Topics in Computer Science |
| CPSC 260-3 | Ethics in Computing |
| CPSC 281-3 | Data Structures I |
| MATH 220-3 | Linear Algebra |

### General Science Requirement

Students must take two courses from the following list of science courses. It is recommended that computer science majors take PHYS 110-4 and PHYS 111-4. However, students may take any two courses from the following list, according to their interests, to fulfill the general science requirement:

| | |
|---|---|
| PHYS 110-4 | Introductory Physics I: Mechanics |
| PHYS 111-4 | Introductory Physics II: Waves and Electricity |
| PHYS 100-4 | Introduction to Physics I |
| PHYS 101-4 | Introduction to Physics II |
| CHEM 100-3 | General Chemistry I |
| CHEM 101-3 | General Chemistry II |
| BIOL 103-3 | Introductory Biology I |
| BIOL 104-3 | Introductory Biology II |
| PSYC 101-3 | Psychology as a Science |
| ENVS 101-3 | Introduction to Environmental Citizenship |
| GEOG 204-3 | Introduction to GIS for the Social Sciences |
| GEOG 205-3 | Cartography and Geomatics |
| GEOG 210-3 | Geomorphology |

***Note:** In some special cases other science courses approved by the Chair of Computer Science may be used to satisfy this requirement.

### Upper-Division Requirement

### Computer Science Breadth

CPSC 300-3 Software Engineering
CPSC 320-3 Programming Languages
CPSC 321-3 Operating Systems
CPSC 324-3 Introduction to Database Systems
CPSC 340-3 Theory of Computation
CPSC 344-3 Data Communication and Networking
or CPSC 444-3 Computer Networking

***Note:** STAT 371-3 Probability and Statistics for Scientists and Engineers is strongly recommended.

**400 Level**
At least 12 credit hours of Computer Science courses must be taken at the 400 level, and at least nine of these credit hours must be outside the seminar, project course, (other than CPSC 400-3), research course, or special topics course category.

Alternate courses may be substituted for the above with the written permission of the Program Chair and Dean of the College.

### Subject Requirement

Six additional credit hours chosen from the following:
Computer Science at any level
MATH 335-3 Numerical Analysis I
STAT 371-3 Probability and Statistics for Scientists and Engineers

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15). A total of 45 credit hours in upper-division (300 and 400 level) courses from any discipline are required for graduation.

## BSc Honours – Computer Science

The Honours Program in Computer Science offers students additional undergraduate research experience and helps to prepare them for post-graduate studies in Computer Science and related fields.

Entry to the Computer Science Honours Program takes place after completion of 60 credit hours and requires a minimum Cumulative GPA of 3.33 over the previous 30 credit hours, and the permission of the Department Chair. Candidates are required to consult with their Student Advisor prior to entry to the Program. Attaining the minimum requirement does not guarantee entry to the Honours Program, which is at the discretion of the Department and epends on the availability of a supervisor. Faculty members are under no obligation to supervise Honours students. To remain in the Honours Program requires the maintenance of a minimum Cumulative GPA of 3.33.

To be awarded the BSc Honours degree students will
- complete 120 credit hours required for a BSc in Computer Science
- complete an additional 6 credit hours of CPSC 430 including the successful completion of an undergraduate thesis under the supervision of a faculty member
- complete Stat 371-3

## Chemistry/Computer Science Joint Major

**See Calendar entry under Chemistry.**

# Joint Major in Computer Science/ Mathematics

The minimum requirement for completion of a Bachelor of Science with a Joint Major in Computer Science and Mathematics is 124 credit hours.

MATH 342-3 (Biostatistics) may not be used for credit towards any Mathematics or Computer Science major, minor, or joint major.

MATH 150-3 (Finite Mathematics for Business and Economics) may not be used for credit towards any Mathematics or Computer Science major or joint major.

## Program Requirements

### Literacy Requirement

One of:

| | |
|---|---|
| ENGL 170-3 | Writing and Communication Skills |
| ENGL 270-3 | Expository Writing |

### Lower-Division Requirement

| | |
|---|---|
| CPSC 100-4 | Computer Programming I |
| CPSC 101-4 | Computer Programming II |
| CPSC 141-3 | Discrete Computational Mathematics |
| CPSC 200-3 | Algorithm Analysis and Development |
| CPSC 230-4 | Introduction to Logic Design |
| CPSC 231-4 | Computer Organization and Architecture |
| CPSC 242-3 | Mathematical Topics for Computer Science |
| CPSC 281-3 | Data Structures I |
| MATH 100-3 | Calculus I |
| or MATH 105-3 | Enriched Calculus |
| MATH 101-3 | Calculus II |
| MATH 200-3 | Calculus III |
| MATH 201-3 | Introduction to Complex Analysis |
| MATH 220-3 | Linear Algebra |
| MATH 224-3 | Foundations of Modern Mathematics |
| MATH 230-3 | Linear Differential Equations and Boundary Value Problems |

### General Science Requirement

Two of:

| | |
|---|---|
| BIOL 103-3 | Introductory Biology I |
| and BIOL 123-1 | Introductory Biology I Laboratory |
| BIOL 104-3 | Introductory Biology II |
| and BIOL 124-1 | Introductory Biology II Laboratory |
| CHEM 100-3 | General Chemistry I |
| and CHEM 120-1 | General Chemistry Lab I |
| CHEM 101-3 | General Chemistry II |
| and CHEM 121-1 | General Chemistry Lab II |
| PHYS 100-4 | Introduction to Physics I |
| or PHYS 110-4* | Introductory Physics I: |
| PHYS 111-4* | Introductory Physics II: Waves and Electricity |

***Note:** PHYS 110-4 (Introductory Physics I: Mechanics) and PHYS 111-4 (Introductory Physics II: Waves and Electricity) are strongly recommended for all majors.

### Upper-Division Requirement

| | |
|---|---|
| CPSC 320-3 | Programming Languages |
| CPSC 321-3 | Operating Systems |
| CPSC 370-3 | Functional and Logic Programming |

**Six credit hours of 300 or 400 level Computer Science; and
Six credit hours of 400 level Computer Science (excluding seminar, project, and special topics courses).

| | |
|---|---|
| MATH 320-3 | Survey of Algebra |
| MATH 326-3 | Advanced Linear Algebra |
| MATH 335-3 | Numerical Analysis I |
| STAT 371-3 | Probability and Statistics for Scientists and Engineers |

****Three credit hours of 300 or 400 level Mathematics; and
Six credit hours of 400 level Mathematics.
****Note:** Three of these 9 credit hours must be at the 400 level so that the total number of Computer Science and Mathematics credit hours at the 400 level is at least 15.

**Note:** CPSC 340-3 (Theory of Computation) is recommended.

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 123 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Joint Major in Computer Science/ Physics

The minimum requirement for completion of a Bachelor of Science with a Joint Major in Computer Science and Physics is 127 credit hours.

MATH 342-3 (Biostatistics) may not be used for credit towards any Mathematics or Computer Science major, minor, or joint major.

MATH 150-3 (Finite Mathematics for Business and Economics) may not be used for credit towards any Mathematics or Computer Science major or joint major.

PHYS 307-3 (Selected Topics in Environmental Physics) may not be used as Physics credit toward any Physics major, minor, or joint major.

## Program Requirements

### Literacy Requirement

One of:

| | |
|---|---|
| ENGL 170-3 | Writing and Communication Skills |
| ENGL 270-3 | Expository Writing |

### Lower-Division Requirement

| | |
|---|---|
| CPSC 100-4 | Computer Programming I |
| CPSC 101-4 | Computer Programming II |
| CPSC 141-3 | Discrete Computational Mathematics |
| CPSC 200-3 | Algorithm Analysis and Development |
| CPSC 231-4 | Computer Organization and Architecture |
| CPSC 242-3 | Mathematical Topics for Computer Science |
| CPSC 281-3 | Data Structures I |
| MATH 100-3 | Calculus I |
| or MATH 105-3 | Enriched Calculus |
| MATH 101-3 | Calculus II |
| MATH 200-3 | Calculus III |
| MATH 220-3 | Linear Algebra |
| MATH 230-3 | Linear Differential Equations and Boundary Value Problems |
| PHYS 110-4 | Introductory Physics I: Mechanics |
| PHYS 111-4 | Introductory Physics II: Waves and Electricity |
| PHYS 200-3 | Thermal Physics |
| PHYS 202-4 | Electromagnetism and Optics |
| PHYS 205-3 | Modern Physics I |

### Upper-Division Requirement

| | |
|---|---|
| CPSC 320-3 | Programming Languages |
| CPSC 321-3 | Operating Systems |
| CPSC 370-3 | Functional and Logic Programming |

*Six credit hours of 300 or 400 level Computer Science; and
Six credit hours of 400 level Computer Science (excluding seminar, project, and special topics courses).

| | |
|---|---|
| MATH 336-3 | Intermediate Differential Equations |
| MATH 335-3 | Numerical Analysis I |
| STAT 371-3 | Probability and Statistics for Scientists and Engineers |
| PHYS 300-3 | Classical Mechanics |
| PHYS 302-3 | Quantum Mechanics I |
| PHYS 305-4 | Electronics [which must be taken before CPSC 231-4 (Computer Organization and Architecture)] |
| PHYS 404-3 | Solid State Physics |

*Three credit hours of 300 or 400 level Physics; and
Six credit hours of 400 level Physics (excluding seminar, project, and special topics courses).

*Three of these nine credit hours must be at the 400 level so that a minimum of 15 credit hours of 400 level Computer Science and Physics are completed.

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 127 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Minor in Computing

The Minor in Computing requires the following 29 credit hours of courses:

## Requirements

| | |
|---|---|
| CPSC 100-4 | Programming I |
| CPSC 101-4 | Computer Programming II |
| CPSC 200-3 | Algorithm Analysis and Development |
| CPSC 281-3 | Data Structures I |
| CPSC 141-3 | Discrete Mathematics |
| CPSC 300-3 | Software Engineering |
| CPSC 324-3 | Introduction to Database Systems |
| CPSC 344-3 | Data Communications and Networking |

One additional upper-division Computer Science course**

** MATH 335-3 (Numerical Analysis 1) may be used to meet this requirement.

# Economics (BA and BSc Programs)

Baotai Wang, Professor and Chair
Paul Bowles, Professor
Fiona MacPhail, Professor
Jalil Safaei Boroojeny, Associate Professor
Ajit Dayanandan, Associate Professor
Karima Fredj, Associate Professor

Website: www.unbc.ca/economics

Economics as a discipline is constructed around the need to identify agents in the economy and analyze their interactions. As such it is based upon deriving generalizations by identifying behavioural rules and examining causal relationships between economic variables. The emphasis on examining causal relationships is a distinguishing feature of economics and forms an important part of its claim to be a social science. As well as addressing these central concerns, the Department of Economics recognizes the interaction between the economy and other broader social, political, cultural and technological forces. The Department therefore places special emphasis on courses that analyze institutions, facilitate comparative studies, encourage a historical approach, and recognize the pervasiveness of technological change.

## Major in Economics

Undergraduate students are required to take 17 Economics courses (51 credit hours). Of these, 12 courses (36 credit hours) are at the upper-division level.

The minimum requirement for completion of a Bachelor of Arts with a major in Economics is 120 credit hours.

### Program Requirements

#### Lower-Division Requirement

**100 Level**

ECON 100-3 Microeconomics
ECON 101-3 Macroeconomics
COMM 100-3 Introduction to Canadian Business
or POLS 100-3 Contemporary Political Issues
or INTS 101-3 Canada and the World
MATH 150-3 Finite Mathematics for Business and Economics
or MATH 220-3 Linear Algebra
MATH 100-3 Calculus I
or MATH 152-3 Calculus for Non-majors

**200 Level**

ECON 202-3 History of Economic Thought
ECON 203-3 Canadian Economic History
ECON 205-3 Statistics for the Social and Management Sciences

#### Upper-Division Requirements

**300 and 400 Level**

ECON 310-3 Intermediate Microeconomic Theory
ECON 311-3 Intermediate Macroeconomic Theory
ECON 312-3 Introduction to Econometrics

Twenty-seven credit hours of 300 or 400 level Economics.

*Students wishing to pursue graduate studies in Economics are strongly advised to take ECON 320-3 (Introduction to Mathematical Economics) and ECON 451-3 (Advanced Microeconomic Theory) and/or ECON 452-3 (Advanced Macroeconomic Theory).

#### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

## Joint Major in Economics/ International Studies

Joint majors are designed for students interested in a combination of two related fields of study. They normally involve a specific set of course requirements selected to provide solid specialization in each of the two fields. The graduation requirements for a Joint Major can normally be met in four years of study.

### Curriculum

The minimum requirement for completion of a Bachelor of Arts with a Joint Major in Economics and International Studies is 120 credit hours.

#### Lower-Division Requirement

ECON 100-3 Microeconomics

ECON 101-3 Macroeconomics
ECON 120-3 Globalization and the World's Economies
ECON 202-3 History of Economic Thought
or ECON 203-3 Canadian Economic History
ECON 205-3 Statistics for the Social and Management Sciences
INTS 101-3 Canada and the World
INTS 205-3 Introduction to International Studies

One of:
INTS 200-3 Contemporary Russia
INTS 202-3 Contemporary United States
INTS 203-3 Contemporary Japan
INTS 204-3 Contemporary China
INTS 240-3 Contemporary Circumpolar North

### Upper-Division Requirement*

INTS 310-3 Origins and Evolution of International Studies
ECON 308-3 International Economic Relations
or ECON 401-3 Global Economy and Development
ECON 310-3 Intermediate Microeconomic Theory
ECON 311-3 Intermediate Macroeconomic Theory
ECON 321-3 Economics of Developing Countries
or ECON 404-3 Poverty, Inequality and Development

Fifteen additional credit hours of 300- or 400-level International Studies courses.
Six additional credit hours of 300- or 400-level Economics courses.

* Students must ensure that all prerequisites are fulfilled prior to registering in any courses. Note that MATH 152 is a prerequisite for ECON 310.

### Language Requirement

Twelve credit hours of International Studies language courses. At least two courses must be in one language.

### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

## Joint Major in Economics/Political Science

The minimum requirement for completion of a Bachelor of Arts with a Joint Major in Economics and Political Science is 120 credit hours.

## Program Requirements

### Lower-Division Requirement

ECON 100-3 Microeconomics
ECON 101-3 Macroeconomics
ECON 202-3 History of Economic Thought
ECON 203-3 Canadian Economic History
ECON 205-3 Statistics for Social and Management Science
POLS 100-3 Contemporary Political Issues
POLS 200-3 Canadian Government and Politics
POLS 202-3 Comparative Government and Politics
POLS 270-3 Political Philosophy: Antiquity to Early Modernity
POLS 290-3 Research and Writing for Political Science

### Upper-Division Requirement

ECON 310-3 Intermediate Microeconomic Theory
ECON 311-3 Intermediate Macroeconomic Theory
POLS 303-3 Democracy and Dictatorship
POLS 320-3 Canadian Politics and Policy
POLS 370-3 Political Philosophy: Early Modernity to Post-Modernity

Nine credit hours in Political Science at the 300 or 400 level.
Eighteen credit hours in Economics at the 300 or 400 level.

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Joint Major in Economics/ Mathematics

The minimum requirement for completion of a Bachelor of Science with a Joint Major in Economics and Mathematics is 121 credit hours.

MATH 342-3 (Biostatistics) may not be used for credit towards any Mathematics major, minor or joint major.

MATH 150-3 (Finite Mathematics for Business and Economics) may not be used for credit towards any Mathematics major or joint major.

## Program Requirements

### Literacy Requirement

One of:

| | |
|---|---|
| ENGL 170-3 | Writing and Communication Skills |
| ENGL 270-3 | Expository Writing |

### Economic Requirements

| | |
|---|---|
| ECON 100-3 | Microeconomics |
| ECON 101-3 | Macroeconomics |
| ECON 202-3 | History of Economic Thought |
| ECON 203-3 | Canadian Economic History |
| ECON 205-3 | Statistics for Social and Management Science |
| ECON 310-3 | Intermediate Microeconomic Theory |
| ECON 311-3 | Intermediate Macroeconomic Theory |
| ECON 312-3 | Introduction to Econometrics |
| ECON 320-3 | Introduction to Mathematical Economics |

One of the following three courses:

| | |
|---|---|
| ECON 451-3 | Advanced Microeconomic Theory |
| ECON 452-3 | Advanced Macroeconomic Theory |
| ECON 453-3 | Advanced Econometrics |

Twelve additional credit hours of 300 or 400 level Economics.

### Mathematics Requirements

| | |
|---|---|
| MATH 100-3 | Calculus I |
| or MATH 105-3 | Enriched Calculus |
| MATH 101-3 | Calculus II |
| MATH 200-3 | Calculus III |
| MATH 201-3 | Introduction to Complex Analysis |
| MATH 220-3 | Linear Algebra |
| MATH 224-3 | Foundations of Modern Mathematics |
| MATH 230-3 | Linear Differential Equations and Boundary Value Problems |
| MATH 320-3 | Survey of Algebra |
| or MATH 302-3 | Theory of Metric Spaces |
| STAT 371-3 | Probability and Statistics for Scientists and Engineers |

Six additional credit hours of 300 or 400 level Mathematics (STAT 372-3 is strongly recommended); and
Six additional credit hours of 400 level Mathematics.

### Program Requirements

| | |
|---|---|
| CPSC 100-4 | Computer Programming I |

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 121 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Minor in Economics

The minor in Economics requires the completion of 24 credit hours. Students must complete:

ECON 100-3 Microeconomics
ECON 101-3 Macroeconomics

Two of:

ECON 202-3 History of Economic Thought
ECON 203-3 Canadian Economic History
ECON 205-3 Statistics for the Social and Management Sciences

Twelve credit hours of 300 or 400 level Economics courses.

A maximum of 4 courses (12 credit hours) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in Economics.

Alternative courses may be substituted for the above with written permission of the Department Chair and Dean.

# Minor in International Development Studies

The International Development Studies minor provides students with the opportunity to learn about the lives of the majority of the world's population. Students have the opportunity to explore the diversity of cultures, political systems, histories, and economic strategies that shape the contemporary context for development. By combining courses from several subject areas and analyzing development as a concept and as a practice at the local, national and international levels, the program provides students with the knowledge and perspectives needed to gain a better understanding of the world in which we all live.

The Minor requires 27 credit hours. 12 credit hours are required in the lower-division and at least 12 credit hours must be from the upper division. In the upper division, courses must be chosen from at least three subject areas.

## Lower-Division Required Courses

ANTH 101-3 Peoples and Cultures
ECON 120-3 Globalization and the World's Economies
GEOG 101-3 Human Geographies of Global Change
HIST 191-3 The West and the World Since 1660

In addition, students must take 15 credit hours of elective courses from at least three subject areas of which at least 12 credit hours must be from the upper division.

**Students must take two or more of:**

ECON 321-3 Economics of Developing Countries
ECON 401-3 The Global Economy and Development
ECON 404-3 Poverty, Inequality and Development
GEOG 306-3 Geography of International Development: Places, People, Policies and Promises
INTS 304-3 International Development

**Other approved courses are:**

ANTH 401-3 Anthropological Perspectives on Inequality
ANTH 404-3 Comparative Study of Indigenous Peoples of the World
ENGL 340-3 Postcolonial Literature
ENGL 350-3 Comparative Literature
ENGL 440-3 Postcolonial Literature
ENGL 450-3 Special Topics in Comparative Literature
FNST 416-3 Indigenous Issues in International Perspective
GEOG 209-3 Migration and Settlement
GEOG 301-3 Cultural Geography
GEOG 305-3 Political Ecology
GEOG 308-3 Environments of Health and Care
GEOG 401-3 Tenure, Conflict and Resource Geography
GEOG 422-3 Geography and the World Economy
GEOG 426-3 Geographies of Culture, Rights and Power
HIST 240-3 The Expansion of Europe
HIST 241-3 The Age of Empire: Europe and the World 1789-1914
HIST 280-3 Colonial Latin America
HIST 281-3 Republican Latin America
HIST 290-3 The Contemporary World
HIST 380-3 Modern Mexico
INTS 205-3 Introduction to International Studies
INTS 306-3 Human Rights
INTS 308-3 Gender and International Studies
INTS 350-3 Pacific Relations
INTS 371-3 Globalization
INTS 402-3 Pacific Affairs
OTRM 403-3 International Dimensions of Recreation and Tourism
POLS 303-3 Democracy and Dictatorship
POLS 309-3 Politics and Society in China
POLS 412-3 Comparative Aboriginal State Relations

Students may count up to 12 credit hours in their Major towards their Minor.

# School of Education (BEd Program)

Peter MacMillan, Associate Professor Chair
Bryan Hartman, Professor
Andrew Kitchenham, Professor, and Post Baccalaureate Coordinator
Willow Brown, Associate Professor, and MEd Leadership (MDL) Coordinator
Tina Fraser, Associate Professor, BEd Coordinator and Aboriginal / Indigenous Education Coordinator
Corinne Koehn, Associate Professor, and MEd Counselling Coordinator
Linda O'Neill, Associate Professor, and MEd Councelling Coordinator (Regional)
Lantana Usman, Associate Professor
Edward Harrison, Assistant Professor
Alexander Lautensach, Assistant Professor
Verna Lynn McDonald, Assistant Professor, and BEd Coordinator – Northwest Region
Greg Nixon, Assistant Professor
Dennis Procter, Assistant Professor
John Sherry, Assistant Professor
Catherine Whalen, Assistant Professor
William Hay, Lecturer
James Ryan, Senior Lab Instructor
Practicum Placement Coordinator (Prince George): Ricci Dalton
Practicum Placement Coordinator (Terrace): Christine Eide

Website: www.unbc.ca/education

UNBC's Bachelor of Education degree (BEd) program and Bachelor of Education degree completion program are offered at the Prince George and Terrace campuses. At the Prince George campus, the BEd program offers both the Elementary (Grades K-7), and Secondary (Grades 8-12) streams. At the Terrace campus, only the Elementary Stream is offered. The BEd degree is a two-year program that consists of 73 credit hours in Education course work of which 20 credit hours is classroom experience. The BEd degree completion program is available only to applicants who have completed a UNBC Education Diploma in a First Nations Language and Culture and consists of an additional 53 credit hours of Education course work of which 17 credit hours is classroom experience. All Education courses within the BEd degree program and the BEd degree completion program are required; there are no elective courses offered.

Subject to the admission requirements for Elementary (Grades K-7), students may apply to enter the BEd Elementary program with, as described in the Admission Requirements, one of the following: (a) an acceptable three- or four-year bachelor's degree or (b) a minimum 90 credit hours of undergraduate course work or (c) a UNBC Education Diploma in a First Nations Language and Culture (minimum 92 credit hours). Students applying for admission under item (c) will be admitted to the BEd Elementary degree completion program and must complete, prior to graduation, the required Education courses not taken as part of the Education Diploma program and sufficient additional credit hours in a teachable field to attain a minimum 150 credit hours of combined academic, Education Diploma and BEd course work. Upon completion of the two-year BEd program or the two-year BEd degree completion program, students graduate with a Bachelor of Education degree.

Subject to the admission requirements for Secondary (Grades 8-12), students may apply to enter the Secondary program after having completed a four-year Bachelor of Arts, Bachelor of Science, or Bachelor of Commerce degree (120 credit hours) or the equivalent as described in the Admission Requirements. Upon completion of the two-year BEd program, students will graduate with a BEd degree.

UNBC's BEd program provides students with the course work and classroom experience to prepare them to be qualified teachers. Upon successful completion of the program, graduates are recommended to the Ministry of Education Teacher Regulations Branch (TRB) for professional certification. Certification by the TRB is required for employment in the British Columbia public school system.

The Elementary and Secondary programs in Prince George begin in September of each year. The Elementary program in Terrace begins in September of each odd-numbered year. The application deadline for all Education programs is March 15 of the year in which students intend to begin their program. Students needing advice about the application process or about admission requirements are encouraged to contact either the Student Recruitment and Advising Centre or the School Experience Office in the School of Education. Students who are interested in applying to the BEd program at the Terrace campus may also contact the Northwest Regional campus for information.

# Elementary (Grades K-7)

The Elementary program prepares teacher candidates to work with the unique learning needs of children who are beginning their school years. This model reflects current thinking about optimizing the match between educational theory and children's levels of cognitive and social development. The Elementary program is designed to educate teachers to combine pedagogical excellence across disciplinary areas with a learner-centered approach to practice. Philosophically, the program is designed around constructivist principles, and it emphasizes approaches to practice such as inquiry-based learning, strategies for instruction, integration of language across the curriculum, inclusion of diverse learners and perspectives, the development of caring and respectful communities of learners, and reflective practice. Successful applicants to the Elementary program are assigned to a cohort group of students and normally take their Education courses with that cohort group over the two years.

## Admission Requirements

Applicants to the BEd degree Elementary program must have completed (with a minimum GPA of 2.33 (C+) on the most recent 60 credit hours of university credit hours completed) one of the following:

(a) an acceptable three- or four-year Bachelor's degree of which 60 credit hours, including 30 senior level credit hours, must be in Arts, Science, or other teachable fields relevant to the BC School system, or
(b) a minimum of 90 credit hours of undergraduate course work, of which 60 credit hours, including 30 senior level credit hours, must be in Arts, Science, or other teachable fields relevant to the BC School system.

Applicants to the BEd degree completion program must have completed a UNBC Education Diploma in a First Nations Language and Culture (minimum 92 credit hours).

Transfer credit for course work relating to the 90 credit hours that have been completed prior to UNBC registration shall not be subject to the ten-year provision in the University Calendar regulation regarding Time Limit for Transfer Credit but shall be determined by the School of Education. In addition to the admission requirements described above, the following requirements must be met (see note following):

1. Successful completion, with a C+ average, of 6 credit hours of acceptable English literature and composition at any level (one of the following: (a) 3 credit hours of English literature and 3 credit hours of English composition or (b) 6 credit hours of acceptable English literature). Courses in linguistics, language study, grammar, technical or business writing, communication, or English as a Second Language are not acceptable to meet the English requirement.
2. Three credit hours in Mathematics (not including Statistics).
3. Three credit hours in a laboratory science. Laboratory science credit hours are normally selected from Biology, Chemistry, Physical Geography, or Physics.
4. Three credit hours of Canadian History or 3 credit hours of Canadian Geography plus 3 credit hours of Canadian Studies (this course must contain significant Canadian content). Credit hours will normally be selected from Anthropology, First Nations Studies, Geography, History, Northern Studies, or Political Science courses that contain significant Canadian content (upon review, credit hours from other disciplines may be recognized as meeting the Canadian content requirement).
5. Submission of the completed application forms including the Experience with Children and Youth statement (resumé format), three Confidential Reference Forms, and the Personal Statement.

**Note:** Applicants who do not meet the requirements in items 1-4 above but who otherwise meet the admission requirements may be admitted provisionally to the BEd program with the approval of the Chair if they have completed a minimum of 12 credit hours of the required course work. Applicants admitted provisionally to the program under this section will not be recommended to the BC Ministry of Education - Teacher Regulation Branch for certification until they successfully complete the course work requirements.

## Program Requirements

### Elementary (K-7)

Entry route, with 60 credit hours of acceptable undergraduate course work in a teachable field, via one of (a) an acceptable three- or four-year Bachelor's degree or (b) a minimum 90 credit hours of acceptable course work:

**Year 1: First Semester**

| | |
|---|---|
| EDUC 313-1 | Interpersonal Communication |
| EDUC 333-2 | Learning Development & Motivation |
| EDUC 340-2 | Curriculum Development Models |
| EDUC 346-2 | Introduction to Aboriginal Education |
| EDUC 356-2 | Language & Literacy: Development (EY) |
| EDUC 376-2 | Numeracy: Math Concepts (EY) |
| EDUC 380-3 | Foundations of Education |
| EDUC 395-1 | Professional Issues: Legal & Ethical |
| EDUC 390-3 | Classroom Practice & Seminar I |

**Year 1: Second Semester**

| | |
|---|---|
| EDUC 341-2 | Principles of Instruction |
| EDUC 342-2 | Social Dynamics of Classrooms |
| EDUC 351-2 | Curriculum & Instruction: Second Language |
| EDUC 357-3 | Language & Literacy: Reading & Writing (EY) |
| EDUC 366-2 | Curriculum & Instruction: Social Studies (EY) |
| EDUC 377-2 | Numeracy: Instructional Strategies (EY) |
| EDUC 387-2 | Curriculum & Instruction: Science (EY) |
| EDUC 391-3 | Classroom Practice & Seminar II |

**Year 2: First Semester**

| | |
|---|---|
| EDUC 406-3 | Curriculum & Instruction: Fine Arts (EY) |
| EDUC 421-3 | Classroom Assessment Practices |
| EDUC 431-3 | Educational Technology |
| EDUC 435-2 | Learning & Diversity: Inclusive Classrooms |
| EDUC 446-2 | Aboriginal Education: Epistemology |
| EDUC 456-2 | Language & Literacy Across the Curriculum (EY) |
| EDUC 490-4 | Classroom Practice & Seminar III |

**Year 2: Second Semester**

| | |
|---|---|
| EDUC 413-1 | Counselling Skills (EY) |
| EDUC 436-2 | Learning & Diversity: Learning Disabilities |
| EDUC 457-2 | Language & Literacy: Oral & Written Genres (EY) |
| EDUC 489-2 | Curriculum & Instruction: Physical Education (EY) |
| EDUC 495-1 | Professional Issues: Portfolios |
| EDUC 491-10 | Classroom Practice & Seminar IV |

### Entry Route Via a UNBC Education Diploma in a First Nations Language and Culture

**Note:** Students entering via this route must have completed, prior to graduation, sufficient additional elective credit hours in a teachable field to attain a minimum 150 credit hours of combined academic, Education Diploma and BEd course work.

**Year 1: First Semester**

| | |
|---|---|
| EDUC 313-1 | Interpersonal Communication |
| EDUC 340-2 | Curriculum Development Models |
| EDUC 376-2 | Numeracy: Math Concepts (EY) |
| EDUC 395-1 | Professional Issues: Legal & Ethical |
| EDUC 396-2 | Reflective Seminar |
| ELECTIVE 1-3 | Academic course in a teachable area |
| ELECTIVE 2-3 | Academic course in a teachable area |

**Year 1: Second Semester**

| | |
|---|---|
| EDUC 357-3 | Language & Literacy: Reading & Writing (EY) |
| EDUC 366-2 | Curriculum & Instruction: Social Studies (EY) |
| EDUC 377-2 | Numeracy: Instructional Strategies (EY) |
| EDUC 387-2 | Curriculum & Instruction: Science (EY) |
| EDUC 391-3 | Classroom Practice & Seminar II |
| ELECTIVE 3-3 | Academic course in a teachable area |

* The EDUC 391-3 practicum is required only if it has not been taken previously as a component of the Education Diploma in a First Nations Language and Culture.

**Year 2: First Semester**

| | |
|---|---|
| EDUC 406-3 | Curriculum & Instruction: Fine Arts (EY) |
| EDUC 421-3 | Classroom Assessment Practices |
| EDUC 431-3 | Educational Technology |
| EDUC 456-2 | Language & Literacy Across the Curriculum (EY) |
| EDUC 490-4 | Classroom Practice & Seminar III |

**Year 2: Second Semester**

| | |
|---|---|
| EDUC 413-1 | Counselling Skills (EY) |
| EDUC 436-2 | Learning & Diversity: Learning Disabilities |
| EDUC 457-2 | Language & Literacy: Oral & Written Genres (EY) |
| EDUC 489-2 | Curriculum & Instruction: Physical Education (EY) |
| EDUC 495-1 | Professional Issues: Portfolios |
| EDUC 491-10 | Classroom Practice & Seminar IV |

## Secondary (Grades 8-12)

The Secondary program is a two-year after-degree program that prepares individuals to teach in grades 8 through 12 in specialty areas. This model reflects current thinking about optimizing the match between educational theory and children's levels of cognitive and social development. The Secondary program is designed to educate teachers to combine pedagogical excellence across disciplinary areas with a learner-centered approach to practice. Philosophically, the program is designed around constructivist principles, and it emphasizes approaches to practice such as inquiry-based learning, strategies for instruction, integration of language across the curriculum, inclusion of diverse learners and perspectives, the development of caring and respectful communities of learners, and reflective practice. Successful applicants to the Secondary program will be assigned to a cohort group of approximately 35 students and will take all of their courses with that cohort group.

### Admission Requirements

Applicants to the Secondary program must have completed (with a minimum GPA of 2.33 (C+) on the most recent 60 credit hours of university credit hours completed), a four-year Bachelor of Arts, Bachelor of Science, or Bachelor of Commerce degree (120 credit hours) or the equivalent (i.e., a three-year Bachelor's degree with a teachable major plus 30 additional approved university credit hours) with a minimum of 90 credit hours in Arts, Science, or Business Administration or in other teachable fields relevant to teaching in the BC School system. The remaining credit hours may come from any discipline.

In addition to the entry requirements described above, the following requirements must be met (see note following):

1. Successful completion, with a C+ average, of 6 credit hours of acceptable English literature and composition at any level (one of the following: (a) 3 credit hours of English literature and 3 credit hours of English composition or (b) 6 credit hours of acceptable English literature). Courses in linguistics, language study, grammar, technical or business writing, communication, or English as a second language are not acceptable to meet the English requirement.
2. One of the following:
   a. One teachable major and one teachable minor, or
   b. Two (2) teachable minors, or
   c. One teachable major.
3. Submission of the completed application forms that include the Experience with Children and Youth statement (resumé format), three Confidential Reference Forms, and the Personal Statement.

**Note:** Applicants who do not meet the English requirement in item 1 above but who otherwise meet the admission requirements may be admitted provisionally to the BEd program with the approval of the Chair. Applicants admitted provisionally to the program under this section will not be recommended to the BC Ministry of Education - Teacher Regulation Branch for certification until they successfully complete the English requirements.

## Program Requirements

### Secondary (Grades 8-12)

**Year 1: First Semester**

EDUC 313-1 Interpersonal Communication
EDUC 333-2 Learning Development and Motivation
EDUC 340-2 Curriculum Development Models
EDUC 346-2 Introduction to Aboriginal Education
EDUC 380-3 Foundations of Education
EDUC 395-1 Professional Issues: Legal & Ethical
EDUC 360-4 Curriculum & Instruction: Introduction (SY)
EDUC 390-3 Classroom Practice & Seminar I

**Year 1: Second Semester**

EDUC 342-2 Social Dynamics of Classrooms
EDUC 341-2 Principles of Instruction
EDUC 345-4 Language & Literacy Across the Curriculum
EDUC 370-3 Numeracy Across the Curriculum
EDUC 361-4 Curriculum & Instruction II: Humanities & Social Sciences
or EDUC 372-4 Curriculum & Instruction II: Math, Computer & Sciences
or EDUC 315-4 Curriculum & Instruction II: Business & Career Education
EDUC 391-3 Classroom Practice & Seminar II

**Year 2: First Semester**

EDUC 421-3 Classroom Assessment Practices
EDUC 431-3 Educational Technology
EDUC 435-2 Language & Diversity: Inclusive Classrooms
EDUC 446-2 Aboriginal Education: Epistemology II
EDUC 460-5 Curriculum & Instruction III: Humanities & Social Sciences
or EDUC 471-5 Curriculum & Instruction III: Math, Computer & Sciences
or EDUC 414-5 Curriculum & Instruction III: Business & Career Education
EDUC 490-4 Classroom Practice & Seminar III

**Year 2: Second Semester**

EDUC 434-3 Counselling Skills
EDUC 436-2 Learning & Diversity: Learning Disabilities
EDUC 495-1 Professional Issues: Portfolios
EDUC 461-2 Curriculum & Instruction IV: Humanities & Social Sciences
or EDUC 472-3 Curriculum & Instruction IV: Math, Computer & Sciences
or EDUC 415-3 Curriculum & Instruction IV: Business & Career Education
EDUC 491-10 Classroom Practice & Seminar IV

### Secondary Teachable Major and Minor Requirements

The following is a list of teachable majors and minors that have been approved by the Ministry of Educaiton Teacher Regulation Branch (TRB), are widely taught in British Columbia secondary schools, and that can be completed at the University of Northern British Columbia (graduates of equivalent programs at other recognized universities are also eligible for consideration to the program). In order for applicants to be eligible for the Secondary porgram Bachelor of Education, they must meet the requirements for one teachable major, a teachable major and minor, or two teachable minors from the following list:

| Subject area | Major | Minor |
|---|---|---|
| Biology | × | × |
| Business Education | × | × |
| Chemistry | × | × |
| Computer Science | × | × |
| English | × | × |
| First Nations Studies | | × |
| General Science | × | × |
| Geography | × | × |
| History | × | × |
| Mathematics | × | × |
| Physics | × | × |
| Social Studies | × | × |

Applicants to the Bachelor of Education program should recognize that the credit levels for the teachable majors and minors meet the BC Ministry of Education - Teacher Regulation Branch accreditation requirements, and may not be equivalent to the formal requirements for a UNBC major or minor. Applicants should refer to the appropriate section of the UNBC Calendar in order to ensure that they are meeting all of the course work required to successfully complete UNBC degree requirements.

A teachable minor normally consists of eighteen (18) credit hours of upper-division courses (numbered 300 or 400 and taken in the third and fourth year of study), in addition to required lower-division courses.

A teachable major normally consists of thirty (30) credit hours of upper-division courses (numbered 300 or 400 and taken in the third and fourth year of study), in addition to required lower-division courses.

### Biology Major and Minor

Bachelor of Education applicants to the Secondary program planning to meet the Biology teachable minor requirement must have completed a minimum of 6 credit hours of introductory (100-level) course work in each of Biology, Chemistry (at least one course with a lab component), Mathematics (at least one course, but preferably two courses, in calculus), and Physics (at least one course with a lab component). Applicants must also complete an additional 6 to 12 credit hours of study in Biology at the lower division, and 18 credit hours of upper-division course work in Biology. The course work must include both lecture and laboratory studies.

Applicants planning to meet the Biology teachable major requirement must complete an additional 12 credit hours of upper-division course work in biology.

## Business Education Major and Minor

Bachelor of Education applicants to the Secondary program planning to meet the Business Education teachable minor requirement must complete a minimum of 18 upper-division credit hours of specialized courses in accounting, marketing, commercial law, and management information systems in addition to introductory (100-level) courses in Computer Science, Economics, and Mathematics.

Applicants planning to meet the Business Education teachable major requirement must complete an additional 12 credit hours of upper-division course work in accounting, finance, marketing, and management information systems.

## Chemistry Major and Minor

Bachelor of Education applicants to the Secondary program planning to meet the Chemistry teachable minor requirement must have completed a minimum of 6 credit hours of introductory (100-level) course work in each of Biology, Chemistry (at least one course with a lab component), Mathematics (at least one course, but preferably two courses, in calculus), and Physics (at least one course with a lab component). Applicants must also complete an additional 6 to 12 credit hours of study in Chemistry at the lower division, and 18 credit hours of upper-division course work in Chemistry. The course work must include both lecture and laboratory studies.

Applicants planning to meet the Chemistry teachable major requirement must complete an additional 12 credit hours of upper-division course work in Chemistry.

## Computer Science Major and Minor

Bachelor of Education applicants to the Secondary program planning to meet the Computer Science teachable minor requirement must complete a basic lower division course load in computer programming, computer structures, and mathematics in addition to 18 credit hours of upper-division Computer Science course work covering advanced programming, systems design, and programming languages.

Applicants planning to meet the Computer Science teachable major requirement must complete an additional 12 credit hours of study in upper-division Computer Science course work.

## English Major and Minor

Bachelor of Education applicants to the Secondary program planning to meet the English teachable minor requirement must complete a basic lower-division course load that focuses on English literature and composition in addition to 24 credit hours of upper-division English courses including 6 credit hours from each of the following: English literature, pre-twentieth century literature, and contemporary literature. Applicants are also strongly encouraged to complete courses both in Canadian literature and Shakespeare.

Applicants planning to meet the English teachable major requirement must complete an additional 6 credit hours of upper-division course work in English.

## First Nations Minor

Bachelor of Education applicants to the Secondary program planning to meet the First Nations teachable minor requirement must complete a basic lower-division course load that focuses on general First Nations studies, First Nations language, and First Nations culture courses in addition to 18 credit hours of upper-division First Nations Studies or related approved courses (related course work may come from Anthropology or History).

## General Science Majors and Minors

Teachable areas that can be included within the General Sciences major and minor include Biology, Chemistry, Environmental Sciences, and Physics.

Bachelor of Education applicants to the Secondary program planning to meet the General Sciences teachable minor requirement must complete 6 credit hours of study in introductory (100-level) course work in each of Biology, Chemistry (at least one course with a lab component), Mathematics (at least one course, but preferably two courses, in calculus), and Physics (at least one course with a lab component). Applicants must also complete a minimum of 6 credit hours of upper-division study in three of the four teachable areas: Biology, Chemistry, Environmental Sciences, and Physics.

Applicants planning to meet the teachable major requirement in General Sciences must complete an additional 12 upper-division credit hours or course work from the four teachable areas: Biology, Chemistry, Environmental Sciences, and Physics.

## Geography Major and Minor

Applicants to the Geography major or minor programs must include courses from both cultural and physical geography within their program, as well as course work in regional and environmental studies.

Bachelor of Education applicants to the Secondary program planning to meet the Geography teachable minor requirement must complete a minimum of 6 credit hours of introductory (100-level) or survey courses in each of Geography, History, and a social science.

Applicants must also complete a minimum of an additional 6 credit hours lower-division geography course work and 18 credit hours of upper-division geography. A minimum of 6 credit hours must have a significant Canadian content.

Applicants planning to meet the Geography teachable major requirement must complete an additional 12 credit hours of upper-division course work in geography.

## History Major and Minor

Applicants to the History major or minor programs must include both Canadian and European history course work within their program, as well as the history of any region other than Canada or Europe.

Bachelor of Education applicants to the Secondary program planning to meet the History teachable minor requirement must complete a minimum of 6 credit hours of introductory (100-level) or survey courses in each of Geography, History, and a social science.

Applicants must also complete a minimum of an additional 6 credit hours of lower-division history course work and 18 credit hours of upper-division history. A minimum of 6 credit hours must have a significant Canadian content.

Applicants planning to meet the History teachable major requirement must complete an additional 12 credit hours of upper-division work in history.

## Mathematics Major and Minor

Bachelor of Education applicants to the Secondary program planning to meet the Mathematics teachable minor requirement must complete a minimum of 30 credit hours of study of which at least 18 credit hours must be at the upper-division level. The upper-division credit hours must include at least one course in three of the following areas: algebra, calculus, probability and statistics, geometry, and number theory.

Applicants planning to meet the Mathematics teachable major requirement must complete an additional 12 credit hours of upper-division Mathematics course work in the above-listed disciplines.

## Physics Major and Minor

Bachelor of Education applicants to the Secondary Stream planning to meet the Physics teachable minor requirement must have completed a minimum of 6 credit hours of introductory (100-level) course work in each of Biology, Chemistry (at least one course with a lab component), Mathematics (at least one course, but preferably two courses, in calculus), and Physics (at least one course with a lab component). Applicants must also complete an additional 6 to 12 credit hours of study in Physics at the lower division, and 18 credit hours of upper-division course work in Physics. The course work must demonstrate both lecture and laboratory studies.

Applicants planning to meet the Physics teachable major requirement must complete an additional 12 credit hours of upper-division course work in Physics.

## Social Studies Majors and Minors

Teachable areas that can be included within the Social Studies major and minor include Geography, History and acceptable Social Sciences (Anthropology, Economics, Environmental Studies, First Nations Studies, International Studies, Northern Studies, Political Science, Sociology, and Women's Studies).

Bachelor of Education applicants to the Secondary program planning to meet the Social Studies teachable minor requirement must have completed a minimum of 12 upper-division credit hours in a social science teaching area (including Anthropology, Economics, Environmental Studies, First Nations Studies, International Studies, Northern Studies, Political Science, Sociology, and Women's Studies) acceptable in British Columbia secondary schools.

In addition, applicants must meet the minimum requirements for Geography (9 credit hours of which 3 credit hours must be at the upper-division level, 3 credit hours must be Canadian Geography, and 3 credit hours can be at any level), and History (18 credit hours of which 6 credit hours must be at the upper-division level, 3 credit hours must be in Canadian history, 3 credit hours must be in European history, 3 credit hours must be in a region other than Canada or Europe, and 3 credit hours can be at any level).

Applicants planning to meet the Social Studies teachable major requirements must complete an additional 15 credit hours at the upper-division level course work (3 credit hours must be in geography, 3 credit hours must be in history, and 6 credit hours must be in the social sciences, and 3 credit hours can be in history, geography, or the social sciences).

## Access Initiative

The Education Program at UNBC has initiated a program designed to give access to individuals who are members of groups in our society which have historically been under-represented in the teaching profession in British Columbia. In order to achieve this objective, we encourage applicants who have confronted identifiable barriers to post-secondary education to apply under the Access Initiative. All applicants for UNBC's teacher education program must submit a Personal Statement. Applicants who wish to apply under the Access Initiative may identify themselves in their Personal Statement Form to be considered under the Access Initiative.

## Criminal Records Review

In addition to the admission application requirements outlined above, applications are required to undergo a criminal record review and provide evidence of this prior to being considered for admission. Refer to Undergraduate Regulations and Policies (Academic Regulation 20) in this Calendar.

## Admission Decisions

Applications for admission can be obtained from either the Office of the Registrar, or from the School of Education. For further information concerning the application process, please contact either the Office of the Registrar or the School of Education.

Admissions rankings are determined by a combination of GPA, experience with children, a personal statement, and letters of reference.

# Education Diploma in a First Nations Language and Culture (Elementary Years)

The Education Diploma in a First Nations Language and Culture is a minimum 92 credit hour teacher education program that prepares individuals to teach an approved First Nations language and culture at the Elementary Years level.

This program of study has been developed in partnership with the Language Authority for each First Nation. This model reflects the current thinking about building on the rich linguistic and cultural heritage of students to optimize the match between educational theory, children's level of cognitive and social development, and the particular First Nations language and culture. Successful completion of this program of study will lead to a recommendation to the BC Ministry of Education - Teacher Regulation Branch that a Developmental Standard Term Certificate in the specific First Nations Language and Culture be granted. The Education Diploma in a First Nations Language and Culture is designed to educate teachers to combine pedagogical excellence across disciplinary areas with a learner-centered approach to practice. Philosophically, the program is designed around constructivist principles, and it emphasizes approaches to practice such as inquiry-based learning, strategies for instruction, integration of language and culture across the curriculum, inclusion of diverse learners and perspectives, and the development of caring and respectful practice.

Programs of study leading to recommendation for this teaching credential are available for Gitksan Language and Culture, Nisga'a Language and Culture, Ts'msyen Language and Culture, and Dakelh / Carrier Language and Culture. The Education Diploma in a First Nations Language and Culture (Gitxsan) has been developed in partnership with the Siwiixo'osxwim Wilnatahl Gitxsanimx̲ Society. The Education Diploma in a First Nations Language and Culture (Nisga'a) has been developed in partnership with the Nisga'a Language Authority of Wilp Wilxo'oskwhl Nisga'a (WWN), and is offered at the WWN campus. The Education Diploma in a First Nations Language and Culture (Ts'msyen Sm'algyax) has been developed in partnership with the Ts'msyen Sm'algyax Language Authority and is offered at the Prince Rupert campus. The Education Diploma in a First Nations Language and Culture (Dakelh / Carrier) has been developed in partnership with the College of New Caledonia and with the Dakelh / Carrier Linguistic Society (Fort St. James) and the Lake Babine Education Authority (Burns Lake) and is offered in Fort St. James and Burns Lake respectively.

## Admission Requirements

Students selected for this program of study will be admitted according to the "Undergraduate Admissions" categories, criteria, and processes established by UNBC and specified in the early sections of this Undergraduate Calendar. In addition to the specified entrance requirements, applicants are encouraged to identify their fluency in the specific language (Gitksanimx, Nisga'a, Ts'msyen Sm'algyax, or Dakelh / Carrier language) and their knowledge of Gitksan culture and history, Nisga'a culture and history, Ts'msyen culture and history, or Dakelh / Carrier culture and history. Advanced placement in language courses may be considered for speakers who are able to demonstrate their fluency in the language.

There are two points of entry to this program of study: following the completion of the Diploma in First Nations Language, or concurrently while completing the required First Nations Studies and general academic coursework. Students must be admitted to this program of study prior to beginning their professional education courses. The Certificate in First Nations Language, and the Diploma in First Nations Language are described in the First Nations Studies section of the Calendar.

### Criminal Records Review

In addition to the admission application requirements outlined for admission to UNBC, applicants are required to undergo a criminal record review and provide evidence of this prior to being considered for admission to the Education Diploma in a First Nations Language and Culture (Elementary Years). Refer to Undergraduate Regulations and Policies (Academic Regulation 20) in this Calendar.

## Program Requirements

### First Nations Studies Credit Hours

The required First Nations Studies credits can be met by completing a Diploma in First Nations Language. Students will need to include the following First Nations Studies language, linguistics and culture courses in their program of study:

Language (33 credit hours):

A First Nations Language: Levels 1-4 in Gitksanimx or Nisga'a (FNST 131-3, FNST 132-3, FNST 231-3, FNST 232-3);
or Gitksanimx (FNST 143-3, FNST 144-3, FNST 243-3, FNST 244-3);
or Nisga'a: (FNST 139-3, FNST 140-3, FNST 239-3, FNST 240-3);
or Levels 1-4 in Sm'algyax (FNST 137-3, FNST 138-3. FNST 237-3, FNST 238-3);
or Levels 1-4 in Dakelh / Carrier (FNST 133-3, FNST 134-3. FNST 233-3, FNST 234-3); and FNST 223-3, FNST 321-3, FNST 322-3, FNST 324-3, FNST 325-3, FNST 421-3, FNST 422-3 (Gitksanimx, Nisga'a, Sm'algyax or Dakelh / Carrier)

Linguistics (9 credit hours):
FNST 220-3, FNST 320-3, FNST 420-3

Culture Studies (9 credit hours):
FNST 161-3 (or Gitksan: FNST 173-3 or Nisga'a: FNST 169-3 or Sm'algyax: FNST 167-3 or Dakelh / Carrier: FNST 164-3)

FNST 162-3 (or Gitksan: FNST 174-3 or Nisga'a: FNST 170-3 or Ts'msyen: FNST 168-3 or Dakelh / Carrier: FNST 164-3)

FNST 217-3

### General Academic Coursework

The required general academic coursework of 18 credit hours can be met with the following courses (some of these credit hours may be completed as part of the Diploma in First Nations Language):

3 credit hours English Composition-Suggested: ENGL 170-3 or equivalent
3 credit hours English Literature-Suggested: ENGL 103-3, ENG 120-3, ENGL 210-3, ENGL 260-3 or equivalent
3 credit hours Mathematics-Suggested: MATH 190-4 or equivalent
3 credit hours Lab Sciences-Suggested: BIOL 103-3 and BIOL 123-1, or BIOL 110-3 and BIOL 111-1, or equivalent
6 credit hours of Canadian Studies (3 credit hours History and 3 credit hours Geography recommended) Suggested: FNST 100-3, FNST 350-3, GEOG 203-3, HIST 210-3, HIST 302-3 or equivalent

### Professional Education Coursework (Gitksanimx and Nisga'a)

| | |
|---|---|
| EDUC 380-3 | Foundations of Education |
| EDUC 333-2 | Learning, Development and Motivation |
| EDUC 341-2 | Principles of Instruction |
| EDUC 342-2 | Social Dynamics of Classrooms |
| EDUC 351-2 | Curriculum and Instruction: Second Language |
| EDUC 356-2 | Language and Literacy Development |
| EDUC 446-2 | Aboriginal Education: Epistemology |
| EDUC 435-2 | Learning and Diversity: Inclusive Classrooms |
| EDUC 390-3 | Classroom Practice and Seminar 1 |
| EDUC 391-3 | Classroom Practice and Seminar 2 |

### Professional Education Coursework (Ts'msyen Sm'algyax and Nak'azdli Dakelh / Carrier)

| | |
|---|---|
| EDUC 380-3 | Foundations of Education |
| EDUC 333-2 | Learning Development and Motivation |
| EDUC 341-2 | Principles of Instruction Social |
| EDUC 342-2 | Dynamics of Classrooms |
| EDUC 351-2 | Curriculum and Instruction: Second Language |
| EDUC 356-2 | Language and Literacy Development |
| EDUC 446-2 | Aboriginal Education: Epistemology |
| EDUC 435-2 | Learning and Diversity: Inclusive Classrooms |
| EDUC 390-3 | Classroom Practice and Seminar 1 |
| EDUC 392-3 | Classroom Practice and Seminar: First Nations Language and Culture |

## Diploma and BEd Academic Regulations

For the purpose of determining eligibility for recommending a teacher candidate for certification by the Teacher Regulation Branch, the minimum requirements include successful completion of the Education program with a C+ on each Education course taken while enrolled in the Program. Courses for which a grade of lower than a C+ was received must be repeated.

The Education Program reserves the right at any time to require any teacher candidate to withdraw from UNBC if it believes on consideration of academic, professional fitness or professional conduct that the student is unsuitable for the teaching profession. Unsatisfactory performance in any aspect of the program may be considered reason to require a teacher candidate to withdraw from the Program.

Regular attendance is expected of all teacher candidates in all courses. An instructor can initiate procedures to debar a teacher candidate from attending classes and from final examinations where unexcused absences exceed three hours of scheduled classes in one term.

If re-admission is approved following required or voluntary withdrawal from a practicum and/or program, the teacher candidate will normally be re-admitted on probationary status.

Appeals should first be submitted to the BEd Admissions and Standards Committee. If a teacher candidate is not satisfied with the outcome of that process, he/she may then file an appeal with UNBC's Senate Committee on Academic Appeals (see "Appeals Process" Academic Regulation 50 under Regulations and Policies).
Teacher candidates are not allowed to use 500, or higher, level courses from the Education Program, or any other program to meet degree requirements.

Students who plan to undertake work at other institutions are required to seek prior approval from the Office of the Registrar and the Chair of Education if they wish such courses to be credited toward a BEd degree at UNBC.

## Diploma and BEd Teaching Practicum Regulations

All arrangements for school placements are made through the School of Education.

Teacher candidates taking the Classroom Practice & Seminar courses must be prepared to travel to any regional school district. In order to do this, teacher candidates should budget for transportation. Practica may be arranged in other selected districts. Extra expenses will be involved and teacher candidates should budget accordingly.

Teacher candidates must successfully complete all first-year courses before they will be allowed to proceed to second-year courses and commence their second-year field placements. These requirements include the completion of core assignments designed to link theory and practice.

UNBC's Education Program reserves the right to approve or disapprove any school placement for teacher candidates, to place teacher candidates in schools, and to change any placement assigned to a teacher candidate. The teacher candidate must be informed in writing of the reasons for any required change in placement. UNBC bears no responsibility for the costs associated with a change in placement.

The Education Program is responsible for seeking a sufficient number of school placements to serve the needs of all enrolled teacher candidates. A teacher candidate may be required to withdraw from a Classroom Practice & Seminar course if none of the available schools will accept that particular teacher candidate.

UNBC's Education Program reserves the right to provide information to the principal of a school for a practicum placement for a particular teacher candidate where it is deemed necessary for the principal to have the information in order to carry out his/her duties as a principal. The School of Education must inform the principal if concerns have been raised within the Education Program or in a previous practicum placement about a more than usual potential for a negative impact on the quality of the learning and/or working in the classroom and/or school as a result of the presence of the candidate teacher. The Chair or designate must inform the teacher candidate in writing of the reasons for the concerns giving rise to such notification to the principal.

The dates of the practica will be made known to the teacher candidates at the beginning of each term. Placement locations will be made available as soon as possible after classes have begun.

The expectations of teacher candidates during the practica will be published and distributed to all teacher candidates, Faculty Advisors/Practicum Supervisors, and Co-operating Teachers at the start of each year in the course outlines for the Classroom Practice & Seminar courses. Regular attendance during the practica is required. Teacher candidates are required to notify the school whenever classroom experience appointments cannot be kept and also inform their Faculty Advisor/Practicum Supervisor. Teacher candidates will be disbarred from the Classroom Practice & Seminar course if they have more than three unexcused absences.

All teacher candidates in the program placed in schools for classroom experience are subject to the provisions of the Schools Act, School Regulations, the British Columbia Teachers' Federation (BCTF) Code of Ethics, and any regulation and/or code of behaviour applicable to teachers and staff in the school. Any teacher candidate may be required to withdraw from a classroom experience for violation of any part of the School Act, School Regulations, the BCTF Code of Ethics, or upon written notice from the school principal or the superintendent in the district where the teacher candidate is placed.

Faculty Advisors/Practicum Supervisors or Co-operation Teachers who refuse teacher candidates' continued participation in a practicum experience for misconduct or repeated absence must immediately discuss the matter with the Practicum Placement Co-ordinator, who shall then either inform the teacher candidate of the conditions under which they may resume participation in the practica or inform the teacher candidate that the Chair of Education or Chair's designate is being advised that the teacher candidate's performance in the classroom experience is considered unsatisfactory by those responsible for supervision of the practicum experience.

### Denial and Withdrawal

Teacher candidates will be denied the practica placement if their preparatory course work is considered to be unsatisfactory (e.g., below C+ work, or incomplete work) by the BEd Co-ordinator.

Teacher candidates may be required to withdraw from a practicum experience if their performance in their school placement is considered to be unsatisfactory by the BEd Co-ordinator (based on written assessments by Faculty Advisor/Practicum Supervisor and/or Co-operating Teacher).

Teacher candidates seeking voluntary withdrawal from a practicum placement, whether permanent or temporary, must receive permission to do so from the Chair of Education. Teacher candidates should make this decision only after careful consideration of the possible impact on their practicum experience-based assignments.

Failure to give appropriate notice of withdrawal during a practicum placement, without consultation and approval of the Practicum Placement Co-ordinator, and/or BEd Co-ordinator, will result in withdrawal from UNBC's Education Program. Teacher candidates who withdraw voluntarily from a practicum placement must notify the Practicum Placement Co-ordinator in writing at least one week in advance of the commencement of the classroom placement. Teacher candidates who are required to withdraw from a practicum placement must make an appointment to see Practicum Placement Co-ordinator and the Chair of Education.

Teacher candidates who have withdrawn for any reason from a Classroom Practice & Seminar course, or who wish to re-enter, or re-take, the course must apply to the BEd Admissions and Standards Committee Chair for re-admission to the course. Teacher candidates should not assume that re-admission would automatically be granted. The number of times a teacher candidate can be re-admitted to Classroom Practice & Seminar courses is limited to once except in cases where there are dire circumstances beyond the teacher candidates' control as set out in the UNBC "Conditions of Academic Standing" (Academic Regulation 49). Teacher candidates will only be re-admitted to a Classroom Practice & Seminar course when, in the opinion of those responsible for the supervision of the previous attempt, there was evidence of significant progress toward meeting the outcomes for the practicum placement. Teacher candidates will not be re-admitted to any single Classroom Practice & Seminar more than once. Teacher candidates will not be re-admitted to a Classroom Practice & Seminar course if they have previously been re-admitted to any other Classroom Practice & Seminar course in any of UNBC's BEd programs.

## Part-Time Students in the BEd Program

The Bachelor of Education program at UNBC is a full-time study program. It is expected that all students registered in this program will be enrolled on a full-time basis. However, under exceptional circumstances, where students are unable to fulfill full-time study for family, personal, or health reasons, students may be allowed to continue the program on a part-time basis. Application to continue on a part-time basis must be submitted in writing to the Program Chair of Education and approved by the Dean of the College of Arts, Social and Health Sciences.

## BEd Graduation Requirements

To be eligible for a Bachelor of Education degree the candidate must normally have earned:

- A grade of C+ or better in all Education courses; and,
- A minimum GPA of 2.33 (C+).
- All teachers, administrators and supervisors employed in the province's Kindergarten to Grade 12 public school system must have a valid Ministry of Education teaching certificate. This includes full time, part time and teacher-on-call positions. If you would like to work in a BC public school, you must apply and provide all documentation to the BC Ministry of Education - Teacher Regulation Branch for a certificate and you must pay an annual practice fee to maintain your certficate.
- The Teacher Qualification Service: Salary categories for teachers are established by the Teacher Qualification Service upon application, and only when a British Columbia teaching credential has already been granted by the BC Ministry of Education - Teacher Regulation Branch. Categories are assigned on the basis of completed years of academic and professional preparation.
- Procedure and Documentation: Application forms for the BC Ministry of Education - Teacher Regulation Branch and the Teacher Qualification Service are available from the School of Education, as well as directly from the agencies or their respective websites (http://www.bcteacherregulation.ca and http://www.tqs.bc.ca).

# Post-Baccalaureate Diploma (Curriculum & Instructional Studies and Montessori Education)

Program Coordinator: Andrew Kitchenham
Willow Brown, Assistant Professor
Colin Chasteauneuf, Assistant Professor
Bryan Hartman, Professor
Judith Lapadat, Professor
Andrew Kitchenham, Associate Professor
Lantana Usman, Associate Professor
Peter MacMillan, Associate Professor
Dennis Procter, Assistant Professor

Website: www.unbc.ca/education/pbdp

The Post-Baccalaureate Diploma program and courses within it are designed to advance the professional knowledge and skills of practicing K-12 teachers. Diploma requirements are coherent with the BC Teacher Qualification requirement for 30 credits in a focused area of study for an increase in professional certification from level 4 to 5. Admission is on a course by course basis to accommodate teachers who may want to increase their competency or update their knowledge and skills in a particular area of instruction. Flexible admission also allows for teachers to select the variable number of courses required to increase professional standing to the "five plus" category currently administered by some school districts.

## Admission

Applicants applying for admittance to the Diploma Program require a four-year (120 credit hours) undergraduate degree from a UNBC-recognized university completed with a cumulative grade point average of 2.0 or better. Applicants must have the ability to study and work in English. An additional requirement for this Post-Baccalaureate Diploma is that students possess a current teaching certificate or are admitted with the approval of the admissions committee.

The number of spaces in each course offered in the Post-Baccalaureate Diploma program is limited; therefore, course registration will be on a first come first served basis until the specified course is full. This program admits new students three times per year, at the start of each term: October 30 for the January Term, April 30 for July/August courses, and June 30 for the September Term.

To accommodate practicing teachers, Diploma courses are offered in the late afternoon or evening, on weekends, and during the summer. It is recommended that students plan to make full use of the Summer Session offerings to complete the Diploma within the ten year time limit. It is recommended that students complete the two compulsory courses early in their program of studies.

Applicants are required to submit proof of a recent criminal records check (within five years). Students are expected to abide by expectations for professional conduct for the teaching profession in British Columbia.

## Program Requirements

Completion of a Post-Baccalaureate Diploma is achieved with 30 credits of coursework, including two compulsory courses and eight electives taken entirely from one or the other focus areas. The focus areas offered at this time are Curriculum and Instructional Studies and Montessori Education.

Students may be granted credit for up to 15 credits of upper-division coursework from another recognized institution, provided that such courses have not been associated with the receipt of a degree or diploma.

### Required Courses

EDUC 500-3 Teacher Leadership

One of the following:

- EDUC 501-3 Action Research in Schools and Classrooms
- EDUC 502-3 Interpretation and Application of Educational Research

### Elective Courses (Curriculum and Instructional Studies)

EDUC 504-3 Instructional Leadership for Cooperating Teachers (a weekend seminar to follow classroom supervision of extended B.Ed. practicum and to reflect on these mentorship experiences in terms of the instructional leadership literature)
EDUC 521-3 Classroom Assessment Practices
EDUC 523-3 Teaching for Social Responsibility
EDUC 528-3 Numeracy Strategies for Struggling Learners
EDUC 531-3 Applications of Educational Technology
EDUC 533-3 Human Development: Implications for Education
EDUC 534-3 Achievement Motivation
EDUC 535-3 Learning and Diversity: Inclusive Classrooms
EDUC 541-3 Principles of Instruction
EDUC 546-3 First Nations Education
EDUC 551-3 Mathematics Education
EDUC 552-3 Science Education
EDUC 553-3 Social Studies Education
EDUC 554-3 Literacy Strategies for Struggling Learners
EDUC 558-3 Language Arts Education
EDUC 559-3 Second Language Instruction
EDUC 580-3 Visual Arts Across the Curriculum
EDUC 581-3 Performing Arts Across the Curriculum
EDUC 592-3 Special Topics

(no limit as to the number of these courses)
EDUC 593-3 Directed Readings
EDUC 594-3 Self-Directed Professional Development

### Elective Courses (Montessori Education)

EDUC 570-3 Montessori Theory
EDUC 571-3 Montessori Curriculum and Instruction: Language
EDUC 572-3 Montessori in Context: Child Development
EDUC 573-3 Montessori Curriculum and Instruction: Scientific Literacy
EDUC 574-3 Montessori Curriculum and Instruction: Mathematics
EDUC 575-3 Montessori Integrated Cultural Studies and Field Study Planning
EDUC 576-3 Montessori Integrated Studies Field Study
EDUC 577-3 Montessori Portfolio

# English (BA Program)

Karin Beeler, Professor and Chair
Stan Beeler, Professor
Robert Budde, Professor
Dee Horne, Professor
Lisa Dickson, Associate Professor
Kristen Guest, Associate Professor
Kevin Hutchings, Professor; Canada Research Chair in Literature, Culture, and Environmental Studies
Maryna Romanets, Associate Professor
Blanca Schorcht, Associate Professor
Deborah Keahey, Adjunct Professor

Website: www.unbc.ca/english

UNBC's English program includes course offerings in Canadian, British, American and International English literatures as well as world literature in English translation, and literary theory. Key areas include First Nations Literature, Canadian Literature, Comparative Literature, Women's Literature, Feminist Criticism and Theory, literature and media technology, and the relationship between literature and other disciplines. Creative writing and other kinds of writing courses are also available. The program encourages interdisciplinarity between literature, cultural studies, and science or technology. Computer literacy is a priority, as is the delivery of courses on the World Wide Web. The interdisciplinary perspective prepares students for a number of graduate or professional programs (e.g. English, Journalism, Creative Writing, Law, Education, Business) or employment in the public or private sectors.

## Major in English

The major in English requires students to take eighteen English courses (54 credit hours) at least 30 credit hours of which must be upper-division courses (300 and 400 level) with at least 9 credit hours of these at the 400 level. Students wishing to take more than 66 credit hours in English must obtain written permission from the Department Chair.

The minimum requirement for completion of a Bachelor of Arts with a major in English is 120 credit hours.

### Program Requirements

#### Subject Requirement

The major in English requires students to take 18 courses (54 credit hours) of English or approved ancillary courses and must include:

Introductory
ONE of

| | |
|---|---|
| ENGL 100-3 | Introduction to Literary Structures |
| ENGL 102-3 | Introduction to Poetry |
| ENGL 103-3 | Introduction to Fiction |
| ENGL 104-3 | Introduction to Film |

Foundational Surveys
BOTH of:

| | |
|---|---|
| ENGL 211-3 | Survey of English Literature I |
| ENGL 212-3 | Survey of English Literature II |

Theory
ONE of

| | |
|---|---|
| ENGL 200-3 | Gender and Literary Theory |
| ENGL 300-3 | Theory |
| ENGL 400-3 | Contemporary Theory |

Lower-Division Requirements
TWO of

| | |
|---|---|
| ENGL 209-3 | Introduction to Television Studies |
| ENGL 210-3 | Women and Literature: A Survey |
| ENGL 231-3 | An Introduction to Canadian Literature |
| ENGL 280-3 | Shakespeare |
| ENGL 281-3 | Introduction to Renaissance Literature |
| ENGL 282-3 | Introduction to Restoration and 18th Century Literature |
| ENGL 283-3 | Introduction to Romantic Literature |
| ENGL 284-3 | Introduction to Victorian Literature |
| ENGL 285-3 | Modern British Literature |

Upper-Division Requirements
TWO of

| | |
|---|---|
| ENGL 309-3 | Intermediate Studies in Film or Television |
| ENGL 320-3 | First Nations Literature |
| ENGL 331-3 | Genres in Canadian Literature |
| ENGL 340-3 | Postcolonial Literature |
| ENGL 350-3 | Comparative Literature |
| ENGL 381-3 | Renaissance Literature |
| ENGL 382-3 | Restoration and 18th Century Literature |
| ENGL 383-3 | Romantic Literature |
| ENGL 384-3 | Victorian Literature |
| ENGL 386-3 | 19th Century Literature in the US |
| ENGL 410-3 | Contemporary Women's Literature |
| ENGL 420-3 | Special Topics in First Nations Literature |
| ENGL 430-3 | Special Topics in Canadian Literature |
| ENGL 440-3 | Postcolonial Literature I |
| ENGL 450-3 | Special Topics in Comparative Literature |
| ENGL 483-3 | Special Topics in Romantic Literature |
| ENGL 484-3 | Special Topics in Victorian Literature |
| ENGL 485-3 | Special Topics in Modern and Contemporary Literature in the United States |
| ENGL 491-3 | Special Topics in Renaissance Literature |

PLUS
Upper-Division Requirement
Seven upper-division ENGL courses (21 credit hours) at the 300 or 400 level
Three upper-division ENGL courses (9 credit hours) at the 400 level

### Approved Ancillary Courses for a Major in English

A maximum of three ancillary courses (9 credit hours) may be counted towards the English major requirements, but none may be counted towards an English minor.

| | |
|---|---|
| WMST 304-3 | Contemporary Women's Writing in an International Frame |
| WMST 306-3 | Indigenous Women: Perspectives |
| WMST 309-3 | Gender and Film |
| WMST 311-3 | History of Feminism |
| WMST 401-3 | Cultural Studies: Gender, Race and Representation |
| WMST 411-3 | Contemporary Feminist Theories |

Students planning to continue on to a graduate degree in English should consult with English faculty and/or the receiving institution to assist them in determining which courses are most appropriate in fulfilling the additional ten courses (30 credit hours) of English subject requirements.

### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

## Joint Major in English and Environmental Studies

The English/Environmental Studies joint major equips students with communication skills and knowledge of environmental issues, regulations and policies. The major prepares students to have a positive influence on the environment through written and other forms of expression. This joint major is of particular interest to students who wish to pursue a career in environmental writing, creative non-fiction, science writing and/or journalism.

## Program Requirements

### Lower-Division Requirement

| | |
|---|---|
| ENGL104-3 | Introduction to Film |
| ENGL 209-3 | Introduction to TV Studies |
| ENGL 231-3 | An Introduction to Canadian Literature |
| ENGL 283-3 | Introduction to Romantic Literature |
| BIOL 110-3 | Introductory Ecology |
| FNST 100-3 | The Aboriginal Peoples of Canada |
| ENVS 101-3 | Introduction to Environmental Citizenship |
| GEOG 101-3 | Human Geographies of Global Change |
| PHIL 202-3 | Comparative Religion |
| or FNST 303-3 | First Nations Religion and Philosophy |

**Note:** CPSC 150-3 (Computer Applications) is recommended for students without computing experience.

One of:

| | |
|---|---|
| ENGL 102-3 | Poetry |
| ENGL 103-3 | Fiction |
| ENGL 270-3 | Expository Writing |
| ENGL 271-3 | Creative Writing |

One of:

| | |
|---|---|
| ENGL 200-3 | Gender and Literary Theory |
| ENGL 300-3 | Theory |
| ENGL 400-3 | Contemporary Theory |

One of:

| | |
|---|---|
| ENGL 211-3 | Survey of English Literature I |
| ENGL 212-3 | Survey of English Literature II |
| ENGL 284-3 | Introduction to Victorian Literature |
| ENGL 285-3 | Modern British Literature |

One of:

| | |
|---|---|
| NREM 101-3 | Introduction to Natural Resources Management and Conservation |
| GEOG 206-3 | Society and Space |
| INTS 101-3 | Canada and the World |

### Upper-Division Requirement

The following ten courses (30 credit hours) of environmental courses at the 300 or 400 level:

| | |
|---|---|
| ENVS 309-3 | Gender and Environment |
| or HIST 421-3 | Special Topics in Environmental History |
| or INTS 470-3 | International Environmental Policy |
| ENVS 325-3 | Global Environmental Change: Science and Policy |
| ENVS 326-3 | Natural Resources, Environmental Issues and Public Engagement |
| HIST 360-3 | Introduction to Environmental History |
| NREM 303-3 | First Nations' Approaches to Resource Management |
| or FNST 304-3 | Indigenous Environmental Philosophy |
| NREM 306-3 | Society, Policy and Administration |
| ENVS 414-3 | Environmental and Professional Ethics |
| ENVS 440-3 | Internship |
| or ENGL 444-(2-6) | Internship |
| GEOG 420-3 | Geographies of Environmental Justice |
| or GEOG 305-3 | Political Ecology |
| PSYC 408-3 | Environmental Problems and Human Behaviour |
| or ORTM 408-3 | The Psychology of Recreation and Tourism |

Eight courses (24 credit hours) of English courses at the 300 or 400 level:

One of:

| | |
|---|---|
| ENGL 309-3 | Intermediate Studies in Film or Television |
| ENGL 331-3 | Genres in Canadian Literature |
| ENGL 383-3 | Romantic Literature |
| ENGL 384-3 | Victorian Literature |

Two of:

| | |
|---|---|
| ENGL 430-3 | Special Topics in Canadian Literature |
| ENGL 431-3 | Northern BC Literature |
| ENGL 480-3 | Science Fiction |
| ENGL 483-3 | Special Topics in Romantic Literature |
| ENGL 486-3 | Literature of the Fantastic |
| ENGL 493-3 | Cultural Studies |

Five additional English courses (15 credit hours) are required to ensure the fulfillment of the 24 credit hour upper-division requirement in English. Two courses may be chosen from the following list of English ancillary courses:

| | |
|---|---|
| WMST 304-3 | Contemporary Women's Writing in an International Frame |
| WMST 306-3 | Indigenous Women: Perspectives |
| WMST 309-3 | Gender and Film |
| WMST 401-3 | Cultural Studies: Gender, Race and Representation |
| WMST 411-3 | Contemporary Feminist Theories |

### Elective and Academic Breadth

Elective credit hours as necessary to ensure a minimum of 120 credit hours including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15). Electives may be at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours.

## Joint Major in English/History

The minimum requirement for completion of a Bachelor of Arts with a Joint Major in English and History is 120 credit hours.

## Program Requirements

### Lower-Division Requirement

| | |
|---|---|
| ENGL 211-3 | Survey of English Literature I |
| ENGL 212-3 | Survey of English Literature II |
| HIST 190-3 | World History to 1550 |
| HIST 191-3 | World History since 1550 |

One of:

| | |
|---|---|
| ENGL 100-3 | Introduction to Literary Structures |
| ENGL 102-3 | Introduction to Poetry |
| ENGL 103-3 | Introduction to Fiction |
| ENGL 104-3 | Introduction to Film |

One of:

| | |
|---|---|
| ENGL 200-3 | Gender and Literary Theory |
| ENGL 300-3 | Theory |
| ENGL 400-3 | Contemporary Theory |

Two of:

| | |
|---|---|
| ENGL 210-3 | Women and Literature: A Survey |
| ENGL 280-3 | Shakespeare |
| ENGL 281-3 | Introduction to Renaissance Literature |
| ENGL 282-3 | Introduction to Restoration and 18th Century Literature |
| ENGL 283-3 | Introduction to Romantic Literature |
| ENGL 284-3 | Introduction to Victorian Literature |
| ENGL 285-3 | Modern British Literature |
| ENGL 381-3 | Renaissance Literature |
| ENGL 382-3 | Restoration and 18th Century Literature |
| ENGL 383-3 | Romantic Literature |
| ENGL 384-3 | Victorian Literature |
| ENGL 386-3 | 19th Century Literature in the United States |

Three additional courses (9 credit hours) of History at the 100 or 200 level.

### Upper-Division Requirement

Of the thirteen English courses (39 credit hours) required for this degree, at least seven courses (21 credit hours ) must be at the 300 and 400 level, with at least two of those seven courses (6 of those 21 credit hours) at the 400 level.

| | |
|---|---|
| HIST 300-3 | Historiography: The Nature of the Historical Discipline |

Two of:

| | |
|---|---|
| ENGL 320-3 | First Nations Literature |
| ENGL 331-3 | Genres in Canadian Literature |
| ENGL 340-3 | Postcolonial Literature |
| ENGL 350-3 | Comparative Literature |
| ENGL 410-3 | Contemporary Women's Literature |
| ENGL 420-3 | Special Topics in First Nations Literature |
| ENGL 430-3 | Special Topics in Canadian Literature |
| ENGL 440-3 | Postcolonial Literature I |
| ENGL 450-3 | Special Topics in Comparative Literature |

Six courses (18 credit hours) in History at the 300 or 400 level.

Five additional English courses (15 credit hours) ensuring fulfillment of the upper-division requirement. Two courses may be chosen from the following list of English ancillary courses:

| | |
|---|---|
| WMST 304-3 | Contemporary Women's Writing in an International Frame |
| WMST 309-3 | Gender and Film |
| WMST 306-3 | Indigenous Women: Perspectives |
| WMST 311-3 | History of Feminist Theories |
| WMST 401-3 | Cultural Studies: Gender, Race and Representation |
| WMST 411-3 | Contemporary Feminist Theories |

### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

## Joint Major in English/Political Science

The minimum requirement for completion of a Bachelor of Arts with a Joint Major in English and Political Science is 120 credit hours.

## Program Requirements

### Lower-Division Requirement

ECON 205-3 Statistics for the Social and Management Sciences
or STAT 240-3 Basic Statistics
ENGL 211-3 Survey of English Literature I
ENGL 212-3 Survey of English Literature II
POLS 100-3 Contemporary Political Issues
POLS 200-3 Canadian Government and Politics
POLS 202-3 Canada in Comparative Perspective
POLS 270-3 Political Philosophy: Antiquity to Early Modernity
POLS 290-3 Research and Writing for Political Science

One of:
- ENGL 100-3 Introduction to Literary Structures
- ENGL 102-3 Introduction to Poetry
- ENGL 103-3 Introduction to Fiction
- ENGL 104-3 Introduction to Film

One of:
- ENGL 200-3 Gender and Literary Theory
- ENGL 300-3 Theory
- ENGL 400-3 Contemporary Theory

Two of:
- ENGL 210-3 Women and Literature: A Survey
- ENGL 280-3 Shakespeare
- ENGL 281-3 Introduction to Renaissance Literature
- ENGL 282-3 Introduction to Restoration and 18th Century Literature
- ENGL 283-3 Introduction to Romantic Literature
- ENGL 284-3 Introduction to Victorian Literature
- ENGL 285-3 Modern British Literature

### Upper-Division Requirement

Of the thirteen English courses (39 credit hours) required for this joint major, seven courses (21 credit hours)must be at the 300 and/or 400 level, with at least two of those seven courses (6 of those 21 credit hours) at the 400 level.

POLS 303-3 Democracy and Dictatorship
POLS 370-3 Political Philosophy: Early Modernity to Post-Modernity

Two of:
- ENGL 320-3 First Nations Literature
- ENGL 331-3 Genres in Canadian Literature
- ENGL 340-3 Postcolonial Literature
- ENGL 350-3 Comparative Literature
- ENGL 381-3 Renaissance Literature
- ENGL 382-3 Restoration and 18th Century Literature
- ENGL 383-3 Romantic Literature
- ENGL 384-3 Victorian Literature
- ENGL 386-3 19th Century Literature in the United States
- ENGL 410-3 Contemporary Women's Literature
- ENGL 420-3 Special Topics in First Nations Literature
- ENGL 430-3 Special Topics in Canadian Literature
- ENGL 440-3 Special Topics in Postcolonial Literature I
- ENGL 450-3 Special Topics in Comparative Literature

One 300-level POLS course

One 400-level POLS course

Five additional English courses (15 credit hours). Up to two of the following ancillary courses (up to 6 credit hours) may be counted among those five additional courses:

WMST 306-3 Indigenous Women: Perspectives
WMST 309-3 Gender and Film
WMST 311-3 History of Feminism
WMST 401-3 Cultural Studies: Gender, Race and Representation
WMST 411-3 Contemporary Feminist Theories

Three additional courses (9 credit hours) of Political Science at the 300 or 400 level.

### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

## Joint Major in English/Women's Studies

The minimum requirement for completion of a Bachelor of Arts with a Joint Major in English and Women's Studies is 120 credit hours.

## Program Requirements

### Lower-Division Requirement

WMST 100-3 Introduction to Women's Studies
ENGL 211-3 Survey of English Literature I
ENGL 212-3 Survey of English Literature II

One of:

| | |
|---|---|
| ENGL 200-3/ WMST 220-3 | Gender and Literary Theory |
| ENGL 210-3/ WMST 221-3 | Women and Literature: A Survey |

One of:

| | |
|---|---|
| ENGL 100-3 | Introduction to Literary Structures |
| ENGL 102-3 | Introduction to Poetry |
| ENGL 103-3 | Introduction to Fiction |
| ENGL 104-3 | Introduction to Film |

6 credit hours of Women's Studies at the 100 or 200 level.

### Upper-Division Requirement

| | |
|---|---|
| WMST 302-3 | Women and the Contemporary World |
| WMST 307-3 | Qualitative Research Methods |
| HIST 311-3 | History of Feminism |
| or WMST 311-3 | History of Feminism |
| ENGL 410-3 | Contemporary Women's Literature |
| or WMST 420-3 | Contemporary Women's Literature |

One of:

| | |
|---|---|
| ENGL 300-3 | Theory |
| ENGL 400-3 | Contemporary Theory |

One of:

| | |
|---|---|
| ENGL 320-3 | First Nations Literature |
| ENGL 331-3 | Genres in Canadian Literature |
| ENGL 350-3 | Comparative Literature |
| ENGL 410-3 | Contemporary Women's Literature |
| ENGL 420-3 | Special Topics in First Nations Literature |
| ENGL 430-3 | Special Topics in Canadian Literature |
| ENGL 440-3 | Postcolonial Literature I |
| ENGL 450-3 | Special Topics in Comparative Literature |

### Additional Requirements

Two of:

| | |
|---|---|
| ENGL 280-3 | Shakespeare |
| ENGL 281-3 | Introduction to Renaissance Literature |
| ENGL 282-3 | Introduction to Restoration and 18th Century Literature |
| ENGL 283-3 | Introduction to Romantic Literature |
| ENGL 284-3 | Introduction to Victorian Literature |
| ENGL 285-3 | Modern British Literature |
| ENGL 381-3 | Renaissance Literature |
| ENGL 382-3 | Restoration and 18th Century Literature |
| ENGL 383-3 | Romantic Literature |
| ENGL 384-3 | Victorian Literature |

9 credit hours of English courses at the 300 or 400 level.

At least 15 credit hours selected from the following:

| | |
|---|---|
| WMST 303-3 | Lesbian and Bisexual Lives |
| WMST 304-3 | Contemporary Women's Writing in an International Frame |
| WMST 306-3/ FNST 306-3 | Indigenous Women: Perspectives |
| WMST 309-3 | Gender and Film |
| WMST 312-3/ HIST 312-3 | Introduction to the History of Gender |
| WMST 401-3 | Cultural Studies: Gender, Race, and Representation |
| WMST 410-3 | Feminist Political Philosophy |
| WMST 411-3 | Contemporary Feminist Theories |
| WMST 413-(3-6)/ FNST 413-(3-6) | Topics in Aboriginal Women |
| WMST 498-(3-6) | Selected Topics |
| ANTH 401-3 | Anthropological Perspectives on Inequality |
| ANTH 406-3 | Feminist Perspectives in Anthropology |
| COMM 333-3 | Women in Organizations |
| ECON 301-3 | Women and the Economy |
| ENVS 309-3 | Gender and Environment |
| FNST 307-3 | Race, Class, Gender, Power |
| HIST 309-3 | Women in Canada |
| HIST 453-3 | Topics in the History of Gender |
| HIST 454-3 | Topics in Women's History |
| INTS 308-3 | Gender and International Studies |
| NURS 412-3 | Women and Health |
| POLS 403-3 | Social and Health Policy and Administration |
| POLS 434-3 | Resource Communities in Transition |
| SOCW 433-3 | Women in the Human Services |
| SOCW 449-3 | Gender and Sexuality |

### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

## Minor in English

The minor in English requires that students take at least six English courses (18 credit hours), at least four (12 credit hours) of which must be upper-division. A maximum of two courses (six credit hours) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in English. The minor must include:

One of:

| | |
|---|---|
| ENGL 200-3 | Gender and Literary Theory |
| ENGL 300-3 | Theory |
| ENGL 400-3 | Contemporary Theory |

Five English courses selected to ensure a minimum of four courses are completed at the 300 or 400 level.

## Fine Arts and Creative Writing Joint Major (BFA Program)

**See Calendar entry under Bachelor of Fine Arts**

# Environmental Programs (BASc, BA, and BSc Programs)

Environmental and ecological problems are of increasing concern to Canadians. In northern British Columbia, the concerns are especially acute in a primarily resource-based economy. The Environmental Programs recognize the complex nature of these issues through the integrated approach contained in the three degree offerings: the Joint UNBC/UBC Bachelor of Applied Science in Environmental Engineering, the Bachelor of Arts in Environmental Studies, and the Bachelor of Science in Environmental Science.

Website: www.unbc.ca/environmental-programs

# Environmental Engineering (BASc Program)

Todd Whitcombe, Associate Professor and Chair
Joselito Arocena, Professor
Peter Jackson, Professor
Philip Owens, Professor and Endowed Research Chair in Landscape Ecology
Michael Rutherford, Professor
Youmin Tang, Professor, and Canada Research Chair, Climate Prediction and Predictability
Ron Thring, Professor, and Co-Director
Stephen Dery, Associate Professor, and Canada Research Chair, Northern Hydrometeorology
Jianbing Li, Associate Professor, and Co-Director
Jueyi Sui, Associate Professor
Steve Helle, Assistant Professor
Belinda Larisch, Adjunct Professor

Website: www.unbc.ca/engineering

Engineers serve society across a wide range of economic sectors, and an increased number of engineering graduates are needed by the province to assure its economic growth and maintain its high quality of life. Therefore, future development decisions in most major sectors of the British Columbia economy must fully integrate environmental and economic factors. Problems in water, air and soil pollution control and remediation, solid waste management, mine waste disposal, and geo-environmental engineering require highly skilled engineers with a solid background in environmental engineering, strong communication skills and the ability to work across disciplines. The program prepares graduates for a wide range of employment opportunities where the technical expertise and problem-solving skills of engineers are needed in conjunction with a strong awareness and understanding of environmental issues and problems. This is the case most particularly for resource industries (e.g., forestry, fisheries, mining, oil and gas, pulp and paper, and the agri-food industry); various government departments and research organizations; and in environmental engineering consulting companies. It is also anticipated that graduates will work in the new environmental economy—areas related to environmental reclamation, remediation and restoration.

The Environmental Engineering Bachelor of Applied Science program is a 4.5 year (nine semester) joint degree between the University of British Columbia and the University of Northern British Columbia. The program is based on a unique collaboration between UNBC and UBC that capitalizes on the strength of UNBC in Environmental Science and the strength of UBC in Engineering. It incorporates complementary elements and expertise from each institution while maintaining the exposure of students to the distinctive character of both institutions. The program starts with a two-year foundation in mathematics, basic and environmental sciences from UNBC. In the third and fourth years, the program provides a thorough education and training in engineering fundamentals, engineering analysis and engineering design, largely through courses in Civil Engineering and Chemical and Biological Engineering at the University of British Columbia. The final term at UNBC exposes students to practical environmental engineering problems.

The Environmental Engineering program is accredited by the Canadian Engineering Accreditation Board.

## Admission Requirements

Admission to the program is limited and is based on academic qualifications and available space. Priority admission will be given to students who meet admission criteria and apply by the deadline of March 1.

Applicants from BC and Yukon secondary schools must:

- Meet UNBC admission requirements, and
- Have an average of at least 75% based on the following four courses: Principles of Math 12 or Pre-calculus 12, English 12 and two provincially examinable Science 12 courses. In addition, applicants must have successfully completed Chemistry 11 in order to meet course prerequisites in the Program. Physics 12 or an equivalent is strongly recommended, as it is a prerequisite for first-year Physics courses in the program. Students who are admitted without the Physics 12 prerequisite may be delayed in their studies as they may not be able to complete the first four semesters of the program in the normal two year time period. Meeting the minimum GPA does not guarantee admission. Under exceptional circumstances the prerequisites may be waived.

Other applicants must demonstrate that they possess qualifications at least equivalent to the BC and Yukon requirement.

### Regulations

Unless otherwise specified, the rules and regulations will be those applicable at the institution (UBC or UNBC) at which the students are attending at the time the rules/regulations need to be applied. In the case where the rules and regulations are needed to cover the program as a whole, or where the institution of attendance is not relevant, then the more stringent rules/regulations will be applied. Any academic appeals will be handled using the procedures at the institution where the rules/regulations need to be applied.

### Residency

The minimum residency requirement is 90 credits. These may be fulfilled through a combination of courses taken at UNBC and UBC, provided that at least 30 credits are completed at each of the two institutions.

### Progression

Progression between years and institutions requires good academic standing in the program at the most recent institution of residence (UNBC or UBC). At UNBC this means a GPA of at least 2.00 or 63%. At UBC this means an average of at least 55%, and passing grades in at least 65% of the credits taken.

### Graduation

It is the responsibility of the student to ensure that his/her degree requirements are met. Students must have a good academic standing at both institutions to graduate: a CGPA of at least 2.00 (63%) over all courses taken at UNBC; and an average of at least 55%, and passing grades in at least 65% of the credits taken at UBC. The diploma will carry crests from both granting institutions (UNBC and UBC).

### Transfers

Transfers into the program are allowed provided that the prerequisite courses or articulated courses are completed, and space is available in the program. Acceptance of transfers into the program will be based upon GPA, with priority given to those with the highest GPA. The admission GPA for transfer students into the Environmental Engineering program will be assessed on the following four courses or their university transferrable equivalents: Principles of Math 12 or pre-calculus 12, English 12, and two provincially examinable Science 12 courses. In order to be considered for admission into the program transfer students must have at least 75% average based on these four courses or their equivalents. Where both high school and university transfer coursework are provided for each of these four courses the highest GPA for each course will be used. Transfer students must also have an overall cumulative transfer GPA of 2.00, which is based on all their university transferrable coursework. Regardless of the articulated courses transferred, students must satisfy the residency requirement (see above).

## Co-operative Education

Co-operative education, available through UBC Engineering Co-op, is an optional but strongly recommended element of the Environmental Engineering program.

## Program Requirements

| | |
|---|---|
| UNBC degree requirements: | 90 credit hours |
| UBC degree requirements: | 71 credit hours |
| Total credits for degree: | 161 credit hours |

**Semester 1 and 2 completed at UNBC**

| | |
|---|---|
| CHEM 100-3 | General Chemistry I |
| CHEM 101-3 | General Chemistry II |
| CHEM 120-1 | General Chemistry Lab I |
| CHEM 121-1 | General Chemistry Lab II |
| CPSC 110-3 | Introduction to Computer Systems and Programming |
| ENSC 100-1 | Introduction to Engineering Seminar |
| ENSC 150-3 | Fundamentals of Environmental Engineering |
| ENSC 151-1 | Engineering Tools |
| MATH 100-3 | Calculus I |
| MATH 101-3 | Calculus II |
| NRES 100-3 | Communications in NRES |
| PHYS 110-4 | Introductory Physics I: Mechanics |
| PHYS 111-4 | Introductory Physics II: Waves and Electricity |

Three credit hours of Humanities and Social Science courses with subject matter that deals with the central issues, methodologies, and thought processes of the humanities and social science (for example, any ANTH, ENGL, ENVS, FNST, HIST, INTS, NORS, PHIL, POLS, or WMST course that does not principally impart language skills or statistics). GEOG and ENPL courses may qualify with approval.

**Semester 3 and 4 completed at UNBC**

| | |
|---|---|
| BIOL 110-3 | Introductory Ecology |
| CHEM 200-3 | Physical Chemistry I |
| CHEM 220-3 | Organic and Biochemistry |
| ENSC 201-3 | Weather and Climate |
| ENSC 210-3 | Material and Energy Balances |
| ENSC 350-3 | Fluid Mechanics |
| ENSC 451-3 | Groundwater Hydrology |
| GEOG 210-3 | Geomorphology |
| MATH 200-3 | Calculus III |
| MATH 220-3 | Linear Algebra |
| MATH 230-3 | Linear Differential Equations and Boundary Value Problems |
| STAT 371-3 | Probability and Statistics for Scientists and Engineers |

**Semester 5 and 6 completed at UBC**

**Note:** Course lists for Semester 5 through 8 completed at UBC are provided for information only. Please refer to the UBC calendar for official requirements.

| | |
|---|---|
| CHBE 244-2 | Chemical and Biological Engineering Thermodynamics I |
| CHBE 364-2 | Environmental Engineering Laboratory |
| CHBE 373-3 | Water Pollution Control |
| CHBE 484-3 | Green Engineering Principles and Applications for Process Industries |
| CHBE 485-3 | Air Pollution Prevention and Control |
| CIVL 200-3 | Engineering and Sustainable Development |
| CIVL 210-4 | Soil Mechanics I |
| CIVL 315-4 | Fluid Mechanics II |
| CIVL 316-4 | Hydrology and Open Channel Flow |
| EOSC 429-3 | Groundwater Contamination |
| MINE 486-3 | Mining and the Environment |

**Semester 7 and 8 completed at UBC**

| | |
|---|---|
| CHBE 351-3 | Transport Phenomena II |
| CHBE 459-3 | Chemical and Biological Engineering Economics |
| CIVL 311-4 | Soil Mechanics II |
| CIVL 402-2 | Engineering Law and Contracts in Civil Engineering |
| CIVL 408-3 | Geoenvironmental Engineering |
| CIVL 416-3 | Environmental Hydraulics |
| CIVL 418-3 | Engineering Hydrology |

Twelve credit hours of technical electives chosen from a constrained list.

**Semester 9 completed at UNBC**

| | |
|---|---|
| ENPL 401-3 | Environmental Law |
| ENSC 417-6 | Designing Solutions in Environmental Engineering |
| ENSC 418-3 | Environmental Measurement and Analysis |

Three credit hours of Social Science or Humanities elective.
Three credit hours of elective.

**Technical electives available at UNBC for the UBC portion of the curriculum in the UBC/UNBC Joint Environmental Engineering Program**

The following UNBC courses may be used to meet a Technical Elective requirement in the UBC portion of the Joint UBC/UNBC Environmental Engineering BASc program. Normally, no more than one course from the list may be used. To qualify towards UBC technical elective requirements, the technical elective must be taken prior to transition to UBC.

| | |
|---|---|
| ENSC 302-3 | Low Carbon Energy Development |
| ENSC 404-3 | Waste Management |
| ENSC 406-3 | Environmental Modelling |
| ENSC 408-3 | Storms |
| ENSC 425-3 | Climate Change and Global Warming |
| ENSC 450-3 | Environmental and Geophsycial Data Analysis |
| ENSC 452-3 | Reclamation and Remediation of Disturbed Environments |
| ENSC 453-3 | Environmental Resources Management and Decision Making |
| ENSC 460-3 | Soil Chemical Processes and the Environment |
| NREM 410-3 | Watershed Management |

# School of Environmental Planning (BPl)

Andrew D. Seidel, Professor and Chair
David Connell, Associate Professor
John Curry, Associate Professor
Orland Wilkerson, Assistant Professor
Raymond Chipeniuk, Adjunct Professor
Theresa Healy, Adjunct Professor
Eric Rapaport, Adjunct Professor
Finlay Sinclair, Adjunct Professor
Kerry Pateman, Senior Lab Instructor

Website: www.unbc.ca/environmental-planning

The Bachelor of Planning degree provides a broad education in environmental planning. The focus is on understanding the relationship between people and the environment and on reducing the environmental impact of human activities.

The study of planning examines public processes that improve the quality of decisions affecting the environment. Responsible planning integrates various private and public interests and identifies viable, workable options. Planners play a vital role in decision-making processes concerning the future of human settlements, resource management, environmental protection, human health and well-being, economic development, and many other areas. Ultimately, the work of planners becomes part of, or a catalyst to, public policy.

To achieve its purposes, Environmental Planning offers a comprehensive program of courses, such as environmental assessment, ecological design, economic development, First Nations planning, land use planning, and sustainable communities. Each course provides a creative and challenging learning environment for students to tackle today's most contentious issues such as sustainability, climate change, biodiversity, environmental stewardship, and urban sprawl. Environmental Planning offers unique perspectives on a rapidly evolving field of study and solutions for an increasingly complex world.

Environmental Planning is dedicated to upholding professional standards of practice and is accredited by the Canadian Institute of Planners (CIP) and the Planning Institute of British Columbia (PIBC). Accreditation is a system for promoting national standards of education in planning and for recognizing educational institutions for a level of performance, integrity, and quality.

Accreditation benefits students in Environmental Planning in three ways:

- Current students can apply for Student Membership in PIBC;
- Graduates are eligible for Full Membership in PIBC and CIP after only two years of professional planning experience; and
- Employers in the planning field look for students graduating from an accredited planning program, thus significantly improving graduates' job prospects.

Three majors are available to students completing the Bachelor of Planning:

- Northern and Rural Community Planning
- First Nations Planning
- Natural Resources Planning

Planning students complete a set of program requirements totaling 69 credit hours in addition to completing the specialized course requirements for each major.

## Program Requirements for all Majors in Planning

### Lower-Division General Environmental Planning Requirement

**100 Level**

ECON 100-3 Microeconomics
ENPL 104-3 Introduction to Planning

One of the following:
ENGL 170-3 Writing and Communication Skills
or POLS 290-3 Research and Writing for Political Science
or NRES 100-3 Communications in Natural Resources and Environmental Studies

**200 Level**

ENPL 204-3 Principles and Practices of Planning
ENPL 205-3 Environment and Society
ENPL 206-3 Planning Analysis and Techniques
ENPL 207-3 Introduction to Computer Aided Design
ENPL 208-3 First Nations Community and Environmental Planning
GEOG 210-3 Geomorphology
POLS 200-3 Canadian Government and Politics

One of the following:
GEOG 204-3 Introductory GIS for the Social Sciences
or GEOG 300-3 Geographic Information Systems

One of the following:
ECON 205-3 Statistics for the Social and Management Sciences
or STAT 240-3 Basic Statistics
or STAT 371-3 Probability and Statistics for Scientists and Engineers

### Upper-Division General Environmental Planning Requirement

**300 Level**

ENPL 301-3 Sustainable Communities: Structure and Sociology
ENPL 303-3 Spatial Planning with Geographical Information Systems
ENPL 304-3 Mediation, Negotiation and Public Participation
ENPL 305-3 Environmental Impact Assessment
ENPL 313-3 Rural Community Economic Development
ENPL 318-3 Professional Planning Practice
ENPL 319-3 Social Research Methods

**400 Level**

| | |
|---|---|
| ENPL 401-3 | Environmental Law |
| ENPL 410-3 | Land Use Planning |
| ENPL 411-3 | Planning Theory, Process and Implementation |
| ENPL 415-3 | Ecological Design |
| ENVS 414-3 | Environmental and Professional Ethics |

In addition, students may undertake ENPL 420-1 Research Methodology, ENPL 430-3 Undergraduate Thesis, ENPL 431-3 Professional Report, ENPL 440 (2-6) Internship as part of their electives.

### Major Requirements

Students must choose to specialize in one major. All course requirements in the major must be completed.

# Major in Northern and Rural Community Planning

The focus of this major is to promote an understanding of the complexity and diversity of environmental problems, to develop an appreciation of community change processes, and to provide planners with knowledge which will improve the quality of the built environment and reduce the impact of human activities on the natural world. The unique planning requirements of smaller communities and rural regions demand a grounding in both physical and social science methods and an understanding of the relationship between northern communities and surrounding rural resource regions. Environmental planning necessitates strategic thought and action combined with knowledge grounded in professional practice. The northern rural and community planning major combines concepts such as bioregionalism, sustainability, and landscape design within the context of physical land use planning, social planning and community economic development.

Northern and Rural Community Planning is the application of environmental planning principles and practices to the often unique social, economic, and ecological issues confronting northern and circumpolar communities in Canada and elsewhere in the northern hemisphere. Successfully addressing these issues requires an appreciation of how and why communities change, an understanding of relationships between northern communities and surrounding rural resource regions, an understanding of the place and function of northern communities and rural regions in the global environment, and a grounding in both physical and social science methods of research and analysis.

Students enrolled in the Northern and Rural Community Planning Major must successfully complete 120 credit hours. Students must ensure that all prerequisites are fulfilled prior to registering in any courses.

| | |
|---|---|
| Program requirement for all majors in planning: | 69 credit hours |
| Major requirement: | 15 credit hours |
| Major elective requirement: | 18 credit hours |
| General elective requirement: | 18 credit hours |

The minimum requirement for a Bachelor of Planning with a Major in Northern and Rural Community Planning is 120 credit hours.

## Major Requirements

### Lower-Division Requirements

BIOL 110-3 Introductory Ecology

One of:

| | |
|---|---|
| GEOG 100-3 | Environments and People |
| or GEOG 206-3 | Social Geography |

Three of:

| | |
|---|---|
| ANTH 213-3 | Peoples and Cultures |
| ENVS 306-3 | Human Ecology (regional campus only) |
| FNST 100-3 | The Aboriginal Peoples of Canada |
| FNST 216-3 | Issues in Internal Organization for Contemporary Indigenous People |
| GEOG 100-3 | Environments and People: The Geography of Natural Hazards |
| GEOG 101-3 | Human Geographies of Global Change |
| GEOG 200-3 | British Columbia: People and Places |
| GEOG 202-3 | Economic Geography of Resources and Sustainability |
| GEOG 206-3 | Society and Space |
| INTS 205-3 | Introduction to International Studies |
| MATH 115-3 | Precalculus |
| POLS 100-3 | Contemporary Political Issues |
| SOCW 201-3 | Introduction to Social Welfare |

### Upper-Division Requirements

POLS 350-3 Law and Municipal Government

One of:

| | |
|---|---|
| ENVS 325 - 3 | Global Environmental Change: Science and Policy |
| or NREM 306-3 | Society, Policy and Administration |
| or POLS 316-3 | Municipal Government and Politics |
| or POLS 320-3 | Canadian Politics and Policy |

One of:

| | |
|---|---|
| GEOG 424-3 | Social Geography of Northern Communities |
| or POLS 434-3 | Resource Communities in Transition |
| or POLS 415-3 | Comparative Northern Development |

Three of:

| | |
|---|---|
| ANTH 316-3 | The Social Theory and Structure of Contemporary Canadian Society |
| ANTH 413-(3-6) | Environmental Anthropology |
| ENVS 325-3 | Global Environmental Change: Science and Policy |
| ENSC 404-3 | Waste Management |
| ENSC 302-3 | Low Carbon Energy Development |
| ECON 411-3 | Cost Benefit Analysis |
| FNST 350-3 | Law and Aboriginal Peoples |
| GEOG 305-3 | Political Ecology |

| | |
|---|---|
| GEOG 403-3 | First Nations and Indigenous Geography |
| GEOG 424-3 | Social Geography of Northern Communities |
| NREM 306-3 | Society, Policy and Administration |
| POLS 302-3 | Canadian Public Administration |
| POLS 316-3 | Municipal Government and Politics |
| POLS 320-3 | How Government Works |
| POLS 332-3 | Community Development |
| POLS 351-3 | Local Services and Public Policy |
| POLS 360-3 | Politics of Public Finance |
| POLS 415-3 | Comparative Northern Development |
| POLS 434-3 | Resource Communities in Transition |
| SOCW 320-3 | Critical Social Policy |

Students must ensure that all prerequisites are fulfilled prior to taking the course.

General electives courses comprise of a total of 18 credit hours. Students are encouraged to use the general electives to take a minor offered in Geography and Political Science, First Nations Studies, or other fields associated with community development.

# Major in First Nations Planning

First Nation communities have significant and growing demands for qualified planners. As many First Nations move to define land claims in Canada, potentially giving First Nations significant responsibilities for land and community planning, and as others work to build upon existing treaties, the availability of skilled planners becomes essential. However, planning by, and with, First Nations requires specific skills and abilities in the planners, whether or not they themselves are First Nation.

For most First Nation communities few distinctions are made between ecological/environmental planning and planning for social and cultural needs. Cultural and social needs are developed from within, and are grounded in, the ecosystem. First Nations planning must necessarily integrate all; First Nations wish to remain grounded in tradition and seek to move into the future through sound community economic development and skilled land management. Most face significant community development needs, including infrastructure development, housing, and health planning. Students need not just a sound grasp of planning principles, but also an understanding of the protocols, history, social structure, and ecology of Canadian First Nations. Further, cross cultural translation skills, community participation techniques, and a solid grounding in ethics are required.

Students enrolled in the First Nations Planning Major must successfully complete 121 credit hours. Major and elective course requirements must also be met.

| | |
|---|---|
| Program requirement for all majors in planning: | 69 credit hours |
| Major requirement: | 19 credit hours |
| Major elective requirement: | 18 credit hours |
| General elective requirement: | 15 credit hours |

The minimum requirement for a Bachelor of Planning with a Major in First Nations Planning is 121 credit hours.

## Lower-Division Requirements

| | |
|---|---|
| BIOL 110-3 | Introductory Ecology |
| FNST 100-3 | The Aboriginal Peoples of Canada |
| FNST 131-3 | First Nations Language Level 1 |

Three of:

| | |
|---|---|
| ANTH 213-3 | Peoples and Cultures |
| FNST 161-3 | First Nations Culture Level 1 |
| FNST 200-3 | Methods and Perspectives in First Nations Studies |
| FNST 203-3 | Introduction to Traditional Ecological Knowledge |
| FNST 215-3 | Issues in External Relations for Contemporary Indigenous Peoples |
| FNST 216-3 | Issues in Internal Organization for Contemporary Indigenous Peoples |
| GEOG 100-3 | Environments and People: The Geography of Natural Hazards |
| HHSC 102-3 | Introduction to Health Sciences II: Rural and Aboriginal Issues |
| MATH 115-3 | Precalculus |
| NREM 210-4 | Integrated Resource Management |

## Upper-Division Requirements

| | |
|---|---|
| FNST 304 -3 | First Nations Environmental Philosophy and Knowledge |
| FNST 350-3 | Law and Aboriginal Peoples |
| ENPL 409-4 | Advanced First Nations Community and Environmental Planning |

Three of:

| | |
|---|---|
| BIOL 350-3 | Ethnobotany |
| ENVS 325-3 | Global Environmental Change: Science and Policy |
| FNST 303-3 | First Nations Religion and Philosophy |
| FNST 305-3 | Seminar in First Nations Studies |
| FNST 407-3 | First Nations Perspectives on Race, Class, Gender and Power |
| GEOG 403-3 | First Nations and Indigenouse Geography |
| NREM 303-3 | First Nations' Approaches to Resource Management |
| ORTM 306-3 | Indigenous Tourism and Recreation |
| POLS 350-3 | Law and Municipal Governement |
| SOCW 455-3 | First Nations Governance and Social Policy |
| SOCW 457-3 | Individual and Community Wellness |

Of the above lower and upper-division course requirements, students must select a minimum of three FNST courses (9 credit hours).

Students must ensure that all prerequisites are fulfilled prior to registering in any courses.

General electives courses comprise a total of 15 credit hours. Students are encouraged to use the general electives to take a minor offered in First Nations Studies or other courses associated with aboriginal and First Nations issues.

# Major in Natural Resources Planning

The major in Natural Resources Planning is designed to provide students with an understanding of the complexities of including the natural and cultural environment in planning decision-making. The major is intended to address both project-level and large-scale environmental planning issues that occur in developments that impact the natural environment.

The objective of this major is to familiarize students with planning and decision-making in a variety of sectors that include provincial land use planning, environmental assessment, watershed planning and integrated resource and environmental management. These areas of planning are characterised by complex and intricate problems that revolve around how to use our natural resources and who should decide. The multidimensional aspects of environmental management include natural and cultural complexity, different desired futures, value differences, assessment and monitoring tools, and integration methods. This major emphasizes an understanding of planning in both the substantive realm (natural and social sciences) and the procedural realm (the process of including people in the decision-making process).

Students enrolled in the Natural Resources Planning Major must successfully complete 120 credit hours. Major and elective course requirements must also be met. Students must ensure that they complete course prerequisites before registering in any course. Students interested in working with biological and environmental aspects of natural resource planning should take BIOL 103/BIOL 123 and BIOL 104/124 as elective courses and BIOL 201 as the ecology elective as they are prerequisite courses for many of the other biological and environmental courses. Furthermore, those students interested in the environmental sciences should also consider taking first- and second-year Chemistry courses as part of the general electives. Students interested in integrated natural resource planning are encouraged to take BIOL 104/124 and a mix of courses in areas of Political Science, First Nations (FNST or ENPL), Environment Sciences (ENSC), Geography and Outdoor Recreation and Tourism Management, and International Studies and Economics.

| | |
|---|---|
| Program requirement for all majors in planning: | 69 credit hours |
| Major requirement: | 17 credit hours |
| Major elective requirement: | 18 - 22 credit hours |

General elective requirement: Elective credit hours as necessary to ensure the completion of 120 credit hours.

The minimum requirement for a Bachelor of Planning with a Major in Natural Resource Planning is 120 credit hours.

## Lower-Division Requirements

| | |
|---|---|
| NREM 210 - 4 | Integrated Resource Management |
| GEOG 205 - 3 | Cartography and Geomatics |

One of:

| | |
|---|---|
| BIOL 110 -3 | Introductory Ecology |
| or BIOL 201-3 | Ecology |

Three of:

| | |
|---|---|
| BIOL 103-3 | Introductory Biology I |
| and BIOL 123-1 | Introductory Biology I Laboratory |
| BIOL 104-3 | Introductory Biology II |
| and BIOL 124-1 | Introductory Biology II Laboratory |
| FNST 100-3 | Aboriginal Peoples of Canada |
| FNST 203-3 | Introduction to Traditional Ecological Knowledge |
| FSTY 205-3 | Introduction to Soil Science |
| ENSC 201-3 | Weather and Climate |
| ENSC 202-3 | Introduction to Aquatic Systems |
| GEOG 100-3 | Environments and People: The Geographies of Natural Hazards |
| INTS 205-3 | Introduction to International Studies |
| MATH 115-3 | Precalculus |
| NREM 101-3 | Introduction to Natural Resources Management and Conservation |
| NREM 203-3 | Resource Inventories and Measurements |
| NREM 204-3 | Introduction to Wildlife & Fisheries |
| ORTM 200-3 | Sustainable Outdoor Recreation and Tourism |

## Upper-Division Requirements

| | |
|---|---|
| NREM 400-4 | Natural Resources Planning |
| NREM 410-3 | Watershed Management |

Three of:

| | |
|---|---|
| BIOL 302-3 | Limnology |
| BIOL 411-3 | Conservation Biology |
| ECON 305-3 | Environmental Economics |
| ECON 330-4 | Resource Economics |
| ECON 331-3 | Forestry Economics |
| ECON 411-3 | Cost Benefit Analysis |
| ENPL 409-4 | Advanced First Nations Community and Environmental Planning |
| ENSC 302-3 | Low Carbon Energy Development |
| ENSC 308-3 | Northern Contaminated Environments |
| ENSC 312-3 | Biometeorology |
| ENSC 404-3 | Waste Management |
| ENSC 412-3 | Air Pollution |
| ENVS 325-3 | Global Environmental Change: Science and Policy |
| ENVS 326-3 | Natural Resources, Environmental Issues and Public Engagement |
| FNST 451-3 | Traditional Use Studies |
| GEOG 401-3 | Tenure, Conflict and Resource Geography |
| INTS 307-3 | Global Resources |
| INTS 470-3 | International Environmental Policy |
| NREM 413-3 | Agroforestry |
| ORTM 300-3 | Recreation and Tourism Impacts |
| ORTM 305-3 | Protected Area Planning and Management |
| ORTM 407-3 | Recreation, Tourism, Communities |
| POLS 344-3 | Society, Policy and Administration of Natural Resources |
| or NREM 306-3 | Society, Policy and Administration |
| POLS 350-3 | Law and Muncipal Government |

Students must ensure that all prerequisites are fulfilled prior to registering in any course.

General elective courses comprise a total of 18 credit hours. Students are encouraged to use the general electives to take a minor offered in areas of Geography and Political Science, First Nations Studies, or other fields associated with community development.

# Minor in Planning

The minor in Planning is designed to provide students with an opportunity to acquire a basic knowledge of planning theory and methods. The minor consists of 12 required credits (four designated courses) and six credits from a set of elective courses. A maximum of two courses (six credit hours) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in Planning.

The Minor in Planning requires the completion of 18 credit hours of ENPL Planning Courses, of which 12 credit hours must be at the upper-division level.

## Required

ENPL 104-3 Introduction to Planning
ENPL 204-3 Principles and Practices of Planning
ENPL 301-3 Sustainable Communities: Structure and Sociology
ENPL 411-3 Planning Theory, Process and Implementation

Two of:

- ENPL 305-3 Environmental Impact Assessment
- ENPL 318-3 Professional Planning Practice
- ENPL 410-3 Land Use Planning
- ENPL 415-3 Ecological Design

# Environmental Science (BSc Program)

Todd Whitcombe, Associate Professor and Chair
Joselito Arocena, Professor
Peter Jackson, Professor
Philip Owens, Professor and Endowed Research Chair in Landscape Ecology
Michael Rutherford, Professor
Youmin Tang, Professor, and Canada Research Chair, Climate Prediction and Predictability
Ron Thring, Professor
Stephen Dery, Associate Professor, and Canada Research Chair, Northern Hydrometeorology
Jianbing Li, Associate Professor
Jueyi Sui, Associate Professor
Steve Helle, Assistant Professor
Gerald Kutney, Adjunct Professor
Bin Yu, Adjunct Professor
Jean Wang, Senior Lab Instructor

Website: www.unbc.ca/environmental-science

## Major in Environmental Science

The Environmental Science Bachelor of Science degree is an interdisciplinary one in which students take a core curriculum along with an area of specialization. The core curriculum is designed to provide students with knowledge of the fundamental biological, chemical, physical and applied aspects integral to the field of environmental science. In addition, students receive exposure to many of the human dimensions that underlie environmental issues. This approach will ensure a uniform preparation among students and allow for the development of a diversity of expertise necessary to address the complexity of present environmental problems and future unanticipated ones.

The degree has been designed in part to address educational components of the National Occupational Standards (NOS) for Environmental Employment set out by Environmental Careers Organization (ECO Canada). The NOS forms the basis of the Canadian Certified Environmental Practitioner (CCEP) accreditation process of the Canadian Environmental Certification Approvals Board (CECAB).

Undergraduate students are required to take a total of 97 credit hours of program core requirements in addition to an Area of Specialization as indicated below. The Area of Specialization allow students to develop expertise within an area of their interest. The major requires elective credit hours as necessary to ensure completion of a minimum of 124 credit hours including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Undergraduate Academic Regulation 15).

### Program Core Requirements

#### Lower-Division Requirement

BIOL 103-3 Introductory Biology I
BIOL 104-3 Introductory Biology II
BIOL 123-3 Introductory Biology I Laboratory
BIOL 124-3 Introductory Biology II Laboratory
CHEM 100-3 General Chemistry I
CHEM 101-3 General Chemistry II
CHEM 120-1 General Chemistry Lab I
CHEM 121-1 General Chemistry Lab II
ENSC 111-1 Introduction to Environmental Science
MATH 100-3 Calculus I
MATH 101-3 Calculus II

PHYS 100-4 Introduction to Physics I
and PHYS 101-4 Introduction to Physics II
or
PHYS 110-4 Introductory Physics I: Mechanics
and PHYS 111-4 Introductory Physics II: Waves and Electricity

(PHYS 110-4 and PHYS 111-4 are strongly recommended)

BIOL 201-3 Ecology
BIOL 203-3 Microbiology
ENSC 201-3 Weather and Climate
ENSC 202-3 Introduction to Aquatic Systems
FSTY 205-3 Introduction to Soil Science
GEOG 205-3 Cartography and Geomatics
GEOG 210-3 Geomorphology
STAT 240-3 Basic Statistics
or STAT 371-3 Probability and Statistics for Scientists and Engineers
3 credit hours of any 200-level CHEM

Students who are interested in pursuing professional designations should contact the program advisor regarding the correct course sequences required for individual programs as well as the appropriate choice of electives.

#### Upper-Division Requirement

ENPL 305-3 Environmental Impact Assessment
ENSC 308-3 Northern Contaminated Environments
ENPL 401-3 Environmental Law
ENSC 406-3 Environmental Modelling
ENSC 418-3 Environmental Measurement and Analysis
ENSC 440-3 Internship*
or ENSC 499-3 Independent Study
ENSC 450-3 Environmental and Geophysical Data Analysis
ENVS 414-3 Environmental and Professional Ethics

One of:
FNST 304-3 Indigenous Environmental Philosophy
GEOG 401-3 Ttenure, Conflict and Resource Geography
INTS 307-3 Global Resources
ENVS 325-3 Global Environmental Change: Science and Policy

or 3 credit hours of any upper-division ENVS course

Two of:

| | |
|---|---|
| ENSC 404-3 | Waste Management |
| ENSC 412-3 | Air Pollution |
| ENSC 451-3 | Groundwater Hydrology |
| ENSC 452-3 | Reclamation and Remediation of Disturbed Environments |

And 6 credit hours from the following (if not already taken above):

| | |
|---|---|
| ENSC 302-3 | Low Carbon Energy Development |
| ENSC 312-3 | Biometeorology |
| ENSC 325-3 | Soil Physical Properties and the Environment |
| ENSC 350-3 | Fluid Mechanics |
| ENSC 404-3 | Waste Management |
| ENSC 408-3 | Storms |
| ENSC 412-3 | Air Pollution |
| ENSC 425-3 | Climate Change and Global Warming |
| ENSC 435-3 | Soil Biological Processes and the Environment |
| ENSC 440-(3) | Internship |
| ENSC 451-3 | Groundwater Hydrology |
| ENSC 452-3 | Reclamation and Remediation of Disturbed Environments |
| ENSC 454-3 | Snow and Ice |
| ENSC 460-3 | Soil Chemical Processes and the Environment |
| ENSC 498-(1-6) | Special Topics |
| ENSC 499 (3) | Independent Study |
| FSTY 415-3 | Forest Soils |
| FSTY 425-3 | Soil Formation and Classification |
| GEOG 300-3 | Geographic Information Systems (GIS) |
| GEOG 310-3 | Hydrology |
| or NREM 410-3 | Watershed Management |
| GEOG 311-3 | Drainage Basin Geomorphology |
| GEOG 312-3 | Geography of Cold Regions |
| GEOG 320-3 | Sedimentology |
| GEOG 405-3 | Fluvial Geomorphology |
| GEOG 411-3 | Quaternary and Surficial Geology |
| GEOG 413-3 | Advanced GIS |
| GEOG 414-3 | Weathering Processes |
| GEOG 432-3 | Remote Sensing |
| GEOG 457-3 | Advanced Remote Sensing |

*Students with extensive experience related to the environment may be waived from this degree requirement with approval from the Program.

## Area of Specialization Requirement for BSc (Major) in Environmental Science

Environmental Science majors are required to complete an area of specialization satisfying the requirements of any available minor at UNBC as part of their degree. A minor allows students to specialize in a subject area relevant to the advancement, utilization and dissemination of environmental knowledge. Some minors may result in students taking more than the required 124 credit hours in order to obtain the Environmental Science Major. Many minors allow 100-level prerequisite courses and an additional 6 credit hours of other courses to be used for meeting the requirements of both the major and minor. Check the current UNBC undergraduate calendar for the requirements of minors available at UNBC.

# BSc Honours – Environmental Science

The BSc Honours-Environmental Science provides a higher level of specialization and research experience, especially for students planning to proceed to postgraduate work.

Honours students are required to complete the degree requirements for the BSc Environmental Science Major, with the exception that Honours students must complete an undergraduate thesis chosen from ENSC 430-6 (Undergraduate Thesis), or NRES 430-6 (Undergraduate Thesis) in place of the requirement for ENSC 440-3 (Internship) or ENSC 499-3 (Independent Study). ENSC 440-3 or ENSC 499-3 may be taken by Honours students, but they are not required for the Honours degree. The undergraduate thesis must be conducted under the supervision of a faculty member.

The minimum requirement for a BSc Honours degree is 127 credit hours. Students are responsible to find their own undergraduate thesis research supervisor. Faculty members are under no obligation to supervise Honours students. To be admitted to the Honours degree program, students must have completed 60 credit hours and obtained a minimum Cumulative GPA of 3.33. Attaining the minimum requirement will not guarantee admission into the Honours program, which will be at the discretion of the Environmental Science Program. Maintenance of a Cumulative GPA of 3.33 is required to remain in the Honours program.

# Minor in Aquatic Science

The minor in Aquatic Science provides students with an opportunity to focus on aquatic processes associated with different water environments, such as rivers, lakes and groundwaters. Emphasis is given to physical, chemical and biological processes that govern the movement, fate and management of water on timescales of seconds to decades.

Students are required to take 35 credit hours. Of these, 14 credit hours are foundational courses in Chemistry, Mathematics, and Physics; 12 credit hours are required aquatic science courses; and 9 credit hours are selected from a list of suggested elective courses. In addition to the 14 credit hours of foundational courses at the 100 level, an additional 6 credit hours of upper-division courses can also be used to meet the requirements of a major or another minor.

## Curriculum

### Required Courses

| | |
|---|---|
| CHEM 100-3 | General Chemistry I |
| CHEM 120-1 | General Chemistry Lab I |
| MATH 100-3 | Calculus I |
| MATH 101-3 | Calculus II |
| PHYS 100-4 | Introduction to Physics I |
| or PHYS 110-4 | Introductory Physics I: Mechanics |

(PHYS 110-4 is strongly recommended.)

ENSC 202-3 Introduction to Aquatic Systems
BIOL 302-3 Limnology
GEOG 310-3 Hydrology
or NREM 410-3 Watershed Management
ENSC 451-3 Groundwater Hydrology

### Elective Courses

Nine credit hours from the following list:

GEOG 311-3 Drainage Basin Geomorphology
ENSC 350-3 Fluid Mechanics
GEOG 405-3 Fluvial Geomorphology
ENSC 450-3 Environmental and Geophysical Data Analysis
ENSC 454-3 Snow and Ice
BIOL 402-3 Aquatic Plants
BIOL 406-3 Fish Ecology

*Students must ensure that all prerequisites are fulfilled prior to registering in any course.

## Minor in Atmospheric Science

Atmospheric Science, or meteorology, is the study of Earth's atmosphere, weather and climate. The minor in Atmospheric Science provides students with an opportunity to focus on atmospheric processes that occur near Earth's surface. Emphasis is given to physical and chemical processes that govern the development of weather systems on timescales of days and that regulate Earth's climate on timescales of decades.

Students are required to take 35 credit hours. Of these, 17 credit hours are foundational courses in Chemistry, Geography, Mathematics, and Physics; 12 credit hours are required atmospheric science courses; and 6 credit hours are selected from a list of suggested elective courses. In addition to the 17 credit hours of foundational courses at the 100 level, an additional 6 credit hours of upper-division courses can also be used to meet the requirements of a major or another minor. NOTE: Some upper-division courses may be taught in alternate years; students should consider this when planning their course schedules.

### Required Courses

CHEM 100-3 General Chemistry I
CHEM 120-1 General Chemistry Lab I
ENSC 201-3 Weather and Climate
ENSC 312-3 Biometeorology
ENSC 408-3 Storms
ENSC 425-3 Climate Change and Global Warming
GEOG 100-3 Environments and People: The Geography of Natural Hazards
MATH 100-3 Calculus I
MATH 101-3 Calculus II
PHYS 100-4 Introduction to Physics I
or PHYS 110-4 Introductory Physics I: Mechanics
(PHYS 110-4 is strongly recommended.)

### Elective Courses*

Six credit hours from the following list
ENSC 412-3 Air Pollution
ENSC 450-3 Environmental and Geophysical Data Analysis
ENSC 454-3 Snow and Ice
GEOG 310-3 Hydrology
or NREM 410-3 Watershed Management

*Students must ensure that all prerequisites are fulfilled prior to registering in any course.

## Minor in Environmental Science

The minor in Environmental Science offers an introduction to four environmental systems: aquatic, atmospheric, ecological, and terrestrial, as well as pollution and management, with the ability to develop more depth in one or two areas. Students in this minor will gain an exposure to fundamental biological, chemical and physical aspects integral to the field of environmental science.

The minor in Environmental Science requires the completion, from the courses listed below, of 21 credit hours, 12 of which must be at the upper-division level. A maximum of two courses (6 credits hours) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in Environmental Science.

Students must select at least one course from each of the following categories (important: all courses listed for the minor have prerequisites; it is the student's responsibility to ensure that they have the required prerequisites):

### Aquatic Systems

BIOL 302-3 Limnology
BIOL 402-3 Aquatic Plants
BIOL 406-3 Fish Ecology
ENSC 202-3 Introduction to Aquatic Systems
ENSC 350-3 Fluid Mechanics
ENSC 451-3 Groundwater Hydrology
ENSC 454-3 Snow and Ice
GEOG 310-3 Hydrology

### Atmospheric Systems

ENSC 201-3 Weather and Climate
ENSC 312-3 Biometeorology
ENSC 408-3 Storms
ENSC 412-3 Air Pollution
ENSC 425-3 Climate Change and Global Warming
ENSC 454-3 Snow and Ice

### Ecological Systems

| | |
|---|---|
| BIOL 201-3 | Ecology |
| BIOL 202-3 | Invertebrate Zoology |
| BIOL 203-3 | Microbiology |
| BIOL 210-3 | Genetics |
| BIOL 301-3 | Systematic Botany |
| BIOL 401-3 | Plant-Microbial Interactions |
| BIOL 404-3 | Plant Ecology |
| BIOL 410-3 | Population and Community Ecology |
| BIOL 411-3 | Conservation Biology |

### Terrestrial Systems

| | |
|---|---|
| ENSC 325-3 | Soil Physical Processes and the Environment |
| ENSC 435-3 | Soil Biological Processes and the Environment |
| ENSC 451-3 | Groundwater Hydrology |
| ENSC 452-3 | Reclamation and Remediation of Disturbed Environments |
| ENSC 460-3 | Soil Chemical Processes and the Environment |
| FSTY 205-3 | Introduction to Soil Science |
| GEOG 210-3 | Geomorphology |
| GEOG 311-3 | Concepts in Geomorphology |
| GEOG 405-3 | Fluvial Geomorphology |
| GEOG 411-3 | Quaternary and Surficial Geology |
| GEOG 412-3 | Geomorphology of Cold Regions |
| GEOG 414-3 | Weathering Processes |

### Environmental Pollution and Management

| | |
|---|---|
| ENSC 302-3 | Low Carbon Energy Development |
| ENPL 305-3 | Environmental Impact Assessment |
| ENSC 308-3 | Northern Contaminated Environments |
| ENSC 404-3 | Waste Management |
| ENSC 406-3 | Environmental Modelling |
| ENSC 412-3 | Air Pollution |
| ENSC 451-3 | Groundwater Hydrology |
| ENSC 452-3 | Reclamation and Remediation of Disturbed Environments |
| ENSC 453-3 | Environmental Resources Management and Decision Making |
| NREM 410-3 | Watershed Management |

## Minor in Soils and the Environment

Processes and their dynamics at the interface between the biosphere, atmosphere, hydrosphere and lithosphere are critical to the regulation of environmental quality from the micro-scale of millimetres to macro-scale climatic conditions. The minor in Soils and the Environment provides students with an opportunity to focus on the Earth's "Critical Zone," the thin outer layer which supports terrestrial life on the planet. The emphasis is on key biological, chemical and physical processes active in soils, and how they influence environmental conditions.

Students are required to take 34 credit hours. Of these, 16 credit hours are prerequisites to FSTY 205 and ENSC 435, 15 credit hours are required soils courses, and 3 credit hours are selected from a list of suggested elective courses. In addition to the 16 credit hours of prerequisite courses at the 100 level, an additional 6 credit hours can also be used to meet the requirements of a major or another minor.

### Required Courses

| | |
|---|---|
| BIOL 103-3 | Introductory Biology I |
| BIOL 123-1 | Introductory Biology I Laboratory |
| BIOL 104-3 | Introductory Biology II |
| BIOL 124-1 | Introductory Biology II Laboratory |
| CHEM 100-3 | General Chemistry I |
| CHEM 101-3 | General Chemistry II |
| CHEM 120-1 | General Chemistry Lab I |
| CHEM 121-1 | General Chemistry Lab II |
| FSTY 205-3 | Introductory Soil Science |
| ENSC 325-3 | Soil Physical Processes and the Environment |
| FSTY 425-3 | Soil Formation and Classification |
| ENSC 435-3 | Soil Biological Processes and the Environment |
| ENSC 460-3 | Soil Chemical Processes and the Environment |

### Elective Courses*

Three credit hours from the following list

| | |
|---|---|
| ENSC 404-3 | Waste Management |
| ENSC 451-3 | Groundwater Hydrology |
| ENSC 452-3 | Reclamation and Remediation of Disturbed Environments |
| FSTY 415-3 | Forest Soils |

* Students must ensure they have the appropriate prerequisites to take these courses.

# Environmental Studies (BA Program)

Kathy Lewis, Professor and Chair
Annie Booth, Professor
Art Fredeen, Professor
Scott Green, Associate Professor
Zoe Meletis, Associate Professor
Ken Wilkening, Associate Professor

Website: www.unbc.ca/environmental-studies

## Major in Environmental Studies

The Bachelor of Arts in Environmental Studies emphasizes a Social Science and Humanities perspective on environmental issues. The program provides a strong philosophical, social and scientific basis for understanding the full diversity of environmental issues and positions students to be effective agents for mitigation of, and/or adaptation to, environmental change. An emphasis is placed upon understanding Environmental Citizenship.

Students must complete the common degree requirements, the requirements of the area of focus and elective credit hours in any subject as necessary to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Undergraduate Academic Regulation 15).

### Program Requirements

#### Lower-Division Requirement

**100 Level**

ANTH 102-3 Anthropology: A World of Discovery
or FNST 100-3 The Aboriginal Peoples of Canada
BIOL 110-3 Introductory Ecology
CHEM 110-3 Chemistry for Everyday Life
or CHEM 100-3 General Chemistry I
or PHYS 150-3 Physics for Future Leaders
ENPL 104-3 Introduction to Planning
ENVS 101-3 Introduction to Environmental Citizenship
GEOG 101-3 Human Geographies of Global Change
POLS 100-3 Contemporary Political Issues

**Note:** CPSC 150-3 (Computer Applications) is recommended for students without computing experience. Students who wish to take the Science, Technology and Society area of focus should take BIOL 103-3/BIOL 123-1 and BIOL 104-3/BIOL 124-1 instead of BIOL 110-3. Students who wish to take the First Nations area of focus should choose FNST 100-3.

**200 Level**

ENGL 270-3 Expository Writing
or ENGL 271-3 Creative Writing
GEOG 204-3 GIS for the Social Sciences
or GEOG 300-3 Geographic Information Systems
GEOG 205-3 Cartography and Geomatics
PHIL 202-3 Comparative Religion
or FNST 303-3 First Nations Religion and Philosophy

#### Upper-Division Requirement

**300 Level**

ENPL 319-3 Social Research Methods
ENVS 306-3 Human Ecology
ENVS 309-3 Gender and Environmental Studies
ENVS 325-3 Global Environmental Change: Science and Policy
ENVS 326-3 Natural Resources, Environmental Issues and Public Engagement
INTS 307-3 Global Resources
or GEOG 401-3 Tenure, Conflict and Resource Geography
or HIST 360-3 An Introduction to Environmental History
NREM 303-3 First Nations' Approaches to Resource Management
or FNST 304-3 Indigenous Environmental Philosophy
or ENPL 208-3 First Nations Community and Environmental Planning

**400 Level**

ENPL 401-3 Environmental Law
ENVS 414-3 Environmental and Professional Ethics
ENVS 440-3 Internship
GEOG 420-3 Geographies of Environmental Justice
or GEOG 305-3 Political Ecology
NRES 421-1 Professional Writing
and NRES 422-2 Undergraduate Report
or NRES 430-6 Undergraduate Thesis
PSYC 408-3 Environmental Problems and Human Behaviour
or ORTM 408-3 The Psychology of Recreation and Tourism

#### Areas of Specialization

Students must choose one of the following areas of specialization. Courses used to fulfill major requirements above may not be used to satisfy an Area of Specialization requirement.

1. Global Environmental Studies
2. Communities and Environmental Citizenship
3. Natural Resource Management
4. Science, Technology and Society
5. First Nations

#### Global Environmental Studies

**Required**

INTS 101-3 Canada and the World
or INTS 205-3 Introduction to International Studies
GEOG 206-3 Society and Space

Choose eight of the following:

| | |
|---|---|
| FNST 416-3 | Indigenous Perspective |
| GEOG 306-3 | Geography of International Development: Places, People, Policies and Promises |
| GEOG 402-3 | Geography of Circumpolar North |
| GEOG 426-3 | Geographies of Culture, Rights and Power |
| INTS 309-3 | Global Science and Technology |
| INTS 371-3 | Globalization |
| INTS 410-3 | Environment and Development in the Circumpolar North |
| INTS 470-3 | International Environmental Policy |
| INTS 480-3 | Pacific Environment |
| NORS 101-3 | Introduction to Circumpolar North |
| NORS 311-3 | Lands and Environment of the Circumpolar North 1 |
| NORS 331-3 | Contemporary Issues of the Circumpolar North |
| ORTM 403-3 | International Dimensions of Outdoor Recreation and Tourism |
| ORTM 414-3 | Polar Tourism and Recreation |

## Communities and Environmental Citizenship

**Required**

| | |
|---|---|
| ENPL 301-3 | Sustainable Communities: Structure and Sociology |
| GEOG 206-3 | Society and Space |
| GEOG 426-3 | Geographies of Culture, Rights and Power |

Choose six of:

| | |
|---|---|
| COMM 100-3 | Introduction to Canadian Business |
| COMM 230-3 | Organizational Behaviour |
| ENPL 205-3 | Environment and Society |
| ENPL 304-3 | Mediation. Negotiation and Public Participation |
| ENPL 313-3 | Rural Community Economic Development |
| FNST 217-3 | Contemporary Challenges Facing Aboriginal Communities |
| FNST 407-3 | First Nations Perspectives on Race, Class, Gender and Power |
| GEOG 209-3 | Migration and Settlement |
| GEOG 305-3 | Political Ecology |
| GEOG 308-3 | Environments of Health and Care |
| ORTM 100-3 | Foundations of Outdoor Recreation and Tourism |
| ORTM 200-3 | Sustainable Outdoor Recreation and Tourism |
| ORTM 407-3 | Recreation, Tourism and Communities |
| POLS 316-3 | Community Government and Politics |

## Natural Resource Management

Students should note that some of these courses have pre-requisites. It is the student's responsibility to ensure they have completed these pre-requisites.

**Required**

| | |
|---|---|
| NREM 100-3 | Natural Resources Management I |
| NREM 101-3 | Natural Resources Management II |
| NREM 210-3 | Integrated Resource Management |
| ORTM 100-3 | Foundations of Outdoor Recreation and Tourism |

Choose one of:

| | |
|---|---|
| FNST 203-3 | Introduction to Traditional Ecological Knowledge |
| NREM 203-3 | Resource Inventories and Measurements |
| ORTM 200-3 | Sustainable Outdoor Recreation and Tourism |

Choose four of:

| | |
|---|---|
| ENPL 304-3 | Mediation, Negotiation and Public Participation |
| ENPL 305-3 | Environmental Impact Assessment |
| ENSC 302-3 | Low Carbon Energy Development |
| GEOG 401 -3 | Tenure, Conflict and Resource Geography |
| INTS 307-3 | Global Resources |
| INTS 309-3 | Global Science and Technology |
| NREM 333-3 | Field Applications in Resource Management |
| NREM 400-3 | Natural Resources Planning |
| ORTM 300-3 | Recreation and Tourism Impacts |
| ORTM 305-3 | Protected Areas Planning and Management |
| ORTM 400-3 | Conservation Area Design and Management |
| POLS 315-3 | Contemporary Issues in Circumpolar World |

## Science, Technology, and Society

Students should note that some of these courses have pre-requisites. It is the student's responsibility to ensure they have completed these pre-requisites.

**Required**

| | |
|---|---|
| BIOL 103-3 | Introductory Biology I |
| BIOL 123-1 | Introductory Biology I Laboratory |
| BIOL 104-3 | Introductory Biology II |
| BIOL 124-1 | Introductory Biology II Laboratory |
| BIOL 201-3 | Ecology |
| INTS 309-3 | Global Science and Technology |

Choose six of:

| | |
|---|---|
| ENSC 201-3 | Weather and Climate |
| ENSC 202-3 | Introduction to Aquatic Systems |
| ENPL 303-3 | Spatial Planning with Geographical Information |
| ENSC 308-3 | Northern Contaminated Environments |
| ENSC 404-3 | Waste Management |
| ENSC 425-3 | Climate Change and Global Warming |
| FSTY 205-3 | Introduction to Soil Science |
| INTS 205-3 | Introduction to International Studies |
| NREM 333-3 | Field Applications in Resource Management |

## First Nations

Choose at least one FNST course and two additional courses from the following:

| | |
|---|---|
| ANTH 206-3 | Ethnography in Northern BC |
| FNST 217-3 | Contemporary Challenges Facing Aboriginal Communities |
| FNST 249-3 | Aboriginal Resource Planning |
| GEOG 206-3 | Social Geography |

Choose six of:

| | |
|---|---|
| BIOL 350-3 | Ethnobotany |
| ENPL 208-3 | First Nations Community and Environmental Planning |
| FNST 280-3 | Aboriginal Medicines I - Harvesting and Preservation |
| FNST 300-3 | Research Methods in First Nations Studies |
| FNST 303-3 | First Nations Religion and Philosophy |
| FNST 304-3 | Indigenous Environmental Philosophy |
| FNST 416-3 | International Perspectives |
| FNST 451-3 | Traditional Use Studies |
| GEOG 301-3 | Cultural Geography |
| GEOG 403-3 | Aboriginal Geography |
| HIST 390-3 | Aboriginal People in Canada |
| NREM 303-3 | First Nations Approach to Resource Management |
| ORTM 306-3 | Indigenous Tourism and Recreation |
| POLS 412-3 | Comparative Aboriginal State Relations |

### Elective and Academic Breadth

Elective credit hours in any subject as necessary to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

## Major in Environmental Studies (Okanagan Diploma in Environmental Studies Degree Completion)

This 60 credit-hour program of study is available only to students from Okanagan College with a diploma in Environmental Studies (Environmental Management Option or Interdisciplinary Environmental Arts Option).

Degree requirements: Diploma in Environmental Studies from Okanagan College, minimum Cumulative GPA of 2.5, plus 33 credit hours.
Area of focus: 24–29 credit hours

Elective credit hours in any subject as necessary to ensure completion of a minimum of 60 credit hours at UNBC.

### Curriculum

### Lower-Division Requirement

| | |
|---|---|
| *BIOL 110-3 | Introductory Ecology |
| or POLS 100-3 | Contemporary Political Issues |
| ENPL 104-3 | Introduction to Planning |
| ENVS 101-3 | Introduction to Environmental Citizenship |

### Upper-Division Requirement

**300 Level**

| | |
|---|---|
| GEOG 300-3 | Geographic Information Systems |
| ENVS 325-3 | Global Environmental Change: Science and Policy |
| ENVS 326-3 | Natural Resources, Environmental Issues and Public Engagement |
| INTS 307-3 | Global Resources |
| or GEOG 401-3 | Resource Geography |
| or HIST 360-3 | An Introduction to Environmental History |
| NREM 303-3 | First Nations' Approaches to Resource Management |
| or FNST 304-3 | Indigenous Environmental Philosophy |
| or ENPL 208-3 | First Nations Community and Environmental Planning |

**400 Level**

| | |
|---|---|
| ENPL 401-3 | Environmental Law |
| ENVS 440-3 | Internship |
| GEOG 424-3 | Social Geography of Northern Communities |

*Students who completed the Interdisciplinary Arts diploma option should take BIOL 110, and students who completed the Environmental Management diploma option should take POLS 100.

Total: 33 credits

### Areas of Focus

Students must choose an area of focus, as described above, in one of the following five areas: Global Environmental Studies; Communities and Environmental Citizenship: Natural Resource Management; Science, Technology and Society; and First Nations. Courses used to fulfill major requirements above may not be used to fulfill an area of focus requirement.

## English and Environmental Studies Joint Major

**See Calendar entry under English.**

## Joint Major in Environmental Studies and Political Science

The Joint Major in Environmental Studies and Political Science is for students who want both a broad understanding of environmental issues and the political knowledge needed to respond to those issues.

The minimum requirement for completion of a Bachelor of Arts with a Joint Major in Environmental Studies and Political Science is 120 credit hours.

## Program Requirements

### Lower-Division Requirement

**100 Level**

ANTH 102-3 Anthropology: A World of Discovery
or FNST 100-3 The Aboriginal Peoples of Canada
BIOL 110-3 Introductory Ecology
ENPL 104-3 Introduction to Planning
ENVS 101-3 Introduction to Environmental Citizenship
GEOG 101-3 Human Geographies of Global Change
GEOG 204-3 Introduction to GIS for the Social Sciences
or GEOG 205-3 Cartography and Geomatics
GEOG 206-3 Society and Space
INTS 205-3 Introduction to International Studies
POLS 100-3 Contemporary Political Issues
POLS 200-3 Canadian Government and Politics
POLS 202-3 Canada in Comparative Perspective
POLS 270-3 Political Philosophy: Antiquity to Early Modernity

### Upper-Division Requirement

ENVS 306-3 Human Ecology
ENVS 309-3 Gender and Environmental Studies
or GEOG 305-3 Political Ecology
or GEOG 420-3 Geographies of Environmental Justice
ENVS 325-3 Global Environmental Change: Science and Policy
ENVS 326-3 Natural Resources, Environmental Issues and Public Engagement
FNST 304-3 Indigenous Environmental Philosophy
or NREM 303-3 First Nations' Approaches to Resource Management
NREM 306-3 Society, Policy and Administration
or POLS 344-3 Society, Policy and Administration of Natural Resources
POLS 302-3 How Government Works
or POLS 320-3 Canadian Politics and Policy
POLS 303-3 Democracy and Dictatorship
POLS 370-3 Political Philosophy: Early Modernity to Post-Modernity
or POLS 372-3 Theories of Justice
ENPL 401-3 Environmental Law
ENVS 440-(2-6) Internship
or POLS 440-3 Internship I
ENVS 414-3 Environmental and Professional Ethics
ORTM 408-3 The Psycology of Recreation and Tourism
or PSYC 408-3 Environmental Problems and Human Behaviour
POLS 400-(3-6) Classics in Political Philosophy
or POLS 472-3 Seminar in Political Philosophy
POLS 413-3 Democracy, Citizenship and Human Rights
or POLS 415-3 Comparative Northern Development

One of:

NRES 421-1 Professional Writing
and NRES 422-2 Undergraduate Report
or
NRES 430-6 Undergraduate Thesis

### Elective and Academic Breadth

Electives at any level in any subject sufficent to ensure completion of a minimum of 120 credit hours including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Minor in Environmental Studies

The minor in Environmental Studies offers an opportunity for students in other disciplines to learn how individual lives are connected with environmental systems, and to gain understanding and perspective on key environmental issues. A maximum of two courses (6 credit hours) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in Environmental Studies.

The minor in Environmental Studies requires the completion of 18 credit hours, 12 of which must be at the upper-division level.

### Required

ENVS 101-3 Introduction to Environmental Citizenship
ENVS 325-3 Global Environmental Change: Science and Policy
ENVS 414-3 Environmental and Professional Ethics

Three of:

ENPL 205-3 Environment and Society
ENPL 301-3 Sustainable Communities: Structure and Sociology
ENPL 401-3 Environmental Law
ENVS 301-3 Natural Resources, Environmental Issues and Public Engagement
ENVS 309-3 Gender and Environment
FNST 203-3 Introduction to Traditional Ecological Knowledge
FNST 304-3 Indigenous Environmental Philosophy
GEOG 305-3 Political Ecology
GEOG 401-3 Tenure, Conflict and Resource Geography
GEOG 420-3 Geographices of Environmental Justice
NREM 303-3 First Nations' Approaches to Resource Management
ORTM 100-3 Foundations of Outdoor Recreation and Tourism
ORTM 200-3 Sustainable Outdoor Recreation and Tourism
ORTM 408-3 The Psychology or Recreation and Tourism
PSYC 408-3 Envrionmental Problems and Human Behaviour

# Minor in Global Environmental Change

The minor in Global Environmental Change offers a way for UNBC students to obtain a well-rounded perspective and knowledge-base on global change issues that encompasses not only the science of global change and change predictions, but also the political realities of environmental change and the way policy intersects with science.

The minor in Global Environmental Change requires the completion of 21 credit hours, 12 of which must be at the upper-division level. A maximum of two courses (six credit hours) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in Global Environmental Change.
Students must complete ENVS 325-3 and at least 9 credit hours from each of the two lists of courses indicated below for a total of 21 credit hours overall. Nine of these credit hours selected from the approved lists below must be from upper-division courses.

## Required

ENVS 325-3 Global Environmental Change: Science and Policy

Three of:

| | |
|---|---|
| BIOL 110-3 | Introductory Ecology |
| or BIOL 201-3 | Ecology |
| BIOL 404-3 | Plant Ecology |
| ENSC 201-3 | Weather and Climate |
| ENSC 308-3 | Northern Contaminated Environments |
| ENSC 312-3 | Biometeorology |
| ENSC 408-3 | Storms |
| ENSC 412-3 | Air Pollution |
| ENVS 306-3 | Human Ecology |
| GEOG 100-3 | Envrironments and People: The Geography of Natural Hazards |
| GEOG 432-3 | Remote Sensing |
| PHYS 307-3 | Selected Topics in Environmental Physics |

Three of:

| | |
|---|---|
| ECON 305-3 | Environmental Economics |
| ENPL 205-3 | Environment and Society |
| ENPL 301-3 | Sustainable Communities: Structure and Sociology |
| ENPL 305-3 | Environmental Impact Assessment |
| ENPL 401-3 | Environmental Law |
| GEOG 305-3 | Political Ecology |
| GEOG 401-3 | Tenure, Conflict and Resource Geography |
| GEOG 420-3 | Geographies of Environmental Justice |
| HIST 360-3 | Introduction to Environmental History |
| HIST 421-3 | Topics in Environmental History |
| INTS 205-3 | Introduction to International Studies |
| INTS 300-3 | International Organization |
| INTS 307-3 | Global Resources |
| INTS 470-3 | International Environmental Policy |
| ORTM 200-3 | Sustainable Resource Recreation and Tourism |
| POLS 100-3 | Contemporary Political Issues |
| POLS 344-3 | Society, Policy and Administration of Natural Resources |
| PSYC 408-3 | Environmental Problems and Human Behaviour |

# Bachelor of Fine Arts (Fine Arts and Creative Writing) (BFA Program)

Karin Beeler, Professor and Chair
Dee Horne, Professor
Robert Budde, Associate Professor
Lisa Dickson, Associate Professor
Kristen Guest, Associate Professor
Kevin Hutchings, Associate Professor; Canada Research Chair in Literature, Culture, and Environmental Studies
Maryna Romanets, Associate Professor
Blanca Schorcht, Associate Professor
Marian Scholtmeijer, Assistant Professor

Website: www.unbc.ca/fine-arts

**The Joint Degree in Fine Arts and Creative Writing is offered through a partnership between the University of Northern British Columbia and Emily Carr University of Art & Design.**

The degree is an interdisciplinary four-year joint-degree program between the two universities that connects creative writing and studio practice. Courses within the program offer students the opportunity to develop applied, conceptual, and theoretical skills.

The program begins in September of each year and the application deadline is February 1. Anyone seeking information about the application process should contact the UNBC Office of the Registrar. Students who want help regarding course selection are encouraged to contact the UNBC Student Advisor.

The UNBC/ECU joint degree in Fine Arts and Creative Writing is an interdisciplinary project-based degree that links creative writing and studio practice within a critical context. Studio courses within the degree ensure that students establish foundational skills during their first year, and that they build expertise within several different disciplines in their second and third years. The fourth year of study focuses on work in an independent studio environment. Concurrently, academic courses in theory and creative writing provide a theoretical basis of understanding that enhances and informs studio experience. Although intended to support students in central northern BC, the unique character of this program may prove to be attractive for students from elsewhere in Canada and around the world. Such exposure will not only allow students to develop and combine a significant range of artistic abilities, it will also cultivate highly transferable skills. While many graduates may elect to pursue careers as practicing artists, others may choose to apply for graduate degrees in English or Fine Arts; to apply for professional degrees, such as law or education, requiring highly developed critical thinking skills; to seek employment in areas such as graphic design, web/computer design, and information based industries.

Students must take 120 credit hours, whether directly or by transfer, split equally between the University of Northern British Columbia and Emily Carr University of Art and Design. Students may elect to complete a portion of the required courses at the ECU's main campus during the summer months. All costs associated with student travel and stay at ECU are the responsibility of the student.

## Admission Requirement

Admission to the Bachelor of Fine Arts joint degree is competitive by direct entry to UNBC based on academic qualifications, portfolio, and available space. Priority admission will be given to students who meet admission criteria and apply by the deadline of February 01. Applications received after the deadline may be reviewed based on available space in the program.

Applicants from BC and Yukon secondary schools must:

- meet the admission requirements as specified in the Admissions section of the UNBC Undergraduate Calendar with an admission average of at least 67%, and
- submit a portfolio that includes ten examples of studio art and five pieces of creative writing. There will be sessions throughout the year for students to learn how to prepare a portfolio. For dates and times, please click on events on the English Program home page.

Other applicants must demonstrate that they possess qualifications at least equivalent to the BC and Yukon requirement.

### Application of Academic Regulations

On a semester-by-semester basis, students are subject to the Academic Regulations in place at the institution to which their course numbers are designated (ECU or UNBC or both). Grading, for courses bearing their institutional designation, is by the grading scales of each institution respectively.

### Transfer Credit and Residency

Transfer credit and/or advanced standing may be awarded for course work completed at other recognized institutions, and will be assigned by the two institutions in conformity with their Academic Regulations. The minimum residency requirement for graduation is 30 credit hours each at UNBC and ECU.

### Graduation

It is the responsibility of the student to ensure that his/her degree requirements are met. Students must have a CGPA of at least 2.0 (63%) over all courses at both institutions to graduate.

## Curriculum

## Program Requirements

In order to meet the graduation requirements for a BFA, students must successfully complete the following requirements consisting of 120 credit hours. Students may count no more than 60 credit hours from each of UNBC and ECU towards the degree. For ECU course descriptions, please refer to the following URL: www.ecuad.ca/programs/courses

**Please Note:** Many of the ECU courses are provided on-line only. For further information, contact the Student Advisor. Courses marked with an asterisk (*) may be available to be taken on-site at Emily Carr during the summer in advance of the semester offering.

### Foundation (First) Year

**ECU Courses**

FNDT 106-3 Drawing and 2-Dimensional Language
FNDT 108-3 Creative Processes (on-line)
FNDT 109-3 Visual Communication (on-line)
AHIS 102-3 Visual Culture (on-line)
AHIS 103-3 Visual Culture II (on-line)

**UNBC Courses**

One of:

- ENGL 100-3 Introduction to Literary Structures
- ENGL 102-3 Introduction to Poetry
- ENGL103-3 Introduction to Fiction
- ENGL 104-3 Introduction to Film
- ENGL 170-3 Writing and Communication Skills

and 12 elective credit hours

### Second Year

**ECU Courses**

AHIS 210-3 Art and Culture
12 Open Studio credit hours (200 level) selected from across Emily Carr University in any combination of 3 or 6 credit hours.

**UNBC Courses**

ENGL 271-3 Introduction to Creative Writing
6 credit hours from:

- ENGL 205-3 Fiction
- ENGL 210-3 Women and Literature
- ENGL 270-3 Expository Writing

6 elective credit hours

### Third Year

**ECU Courses**

HUM 311-3 Visual Art Seminar

9 open studio credit hours (300 level) selected from across Emily Carr University in any combination of 3 or 6 credit hours

3 AHIS/DHIS/MHIS credit hours (300/400 level)

**UNBC Courses (Third + Fourth Year: 30 credit hours)**

ENGL 470-3 Creative Writing – Poetry
ENGL 471-3 Creative Writing – Fiction and Creative Non-Fiction
ENGL 472-3 Creative Writing – Drama and Scriptwriting
ENGL 493-3 Cultural Studies

One of:

- ENGL 300-3 Theory
- ENGL 400-3 Contemporary Theory

15 credit hours 300/400 elective courses

### Fourth Year

**ECU Courses**

HUM 411-3 Written Project

3 AHIS/DHIS/MHIS credit hours (300/400 level)
9 Open Studio credit hours

**UNBC Courses**

(See above for Third + Fourth Year Requirements)

# First Nations Studies (BA Program)

Margaret Anderson, Professor Emerita

Ross Hoffman, Associate Professor and Chair
Fyre Jean Graveline, Professor
Margo Greenwood, Professor
Antonia Mills, Professor
Agnieszka (Agnes) Pawlowska-Mainville, Assistant Professor
Tina Fraser, Adjunct Professor
Earl Henderson, Adjunct Professor
Travis Holyk, Adjunct Professor
Gregory Lowan-Trudeau, Adjunct Professor
Paul Michel, Adjunct Professor
Deanna Nyce, Adjunct Professor

Website: www.unbc.ca/first-nations-studies

First Nations Studies takes the points of view of First Nations people and communities as the starting point for description and analysis, and contextualizes issues from this perspective. Courses in First Nations Studies will re-orient students to question the underlying assumptions of everyday understanding and will develop clarity in thought and presentation critical to advanced study.

First Nations Studies is a valuable part of any good undergraduate education in the contemporary world; it is an appropriate undergraduate major for students aspiring to careers in education, business, public administration, law, communications, cultural property management, social services, health care delivery and administration, and many other fields. With an undergraduate major in First Nations Studies students may apply for admission to graduate programs in several academic disciplines, and to many professional programs. Students intending to apply for graduate or professional programs should ensure that their programs include all required prerequisites.

## Major in First Nations Studies

A major in First Nations Studies requires students to take 48 credit hours of First Nations Studies, at least 21 credit hours of which must be upper-division courses. Those courses from the offerings of other programs with content focused on First Nations are designated as Approved ancillary courses for a major in First Nations Studies, and may be included among the 48 credit hours required for a major [for example HIST 390-3 (Aboriginal People in Canada)]. Students may not take more than 60 credit hours of First Nations Studies without written permission from the Chair of the Department of First Nations Studies program. After the 100 level courses taken by all students majoring in First Nations Studies, the program requires only two other mandatory three-credit courses, FNST 200-3 (Methods and Perspectives in First Nations Studies), and FNST 305-3 (Seminar in First Nations Studies), permitting each student to design a program emphasizing various aspects of First Nations Studies such as contemporary political issues, languages and cultures, etc.

The minimum requirement for completion of a Bachelor of Arts with a major in First Nations Studies is 120 credit hours.

### Program Requirements

#### Lower-Division Requirement

**100 and 200 Level**

FNST 100-3 The Aboriginal Peoples of Canada
FNST 200-3 Methods and Perspectives in First Nations Studies

Any one of the following culture or language courses:

FNST 131-3 A First Nations Language: Level 1
FNST 132-3 A First Nations Language: Level 2
FNST 133-3 Dakelh / Carrier Language: Level 1
FNST 134-3 Dakelh / Carrier Language: Level 2
FNST 135-3 Haisla Language (X-a'islak'ala): Level 1
FNST 136-3 Haisla Language (X-a'islak'ala): Level 2
FNST 137-3 Tsimshian Language (Sm'algyax): Level 1
FNST 138-3 Tsimshian Language (Sm'algyax): Level 2
FNST 139-3 Nisga'a Language: Level 1
FNST 140-3 Nisga'a Language: Level 2
FNST 161-3 A First Nations Culture: Level 1
FNST 162-3 A First Nations Culture: Level 2
FNST 163-3 Dakelh / Carrier Culture: Level 1
FNST 164-3 Dakelh / Carrier Culture: Level 2
FNST 167-3 Tsimshian Culture: Level 1
FNST 168-3 Tsimshian Culture: Level 2
FNST 169-3 Nisga'a Culture: Level 1
FNST 170-3 Nisga'a Culture: Level 2
FNST 171-3 Métis Studies: Level 1
FNST 172-3 Métis Studies: Level 2

#### Upper-Division Requirement

**300 Level**

FNST 305-3 Seminar in First Nations Studies

**400 Level**

FNST 440-3 Internship in First Nations Studies

Fifteen credit hours of 300- or 400-level First Nations Studies courses or approved ancillary courses for the major in First Nations Studies.

#### Subject Requirement

Eighteen credit hours of First Nations Studies or approved ancillary courses at any level.

#### Elective and Academic Breadth

Nine credit hours of upper-division electives (to meet UNBC residency requirement).

Fifty-seven credit hours at any level in any subject to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

### Approved Ancillary Courses for a Major in First Nations Studies

This list is reviewed annually by the Department of First Nations Studies. Approved ancillary courses are those courses from other disciplines with content focused on First Nations. The following courses are included, and may be counted towards the required courses for a major in First Nations Studies.

| | |
|---|---|
| ANTH 206-3 | Ethnography in Northern British Columbia |
| ANTH 404-3 | Comparative Study of Indigenous Peoples of the World |
| ANTH 407-3 | British Columbia Ethnography |
| ANTH 409-3 | British Columbia Archaeology |
| BIOL 350-3 | Ethnobotany |
| ENGL 320-3 | First Nations Literature |
| ENGL 420-3 | Special Topics in First Nations Literature |
| GEOG 403-3 | Aboriginal Geography |
| HHSC 471-3 | Aboriginal Health and Chronic Diseases |
| HIST 215-3 | Global History of Indigenous People |
| HIST 303-3 | British Columbia |
| HIST 390-3 | Aboriginal People in Canada |
| HIST 391-3 | Aboriginal People in the United States |
| HIST 456-3 | Topics in Cultural Encounters |
| NREM 303-3 | First Nations' Approaches to Resource Management |
| NURS 205-3 | Introduction to First Nations Health |
| NURS 422-3 | First Nations Health and Nursing |
| NURS 498-3 | Special Topics in Nursing |
| POLS 311-3 | Russian Politics and Society |
| POLS 412-3 | Comparative Aboriginal State Relations |
| SOCW 455-3 | First Nations Governance and Social Policy |
| SOCW 456-3 | Family Caring Systems |
| SOCW 457-3 | Individual and Community Wellness |
| WMST 306-3 | Indigenous Women: Perspectives |
| WMST 413-(3-6) | Topics in Aboriginal Women's Studies |

## Joint Major in First Nations Studies/ Women's Studies

The First Nations Studies/Women's Studies Joint Major will equip students to understand the role of women in First Nations societies, political and social institutions, and economies. The degree ought to be particularly attractive to students who intend to pursue a career in education, business, public administration, communications, social services, and many other fields.

The minimum requirement for completion of a Bachelor of Arts with a Joint Major in First Nations and Women's Studies is 120 credit hours.

### Program Requirements

| | |
|---|---|
| FNST 100-3 | The Aboriginal Peoples of Canada |
| FNST 200-3 | Methods and Perspectives in First Nations Studies |
| FNST 302-3 | First Nations Health and Healing |
| FNST 305-3 | Seminar in First Nations Studies |
| FNST 306-3/ WMST 306-3 | Indigenous Women: Perspectives |
| FNST 413-3/ WMST 413-3 | Topics in Aboriginal Women's Studies |
| WMST 100-3 | Introduction to Women's Studies |
| WMST 302-3 | Women and the Contemporary World |

At least three additional credit hours of 100-level First Nations in a culture or language.

At least six additional credit hours of Women's Studies at the 100 or 200 level.

### Upper-Division Requirement

At least eighteen credit hours selected from the following:

| | |
|---|---|
| WMST 303-3 | Lesbian and Bisexual Lives |
| WMST 304-3 | Contemporary Women's Writing in an International Frame |
| WMST 309-3 | Gender and Film |
| WMST 312-3/ HIST 312-3 | Introduction to the History of Gender |
| WMST 401-3 | Cultural Studies: Gender, Race, and Representation |
| WMST 410-3 | Feminist Political Philosophy |
| WMST 411-3 | Contemporary Feminist Theories |
| WMST 420-3/ ENGL 410-3 | Contemporary Feminist Literature |
| WMST 498-(3-6) | Selected Topics |
| ANTH 401-3 | Anthropological Perspectives on Inequality |
| ANTH 406-3 | Feminist Perspectives in Anthropology |
| COMM 333-3 | Women in Organizations |
| ECON 301-3 | Women and the Economy |
| ENVS 309-3 | Gender and Environment |
| FNST 407-3 | Race, Class, Gender, Power |
| HIST 309-3 | Women in Canada |
| HIST 453-3 | Topics in the History of Gender |
| HIST 454-3 | Topics in Women's History |
| INTS 308-3 | Gender and International Studies |
| NURS 412-3 | Women and Health |
| SOCW 433-3 | Women in the Human Services |
| SOCW 449-3 | Gender and Sexuality |

At least fifteen additional credit hours of First Nations 300-400-level courses.

### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

## Minor in First Nations Studies

The minor in First Nations Studies allows students to learn about the field, and to combine a minor concentration in FNST with a major concentration in another area. Students wishing to develop a particular focus could select a set of courses, for example on aboriginal issues, aboriginal languages, and/or aboriginal cultures (Nisga'a, Métis or Dakelh / Carrier). Other combinations are possible with the guidance of the undergraduate student advisor.

A maximum of two courses (six credit hours) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in First Nations Studies. A maximum of two courses from the list of Approved Ancillary Courses for a Major in First Nations Studies can be used to fulfill the requirements of the First Nations minor.

The minor requires completion of 18 credit hours (six courses):

FNST 100-3 The Aboriginal Peoples of Canada

Three credit hours of First Nations Studies at any level.
Twelve credit hours of 300 or 400 level First Nations Studies.

## Minor in Indigenous Ecological Knowledge

The minor in Indigenous Ecological Knowledge assists students to gain an understanding of the unique ways that Indigenous Peoples know and understand the world. This minor prepares students to engage First Nations in collaborative processes that include traditional ways of living and knowing, environmental philosophies, and aboriginal governance.

The minor in Indigenous Ecological Knowledge requires the completion of a minimum of 21 credit hours of study, of which 12 must be at the upper division. A maximum of two courses (6 credit hours) used to fulfil the requirements for a major, or another minor, may also be used to fulfil requirements for this minor. It is the student's responsibility to ensure that they have the required prerequisites.

**Required**

FNST 100-3 The Aboriginal Peoples of Canada
FNST 203-3 Introduction to Traditional Ecological Knowledge
FNST 217-3 Contemporary Challenges Facing Aboriginal Communities

Four of:

- FNST 301-3 Art and Material Culture of BC First Nations
- FNST 302-3 First Nations Health and Healing
- FNST 303-3 First Nations Religion and Philosophy
- FNST 304-3 Indigenous Environmental Philosophy
- FNST 350-3 Canadian Law and Aboriginal Peoples
- FNST 416-3 International Perspective
- FNST 440-3 Internship in First Nations Studies
- FNST 451-3 Traditional Use Studies

# First Nations Diploma Programs

A Diploma allows a student who has completed a Certificate to build on that qualification. After completing a Certificate, a Diploma will require another 30 credit hours (for a total of 60 credit hours) with a minimum of 15 credit hours being in upper-division courses. A maximum of 30 credit hours from other institutions may be applied to a Diploma.

Due to the diverse nature of the courses required to complete a specific Diploma the University cannot guarantee that an individual student will be able to complete a Diploma within a specified time period. Before starting to take courses towards the goal of completing a Diploma, students are advised to consult with the Chair of the First Nations Studies Program, and where appropriate the Director of their regional campus, in order to confirm when the required Diploma courses are scheduled to be offered.

# Aboriginal / Indigenous Health and Healing

The Diploma in Aboriginal / Indigenous Health and Healing offers a multidisciplinary program allowing individuals to pursue their interest in Aboriginal / Indigenous Health and Healing through a concentrated program of courses on Aboriginal / Indigenous Health and Healing subjects. Individuals working with Aboriginal communities in a health related field or desiring to pursue a degree in the health sciences with a concentration on Aboriginal health will be especially interested in this program.

The Diploma in Aboriginal / Indigenous Health and Healing allows individuals to receive a credential after 60 credit hours of study. The Diploma especially complements a major in First Nations Studies, Anthropology, Environmental Studies, Community Health, and Psychology. Students desiring to complete a degree after completion of the Diploma are strongly encouraged to speak with the relevant program Academic Advisor.

## Diploma Requirements

Successful completion of the Certificate in Aboriginal / Indigenous Health and Healing

| | |
|---|---|
| FNST 302-3 | First Nations Health and Healing |
| FNST 303-3 | First Nations Religion and Philosophy |
| FNST 304-3 | Indigenous Environmental Philosophy |
| FNST 313-3 | Healing Within Art: Space, Time and Materials |
| FNST 315-3 | Aboriginal Health Management |
| FNST 316-3 | Aboriginal Health and Chronic Illness |
| FNST 317-3 | Aboriginal Healing Practices |
| FNST 411-3 | Advanced Topics in Indigenous Regligion and Philosophy |
| FNST 440-3 | Internship in First Nations Studies |
| FNST 498-3 | Special Topics in FNST |

# First Nations Language

The Diploma in First Nations Language offers a program that allows individuals to pursue their interests in First Nations language through a concentrated program of courses on a particular language.

This diploma program is directed towards individuals who may not wish to commit to a full majors program in First Nations Studies, with the associated requirements of a Bachelor's degree. Persons of First Nations descent and people who are working in the area of aboriginal education will be especially interested in this shorter term program. The diploma program enhances public access to a university education with a course of study that allows flexibility in scheduling individual study programs, establishes a progression mechanism, and provides a short term exit or the option of continuing into other programs, including the Bachelor program.

The diploma program is based on existing undergraduate courses with the addition of two additional levels of language courses (level 5 and 6) and two specific Advanced Immersion First Nations Language courses, which may be delivered through language mentoring.

## Diploma Requirements

Successful completion of ten courses (30 credit hours):

Six credit hours (two courses) of First Nations Language courses
Three credit hours (one course) of Introduction to Linguistics
Nine credit hours (three courses) in the structure of First Nations Languages
Six credit hours (two courses) of First Nations Language Mentoring/Advanced Immersion
Six credit hours (two courses) in First Nations Studies

# First Nations Certificate Programs

The Certificate program is intended to enhance public access to a university education with a flexible course of study that allows either a short term exit (upon completion of Certificate requirements) or the option of laddering into other programs, including the Bachelor program.

The Certificate also provides flexibility. All courses in the Certificate are university-credit courses. This means that students can apply credit taken in their Certificate to other programs should they later decide to pursue a Bachelor's degree. Moreover, the requirements for the Certificate could be completed in one year or could be completed on a part-time basis over several years, depending upon course scheduling and the situation of the student.

As soon as a student completed the 10 courses required in the program of study, the student would be eligible to receive his or her Certificate. The completion of the Certificate would give students the equivalent of one full year of university credit. This provides a laddered program of study which could result in the completion of a Bachelor's degree with three more years of study at UNBC or another university. Because the program is based on existing undergraduate courses, Certificate students will take their courses alongside regular, full-time students.

The requirements for admission into a Certificate program are the same as for any student enrolled in a UNBC undergraduate program. To be eligible for a certificate, students must achieve a minimum GPA of C, based on all courses taken at UNBC that are applied to the Certificate. University transfer credits also can be applied to the program, as appropriate, to a maximum of 15 credit hours.

Due to the diverse nature of the courses required to complete a specific Certificate the University cannot guarantee that an individual student will be able to complete a Certificate within a specified time period. Before starting to take courses towards the goal of completing a Certificate, students are advised to consult with the Chair of the First Nations Studies Program, and where appropriate the Director of their regional campus, in order to confirm when the required Certificate courses are scheduled to be offered.

# Aboriginal Community Resource Planning

The Aboriginal Community Resource Planning Certificate (ACP) consists of 10 courses (minimum 30 credit hours) drawn primarily from First Nations Studies and Environmental Studies, with offerings from Geography, Commerce, Resource Recreation and Tourism, and Natural Resources and Environmental Management. The courses from First Nations Studies provide students with foundations in First Nations in Canada, cultures and languages, internal and external issues, First Nations environmental philosophies, and the courses from Environmental Studies provide foundations in the principles of traditional planning. The program is generic in nature so that the knowledge can be transferred to different community settings, as well as to the variety of situations that students will encounter throughout their lives.

Two important purposes of the Certificate are, first, to provide requisite education to assist individuals involved in the resource planning in First Nations communities and, second, to provide expanded educational opportunities at the university level for students who are not in a position to commit to a four year program of study. Students must meet with a First Nations Studies undergraduate student advisor prior to starting this program.

## Certificate Requirements

| | |
|---|---|
| ENPL 104-3 | Introduction to Planning |
| ENPL 204-3 | Principles of Practices of Planning |
| FNST 100-3 | The Aboriginal Peoples of Canada |
| FNST 304-3 | Indigenous Environmental Philosophy |
| FNST 249-3 | Aboriginal Resource Planning |
| GEOG 205-3 | Cartography and Geomatics |

Any First Nations Culture Level 1 course or any First Nations Language Level 1 course

One of:

| | |
|---|---|
| ARTS 102-3 | Research Writing |
| ENGL 170-3 | Writing & Communication Skills |
| FNST 200-3 | Methods in First Nations Studies |

One of:

| | |
|---|---|
| FNST 217-3 | Contemporary Challenges Facing Aboriginal Communities |
| POLS 200-3 | Canadian Politics and Government |

One of:

| | |
|---|---|
| COMM 100-3 | Introduction to Canadian Business |
| GEOG 202-3 | Economic Geography of Resources and Sustainability |
| NRES 100-3 | Communication in Natural Resource |

# Aboriginal / Indigenous Health and Healing

The Certificate in Aboriginal / Indigenous Health and Healing offers a multidisciplinary program allowing individuals to pursue their interest in Aboriginal / Indigenous Health and Healing through a concentrated program of courses on Aboriginal / Indigenous Health and Healing subjects.

The Certificate requires completion of ten courses (30 credit hours). Individuals working with Aboriginal communities in a health-related field or desiring to pursue a degree in the health sciences with a concentration on Aboriginal health will be especially interested in this program.

The Certificate in Aboriginal / Indigenous Health and Healing allows individuals to receive a credential after 30 credit hours of study. The Certificate especially complements a major in First Nations Studies, Anthropology, Environmental Studies, Community Health, and Psychology. Students desiring to complete a degree after the Certificate are strongly encouraged to speak with the relevant program student advisor.

Students must establish their course of study with approval from the Chair of First Nations Studies.

### Certificate Requirements

| | |
|---|---|
| FNST 100-3 | The Aboriginal Peoples of Canada |
| HHSC 101-3 | Introduction to Health Sciences I: Issues and Controversies |
| HHSC 102-3 | Introduction to Health Science II: Rural and Aboriginal Issues |
| FNST 200-3 | Methods and Perspectives in First Nations Studies |
| FNST 203-3 | Introduction to Traditional Ecological Knowledge |
| FNST 217-3 | Contemporary Challenges Facing Aboriginal Communities |
| FNST 280-3 | Aboriginal Medicines I-Harvesting and Preservation |
| FNST 281-3 | Aboriginal Medicines II-Administering and Ethics |
| FNST 282-3 | Aboriginal Health Philosophy |
| FNST 298-3 | Special Topics in First Nations Studies |

## First Nations Language

The Certificate in First Nations Language consists of 10 courses (30 credit hours) and offers a program that allows individuals to pursue an interest in First Nations language through a concentrated program of courses on a particular language.

This certificate program is directed towards individuals who may not wish to commit to a full majors program in First Nations Studies, with the associated requirements of a Bachelor's degree. Persons of First Nations descent and people who are working in the area of aboriginal education will be especially interested in this shorter term program. The certificate program enhances public access to a university education with a course of study that allows flexibility in scheduling individual study programs, establishes a progression mechanism, and provides a short term exit or the option of continuing into other programs, including the Bachelor's degree program.

Credits earned in the certificate program can be applied to the major or minor in First Nations Studies, subject to the requirements of those First Nations Studies programs.

Students must establish their course of study with approval from the Chair of First Nations Studies.

### Certificate Requirements

Five courses (15 credit hours) of study in a First Nations language of Northern BC, including one immersion course.

Two courses (six credit hours) of introductory First Nations Studies, including courses on culture and issues.

Two courses (six credit hours) of English.

One course (three credit hours) of Linguistics of First Nations languages.

## First Nations Public Administration

The Certificate in First Nations Public Administration consists of ten courses (30 credit hours) drawn primarily from the Department of First Nations Studies and Political Science, with offerings from Business Administration, and Economics. The courses from First Nations Studies provide students with foundations in internal and external First Nations issues and culture, and the courses from Political Science provide foundations in the principles of government, politics, and public administration, as well as some specialization in First Nations law, self-government and administration. The program is generic in nature so that the knowledge can be transferred to different community settings, as well as to the variety of situations that students will encounter throughout their lives.

Two important purposes of the Certificate are, first, to provide requisite education to assist individuals involved in the administration of First Nations governments and, second, to provide expanded educational opportunities at the university level for students who are not in a position to commit to a four-year program of study.

Students must establish their course of study with approval from the Chair of First Nations Studies.

### Certificate Requirements

| | |
|---|---|
| COMM 210-3 | Financial Accounting |
| ECON 101-3 | Macroeconomics |
| ENGL 170-3 | Writing and Communication Skills |
| or ARTS 102-3 | Research Writing |
| FNST 100-3 | The Aboriginal Peoples of Canada |
| FNST 217-3 | Contemporary Challenges Facing Aboriginal Communities |
| FNST 249-3 | Aboriginal Resource Planning |
| FNST 350-3 | Canadian Law and Aboriginal Peoples |
| POLS 100-3 | Contemporary Political Issues |
| POLS 200-3 | Canadian Government and Politics |

Three credit hours of any First Nations Culture Level 1 course or any First Nations Language Level 1 course.

## General First Nations Studies

The Certificate in General First Nations Studies is a multidisciplinary program allowing individuals to pursue their interests in First Nations Studies through a concentrated program of courses on First Nations subjects.

The program ladders well into a major in First Nations Studies, Anthropology, Biology, History, Education, English, Environmental Studies, Forestry, Geography, Nursing and Community Health, Political Science, Psychology, Social Work and Women's Studies.
The Certificate requires successful completion of ten courses (30 credit hours). Eighteen of these credit hours are earned by completing six required courses. The remaining four courses (12 credit hours) consist of options from the First Nations Studies program, including at least one course from the approved ancillary course list.

Students must establish their course of study with approval from the Chair of First Nations Studies.

### Certificate Requirements

FNST 100-3 The Aboriginal Peoples of Canada
FNST 200-3 Methods and Perspectives in First Nations Studies
FNST 217-3 Contemporary Challenges Facing Aboriginal Communities
ANTH 206-3 Ethnography in Northern British Columbia
or FNST 304-3 Indigenous Environmental Philosophy
HIST 110-3 Indigena

Any First Nations Culture Level 1 course or any First Nations Language Level 1 course.

Nine credit hours of First Nations Studies at any level approved by the Chair of First Nations Studies.

Three credit hours from the approved list of ancillary courses. Please refer to the list of Approved Ancillary Courses.

## Métis Studies

The Certificate in Métis Studies offers a program that allows individuals to pursue their interests through a concentrated program of courses on the Métis Nation.

The certificate requires successful completion of ten courses (30 credit hours).

Persons of Métis descent, other aboriginal people, and people who are working with aboriginal organizations will be especially interested in this program.

The Certificate in Métis Studies allows students to receive a credential after one year of studies which can be laddered into any UNBC program. It especially complements a major in First Nations Studies, Anthropology, History, English, Environmental Studies, Forestry, Geography, Nursing and Community Health, Political Science, Psychology, Social Work and Women's Studies.

The Certificate will be primarily offered through the Prince George campus. First Nations Studies is committed to distance delivery where possible. Students at other regional locals could take the certificate through a combination of face to face and distance delivery.

Students must establish their course of study with approval from the Chair of First Nations Studies.

### Certificate Requirements

FNST 100-3 The Aboriginal Peoples of Canada
FNST 200-3 Methods and Perspectives in First Nations Studies
Three of:
FNST 171-3 Métis Studies Level 1
FNST 172-3 Métis Studies Level 2
FNST 271-3 Métis Studies Level 3
FNST 272-3 Métis Studies Level 4
FNST 131-3 First Nations Language (Cree Language): Level 1
FNST 132-3 First Nations Language (Cree Language): Level 2
FNST 231-3 First Nations Language (Cree Language): Level 3
FNST 232-3 First Nations Language (Cree Language): Level 4

**Note:** Cree is subject to the availability of language instructors.

Five courses (15 credit hours) of First Nations Studies courses dealing with Métis culture, language, or issues. These options will be determined by FNST course offerings in that year. They can be either lower-division or upper-division courses. They can include ancillary courses identified by the program. An ancillary course is defined as a course in a program other than First Nations Studies which has sufficient substantive content in common with First Nations Studies. The program maintains a list of approved ancillary courses.

## Nisga'a Studies

The Certificate in Nisga'a Studies offers a program that allows individuals to pursue their interests in First Nations Studies through a concentrated program of courses on the Nisga'a First Nation.

The certificate requires successful completion of 10 courses (30 credit hours).

Persons of Nisga'a descent, other aboriginal people, and people who are working with aboriginal organizations will be especially interested in this program.

It especially complements a major in First Nations Studies, Anthropology, History, English, Environmental Studies, Forestry, Geography, Nursing and Community Health, Political Science, Psychology, Social Work and Women's Studies.

The Certificate will be primarily offered through the WWN. First Nations Studies is committed to distance delivery where possible. Students at the Prince George campus or other regional locals could take the certificate through a combination of face to face and distance delivery.

Students must establish their course of study with approval from the Chair of First Nations Studies.

## Certificate Requirements

FNST 200-3 Methods and Perspectives in First Nations Studies
FNST 217-3 Contemporary Challenges Facing Aboriginal Communities

Six of:

- FNST 139-3 Nisga'a Language: Level 1
- FNST 140-3 Nisga'a Language: Level 2
- FNST 169-3 Nisga'a Culture: Level 1
- FNST 170-3 Nisga'a Culture: Level 2
- FNST 239-3 Nisga'a Language: Level 3
- FNST 240-3 Nisga'a Language: Level 4
- FNST 269-3 Nisga'a Culture: Level 3
- FNST 270-3 Nisga'a Culture: Level 4

**Note:** It is possible to take all four levels of one category, either language or culture, and two levels of the other category.

Two courses (6 credit hours) of First Nations Studies dealing with Nisga'a culture, language, or issues. These two options will be determined by FNST course offerings in that year. They can be at any level. They can include ancillary courses identified by the program. An ancillary course is defined as a course in a program other than First Nations Studies which has sufficient substantive content in common with First Nations Studies. The program maintains a list of approved ancillary courses.

# Traditional Ecological Knowledge

The Certificate in Traditional Ecological Knowledge (TEK) is a multidisciplinary program allowing individuals to pursue their interests in TEK through a concentrated program of courses on First Nations and Environmental subjects.

This program ladders well into a major in First Nations Studies, Anthropology, Biology, History, Education, English, Environmental Studies, Forestry, Geography, Nursing and Community Health, Political Science, Psychology, Social Work and Women's Studies as well as leading into majors in Physics and Chemistry.

The Certificate requires successful completion of 10 courses (minimum 30 credit hours). Eighteen of these hours are earned by completing six required First Nations courses. Options for a writing course include one additional First Nations Studies course. The remaining three courses (minimum 9 credit hours) must be selected from the approved list for Ecology, Chemistry, Geography, Physics and Natural Resources.

Students must establish their course of study with approval from the Chair of First Nations Studies.

## Certificate Requirements

FNST 100-3 The Aboriginal Peoples of Canada
FNST 203-3 Introduction to Traditional Ecological Knowledge
FNST 304-3 Indigenous Environmental Philosophy

Any First Nations Culture course or any First Nations Language Level 1 course.

Two of:

- FNST 206-3 First Nations Oral Literatures
- FNST 217-3 Contemporary Challenges Facing Aboriginal Communities
- FNST 302-3 First Nations Health and Healing
- FNST 303-3 First Nations Religions and Philosophy

One of:

- ARTS 102-3 Research Writing
- ENGL 170-3 Writing & Communication Skills
- FNST 200-3 Methods in First Nations Studies

Three courses (at least 9 credit hours) from:

- BIOL 103-3 Introductory Biology I
- BIOL 104-3 Introductory Biology II
- BIOL 201-3 Ecology
- CHEM 100-3 General Chemistry I
- CHEM 101-3 General Chemistry II
- ENPL 104-3 Introduction to Planning
- ENSC 201-3 Introduction to Atmospheric Science
- GEOG 100-3 Environments and People: The Geography of Natural Hazards
- GEOG 200-3 British Columbia: People and Places
- NREM 100-3 Field Skills
- NREM 204-3 Introduction to Wildlife and Fisheries
- NREM 210-4 Integrated Resources Management
- PHYS 100-3 Introduction to Physics I
- PHYS 101-3 Introduction to Physics II
- PHYS 110-3 Introduction to Physics I: Mechanics
- PHYS 111-3 Introduction to Physics II: Waves and Electricity
- PHYS 115-3 General Introduction to Physics

# Forest Ecology and Management Major

**See Calendar entry under Natural Resources Management-Forest Ecology and Management.**

# Geography (BA and BSc Programs)

Neil Hanlon, Professor and Chair
Gail Fondahl, Professor
Kevin Hall, Professor
Greg Halseth, Professor, and Canada Research Chair, Rural and Small Town Studies
Brian Menounos, Professor and Canada Research Chair, Glacier Change
Ellen Petticrew, Professor and FRBC Chair in Landscape Ecology
Catherine Nolin, Associate Professor
Roger Wheate, Associate Professor/GIS Coordinator
Zoë Meletis, Assistant Professor
José Pablo Baraybar, Adjunct Professor
Matthew Beedle, Adjunct Professor
Sarah de Leeuw, Adjunct Professor
Marleen Morris, Adjunct Professor
John Rex, Adjunct Professor
Grahame Russell, Adjunct Professor
Ping Bai, Senior Lab Instructor (GIS)
Scott Emmons, Senior Lab Instructor (GIS)
Christine Jackson, Senior Lab Instructor

Website: www.unbc.ca/geography

Geography is an interdisciplinary bridge between the human and physical sciences, studying human–environment interactions. The Geography program offers both a Bachelor of Science and a Bachelor of Arts. The BSc in physical geography examines the natural environment and the interaction of climate, soils, vegetation and landforms, while the BA in human geography focuses on cultural, social, economic and rural environments. Degrees emphasize the geography of the North and contemporary geographic technologies.

# Geography Program (BA)

## Major in Geography

The Bachelor of Arts provides students with comprehensive training in the study of human geography, emphasizing the cultural, social, economic, and political connections between people and their environments. We offer courses that give students the conceptual and methodological means to make sense of the places and spaces they occupy, and how these relate to the rest of the world. Particular emphasis is on issues of community development, social justice, environmental equity, and population health in northern environments as a starting point for understanding the dynamics of place-making in a global context.

The minimum requirement for the completion of a Bachelor of Arts with a major in Geography is 120 credit hours.

### Program Requirements

#### Lower-Division Requirement

**100 Level**

GEOG 100-3 Environments and People: The Geography of Natural Hazards
GEOG 101-3 Human Geographies of Global Change

**200 Level**

GEOG 200-3 British Columbia: People and Places
GEOG 203-3 Roots, Ruggedness, and Rituals: A Geography of Canada
GEOG 204-3 Introduction to GIS for the Social Sciences
GEOG 210-3 Geomorphology
STAT 240-3 Basic Statistics
or ECON 205-3 Statistics for Social and Management Sciences

Four of:

GEOG 202-3 Economic Geography of Resources and Sustainability
GEOG 205-3 Cartography and Geomatics
GEOG 206-3 Society and Space
GEOG 209-3 Migration and Settlement
GEOG 220-3 World Regions: Latin America and the Caribbean
GEOG 222-3 World Regions: Russia

#### Upper-Division Requirement

**300 Level**

ENPL 319-3 Social Research Methods
or ORTM 310-3 Research Methods and Analysis

Five of:

GEOG 300-3 Geographic Information Systems
GEOG 301-3 Cultural Geography
GEOG 305-3 Political Ecology
GEOG 306-3 Geography of International Development: Places, People, Policies, and Promises
GEOG 307-3 Changing Arctic: Human and Environmental Systems
GEOG 308-3 Environments of Health and Care
GEOG 333-3 Geography Field School

**400 Level**

ENVS 414-3 Environmental and Professional Ethics
or COMM 332-3 Business and Professional Ethics
or POLS 317-3 Moral Philosophy

Five of:

GEOG 401-3 Tenure, Conflict, and Resource Geography
GEOG 403-3 First Nations and Indigenous Geography
GEOG 413-3 Advanced GIS
GEOG 420-3 Geographies of Environmental Justice
GEOG 424-3 Social Geography of Northern Communities
GEOG 426-3 Geographies of Culture, Rights and Power
GEOG 428-3 Health Geography in Practice
GEOG 432-3 Remote Sensing
GEOG 498-(1-3) Special Topics
GEOG 499-(3-6) Independent Studies

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours, of which 24 credit hours in any subject must be at the 300 or 400 level including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

## Major in Public Administration and Community Development

The Public Administration and Community Development major gives students the skills required to function within a range of groups, organizations, and offices. The graduate is able to interact with appropriate professionals, receive their input and reports, and collate a wide range of information and material in service of their group/organization/office. Skills in analysis and synthesis are complemented by an ability to work cooperatively and effectively, and an ability to communicate clearly through written, oral, and graphic mediums.

The Public Administration and Community Development major requires completion of 120 credit hours, 48 of which must be at the upper-division level. At the lower-division level, students must take the seven required courses and a minimum of one course from each of the seven categories. At the upper-division level, students must take the four required courses and a minimum of one course from each of the seven categories. To complete the 120 credit hours, students must take 45 credit hours of electives, of which 18 credit hours must be at the upper-division level.

It is possible for students to organize their course choices (categories and electives) to achieve a "specialization" of course work. An Area of Specialization requires 24 credit hours (eight courses) in one of the following:

- Specialization in Local Public Administration
- Specialization in Aboriginal Community Development
- Specialization in Planning

### Program Requirements

#### Lower-Division Requirements

| | |
|---|---|
| COMM 100-3 | Introduction to Canadian Business |
| ECON 100-3 | Microeconomics |
| ECON 101-3 | Macroeconomics |
| ENPL 104-3 | Introduction to Planning |
| FNST 100-3 | Aboriginal Peoples of Canada |
| GEOG 101-3 | Human Geographies of Global Change |
| POLS 100-3 | Contemporary Political Issues |

Select ONE course from each category below:

**Community**

| | |
|---|---|
| FNST 217-3 | Contemporary Challenges Facing Aboriginal Communities |
| GEOG 206-3 | Society and Space |
| GEOG 209-3 | Migration and Settlement |

**Public Administration**

| | |
|---|---|
| ECON 210-3 | Introduction to Health Economics and Policy |

**Governance**

| | |
|---|---|
| POLS 200-3 | Canadian Government and Politics |
| HIST 257-3 | Public Law in Canada |
| POLS 257-3 | Public Law in Canada |

**First Nations**

| | |
|---|---|
| ENPL 208-3 | First Nations Community and Environmental Planning |
| FNST 249-3 | Aboriginal Resource Planning |

**Methods**

| | |
|---|---|
| ECON 205-3 | Statistics for the Social and Management Sciences |
| ENPL 204-3 | Principles and Practices of Planning |
| ENPL 206-3 | Planning Analysis and Techniques |
| FNST 200-3 | Methods and Perspectives in First Nations Studies |
| FNST 203-3 | Introduction to Traditional Ecological Knowledge |
| GEOG 204-3 | Introduction to GIS for the Social Sciences |
| GEOG 205-3 | Cartography and Geomatics |

**Economic**

| | |
|---|---|
| COMM 230-3 | Organizational Behaviour |
| ECON 203-3 | Canadian Economic History |
| GEOG 202-3 | Economic Geography of Resources and Sustainability |
| ORTM 200-3 | Sustainable Resource Recreation and Tourism |

**General**

| | |
|---|---|
| ANTH 101-3 | People and Cultures |
| ARTS 102-3 | Research Writing |
| COMM 240-3 | Introduction to Marketing |
| POLS 290-3 | Research and Writing in Political Science |
| ORTM 100-3 | Foundations of Outdoor Recreation and Tourism |

#### Upper-Division Requirements

| | |
|---|---|
| ENPL 313-3 | Rural Community Economic Development |
| POLS 302-3 | How Government Works |
| POLS 332-3 | Community Development |
| GEOG 424-3 | Social Geography of Northern Communities |

Select ONE course from each catagory below:

**Community**

| | |
|---|---|
| ANTH 316-3 | The Social Theory and Structure of Contemporary Canadian Society |
| COMM 302-3 | Entrepreneurship |
| ENPL 301-3 | Sustainable Communities: Structure and Sociology |
| ORTM 407-3 | Recreation, Tourism, and Communities |
| SOCW 437-3 | Social Work with Groups and Communities |

**Public Administration**

| | |
|---|---|
| ENPL 304-3 | Mediation, Negotiation, Public Participation |
| POLS 344-3 | Society, Policy and Administration of Natural Resources |
| POLS 351-3 | Local Services and Public Policy |
| POLS 360-3 | Politics of Public Finance |
| POLS 403-3 | Social and Health Policy and Administration |
| SOCW 435-3 | Community Social Policy |

**Governance**

| | |
|---|---|
| ANTH 410-3 | Theory of Nation and State |
| GEOG 305-3 | Political Ecology |
| POLS 316-3 | Municipal Government and Politics |
| POLS 320-3 | Canadian Politics and Policy |
| POLS 333-3 | Politics and Government of BC |
| POLS 350-3 | Law and Municipal Government |

**First Nations**

| | |
|---|---|
| ANTH 404-3 | Comparative Study of Indigenous Peoples of the World |
| ENPL 409-3 | Advanced First Nations Community and Environmental Planning |
| FNST 304-3 | Indigenous Environmental Philosophy |
| GEOG 403-3 | First Nations and Indigenous Geography |
| NREM 303-3 | First Nations Approaches to Resource Management |
| ORTM 306-3 | Indigenous Tourism and Recreation |
| POLS 415-3 | Comparative Northern Development |
| SOCW 455-3 | First Nations Governance and Social Policy |

**Methods**

| | |
|---|---|
| ENPL 419-3 | Social Research Methods |
| FNST 300-3 | Research Methods in First Nations Studies |
| ORTM 310-3 | Research Methods and Analysis |

**Economic**

| | |
|---|---|
| COMM 303-3 | Introduction to International Business |
| ECON 305-3 | Environmental Economics |
| ECON 401-3 | Global Economy |
| ECON 407-3 | The Economy of Northern BC |
| GEOG 401-3 | Tenure, Conflict , and Resource Geography |

**General**

| | |
|---|---|
| COMM 332-3 | Business and Professional Ethics |
| COMM 340-3 | Marketing Communications |
| COMM 342-3 | Services Marketing |
| ENVS 414-3 | Environmental and Professional Ethics |
| FNST 440-(3-6) | Internship in First Nations Studies |
| FNST 498-3 | Special Topics in First Nations Studies |
| GEOG 308-3 | Environments of Health and Care |
| GEOG 420-3 | Geographies of Environmental Justice |
| POLS 327-3 | Leadership and Ethics in Local Government |

## Areas of Specialization

It is possible for students to organize their course choices (areas and electives) to achieve an Area of Specialization of course work. For the PACD major, completion of a specialization requires 24 credit hours (eight courses) from one of the following:

- Specialization in Local Public Administration
- Specialization in Aboriginal Community Development
- Specialization in Planning

### Area of Specialization in Local Public Administration

* Students choosing this Area of Specialization should be aware that UNBC also offers a Public Administration Certificate through the Department of Political Science, as well as a First Nations Public Administration Certificate through the Department of First Nations Studies.

**Lower-Division course choices**

| | |
|---|---|
| COMM 100-3 | Introduction to Canadian Business |
| COMM 230-3 | Organizational Behaviour |
| POLS 220-3 | Canadian Law and Aboriginal People |
| POLS 290-3 | Research and Writing in Political Science |

**Upper-Division course choices**

| | |
|---|---|
| POLS 316-3 | Municipal Government and Politics |
| POLS 320-3 | Canadian Politics and Policy |
| POLS 327-3 | Leadership and Ethics in Local Government |
| POLS 333-3 | Politics and Government of BC |
| POLS 335-3 | Community Politics |
| POLS 350-3 | Law and Municipal Government |
| POLS 351-3 | Local Services and Public Policy |
| POLS 360-3 | Politics of Public Finance |
| POLS 403-3 | Social and Health Policy and Administration |

### Area of Specialization in Aboriginal Community Development

**Lower-Division course choices**

| | |
|---|---|
| ENPL 208-3 | First Nations Community and Environmental Planning |
| FNST 200-3 | Methods and Perspectives in First Nations Studies |
| FNST 203-3 | Introduction to Traditional Ecological Knowledge |
| FNST 217-3 | Contemporary Challenges Facing Aboriginal Communities |
| FNST 249-3 | Aboriginal Resource Planning |
| POLS 220-3 | Canadian Law and Aboriginal People |

**Upper-Division course choices**

| | |
|---|---|
| ANTH 404-3 | Comparative Study of Indigenous Peoples of the World |
| COMM 302-3 | Entrepreneurship |
| ENPL 409-3 | Advanced First Nations Community and Environmental Planning |
| FNST 300-3 | Research Methods in First Nations Studies |
| FNST 304-3 | Indigenous Environmental Philosophy |
| FNST 416-3 | International Perspective |
| FNST 440-3-6 | Internship in First Nations Studies |
| FNST 498-3 | Special Topics in First Nations Studies |
| GEOG 403-3 | First Nations and Indigenous Geography |
| NREM 303-3 | First Nations Approaches to Resource Management |
| ORTM 306-3 | Indigenous Tourism and Recreation |

### Area of Specialization in Planning

* It should be noted that the Area of Specialization in Planning does not lead to an accredited planning degree. The School of Environmental Planning offers a professional accredited Canadian Institute of Planner degree. Refer to the calendar for further information.

### Required courses

| | |
|---|---|
| ENPL 104-3 | Introduction to Planning |
| ENPL 204-3 | Principles and Practices of Planning |
| ENPL 301-3 | Sustainable Communities: Structure and Sociology |
| ENPL 304-3 | Mediation, Negotiation, Public Participation |

Four of the following

| | |
|---|---|
| ENPL 206-3 | Planning Analysis and Techniques |
| ENPL 208-3 | First Nations Community and Environmental Planning |
| ENPL 313-3 | Rural Community Economic Development |
| ENPL 409-3 | Advanced First Nations Community and Environment Planning |
| ENPL 419-3 | Social Research Methods |

### Elective and Academic Breadth

45 elective credits in any subject as necessary to ensure completion of a minimum of 120 credit hours (at least 18 of these elective hours must be at the 300 or 400 level) including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Geography Program (BSc)

## Major in Geography

This degree focuses on geography as an earth science, with introductions to biology, chemistry, mathematics and physics, followed by upper-level courses in climatology, hydrology, geomorphology, soils and weathering, and geomatics. This combination enables the understanding of the interactions between the atmosphere, lithosphere, hydrosphere and biosphere, aided by the use of statistical techniques, mapping, remote sensing and geographic information systems. Courses will develop applied field and technical skills for associated career paths.

Undergraduate students are required to take a minimum of 11 Geography courses (31 credit hours). Of these courses, a minimum of five must be upper division. Students are required to take a minimum of 24 credit hours of Electives Science Courses, of which 15 credit hours must be upper division in order to successfully complete degree requirements. Additional electives, as necessary, are required to ensure the completion of a minimum of 120 credit hours.

The minimum requirement for completion of a Bachelor of Science with a major in Geography is 120 credit hours.

### Program Requirements

#### Lower-Division Requirement

**100 Level**

| | |
|---|---|
| BIOL 103-3 | Introductory Biology I |
| and BIOL 123-1 | Introductory Biology I Laboratory |
| or BIOL 110-3 | Introductory Ecology |
| CHEM 100-3 | General Chemistry I |
| CHEM 101-3 | General Chemistry II |
| CHEM 120-1 | General Chemistry Lab I |
| CHEM 121-1 | General Chemistry Lab II |
| GEOG 101-3 | Human Geographies of Global Change |
| MATH 100-3 | Calculus I |
| MATH 101-3 | Calculus II |
| PHYS 100-4 | Introduction to Physics I |
| or PHYS 110-4 | Introductory Physics I: Mechanics |
| GEOG 100-3 | Environments and People: The Geography of Natural Hazards |
| GEOG 111-1 | Theory and Practice of Physical Geography |

**200 Level**

| | |
|---|---|
| ENSC 201-3 | Weather and Climate |
| FSTY 205-3 | Introduction to Soil Science |
| GEOG 200-3 | British Columbia: People and Places |
| GEOG 205-3 | Cartography and Geomatics |
| GEOG 210-3 | Geomorphology |
| STAT 240-3 | Basic Statistics |

## Upper-Division Requirement

**300 Level**

GEOG 300-3 Geographic Information Systems
GEOG 310-3 Hydrology
or NREM 410-3 Watershed Management
GEOG 311-3 Drainage Basin Geomorphology
GEOG 312-3 Geomorphology in Cold Regions

Two of:

ENSC 312-3 Biometeorology
FSTY 425-3 Soil Formation and Classification
or FSTY 315-3 Forest Soil Management

GEOG 432-3 Remote Sensing
GEOG 333-3 Geography Field School
GEOG 320-3 Sedimentology

**400 Level**

Three of:

GEOG 405-3 Fluvial Geomorphology
GEOG 411-3 Quaternary and Surficial Geology
GEOG 413-3 Advanced GIS
GEOG 414-3 Weathering Processes
GEOG 457-3 Advanced Remote Sensing
ENSC 425-3 Climate Change and Global Warming

## Elective Requirement

## Science Electives

Nine credit hours of Science electives at any level and fifteen credit hours of Science electives at the 300 or 400 level.

## Elective Science Courses

**Anthropology**

ANTH 100-3 Archaeological and Biological Approaches
ANTH 200-3 Biological Anthropology
ANTH 205-3 Introduction to Archaeology
ANTH 220-3 Introduction to Primatology
ANTH 301-3 Archaeological Lab Methods
ANTH 311-3 Nutritional Anthropology
ANTH 312-3 Human Adaptability
ANTH 320-3 Biology of Circumpolar Peoples
ANTH 420-3 Races, Racism and Human Biology

**Biology**

All courses allowed

**Chemistry**

All courses allowed

**Computer Science**

All courses allowed

**Environmental Planning**

ENPL 305-3 Environmental Impact Assessment
ENPL 402-3 Terrain Assessment

**Environmental Science**

The following courses are allowed:

ENSC 202-3 Introduction to Aquatic Systems
ENSC 308-3 Northern Contaminated Environments
ENSC 312-3 Biometeorology
ENSC 350-3 Fluid Mechanics
ENSC 404-3 Waste Management
ENSC 406-3 Environmental Modelling
ENSC 408-3 Storms
ENSC 412-3 Air Pollution
ENSC 418-3 Environmental Measurement and Analysis
ENSC 425-3 Climate Change and Global Warming
ENSC 450-3 Geophysical Data Analysis
ENSC 451-3 Groundwater Hydrology
ENSC 452-3 Reclamation and Remediation of Disturbed Environments
ENSC 453-3 Environmental Resource Management and Decision Making
ENSC 454-3 Snow and Ice

**Forestry**

All courses allowed

**Geography**

The following courses are allowed:

GEOG 312-3 Geomorphology of Cold Regions
GEOG 333-3 Geography Field School
GEOG 320-3 Sedimentology
GEOG 405-3 Fluvial Geomorphology
GEOG 411-3 Quaternary and Surficial Geology
GEOG 413-3 Advanced GIS
GEOG 414-3 Weathering Processes
GEOG 432-3 Remote Sensing
GEOG 457-3 Advanced Remote Sensing

**Math**

All courses allowed

**Natural Resources Management**

The following courses are allowed:

NREM 100-3 Field Skills
NREM 101-3 Introduction to Natural Resources Management and Conservation
NREM 203-3 Resource Inventories and Measurement
NREM 204-3 Introduction to Wildlife and Fisheries
NREM 210-3 Integrated Resource Management
NREM 333-3 Field Applications in Resource Management

**Physics**

All courses allowed

## Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Anthropology/Geography (BA) Joint Major

**See Calendar entry under Anthropology.**

# Minor in Geomorphology

A minor in Geomorphology is appropriate for students who wish to obtain a level of competence in the history of Earth's landscapes, surface processes and environmental change. The minor consists of key courses which, when taken together, provide a degree of proficiency in a field that is actively sought after by environmental consulting firms and government agencies.

A maximum of two courses (six credit hours) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in Geomorphology.

The minimum requirement for the completion of the minor in Geomorphology is 18 credit hours.

## Requirements

GEOG 210-3 Geomorphology
GEOG 311-3 Drainage Basin Geomorphology

Four of:
- GEOG 310-3 Hydrology
- GEOG 312-3 Geomorphology of Cold Regions
- GEOG 405-3 Fluvial Geomorphology
- GEOG 411-3 Quaternary and Surficial Geology
- GEOG 300-3 Geographic Information Systems
  - or GEOG 413-3 Advanced GIS
  - or GEOG 432-3 Remote Sensing
- GEOG 414-3 Weathering Processes
- FSTY 205-3 Introduction to Soil Science
  - or FSTY 425-3 Soil Formation and Classification

# Minor in GIS (Geographic Information Systems)

The aim of the minor is to provide a level of competence in a combination of courses in Geographic Information Systems and Computer Science technologies. This grouping is designed to serve both majors in NRES programs and in Computer Science. Combining these selected courses in Geography and Computer Science will provide a level of proficiency in geographic data processing and analysis suitable for careers in the GIS industry.

The three required Geography courses are the core of the minor, along with four additional courses selected from a list of GIS courses and Computer Science courses, of which CPSC 110-3 (Introduction to Computer Systems and Programming), CPSC 126-3 (Introduction to Computer Systems), and CPSC 350-3 (Computer Graphics) are aimed at those not majoring in Computer Science.

A maximum of two courses (six credit hours) at or above the 200 level used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in GIS.

The minimum requirement for the completion of the minor in GIS is 21 credit hours, of which at least 12 must be upper year credits.

## Requirements

GEOG 205-3 Cartography and Geomatics
GEOG 300-3 Geographic Information Systems
GEOG 432-3 Remote Sensing

Four from the courses listed below, to include at least one in GEOG/ENPL and two in CPSC
- GEOG 204-3 GIS for the Social Sciences
- ENPL 303-3 Spatial Planning with GIS
- GEOG 413-3 Advanced GIS
- GEOG 457-3 Advanced Remote Sensing
- CPSC 100-4 Computer Programming I
  - or CPSC 110-3 Introduction to Computer Systems and Programming
- CPSC 126-3 Introduction to Computer Systems
- CPSC 270-3 Human Interface Design
- CPSC 350-3 Computer Graphics
- CPSC 422-3 Database Systems
- CPSC 440-3 Computer Networks

# Minor in Physical Geography

A minor in Physical Geography is appropriate for students who seek a broad-based exposure to earth and environmental sciences. Prospective teachers, human geographers, and government agency and environmental consulting employees will find the study of Earth's processes and the natural environment beneficial to their future careers. The minor consists of a group of courses which, when taken together, provide a degree of proficiency in Physical Geography.

A maximum of two courses (six credit hours) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in Physical Geography.

The minimum requirement for the completion of the minor in Physical Geography is 18 credit hours.

## Requirements

GEOG 210-3 Geomorphology
FSTY 205-3 Introduction to Soil Science
ENSC 201-3 Weather and Climate

Three of:*

- ENSC 312-3 Biometeorology
  - or ENSC 408-3 Storms
- GEOG 300-3 Geographic Information Systems
  - or GEOG 413-3 Advanced GIS
  - or GEOG 432-3 Remote Sensing
- GEOG 310-3 Hydrology
  - or GEOG 405-3 Fluvial Geomorphology
- GEOG 311-3 Drainage Basin Geomorphology
- GEOG 312-3 Geomorphology of Cold Regions
- GEOG 411-3 Quaternary and Surficial Geology
- GEOG 414-3 Weathering Processes

***Note:** Courses used to fulfill requirements for a major or another minor may not be used to fulfill this requirement. Where students have the three required courses included in their major, they shall take four of the alternatives from the above list.

# Minor in Human Geography

The aim of the minor is to show a level of competence in a theme, field or program direction that a student feels would be beneficial to her/his career and which would be ancillary to the major. By designating this group of courses as a minor the student is able to demonstrate a level of proficiency in that field.

The minor in Human Geography is designed to provide the student with:

1. an introduction to the basics of Human Geography;
2. a well-rounded introduction to several of the key sub-fields of Human Geography; and;
3. the chance to explore at least one facet of Human Geography of special interest to the student at the 400 level.

A maximum of two courses (6 credit hours) at or above the 200 level used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in Human Geography.

The minimum requirement for completion of a minor in Human Geography is 24 credit hours, including 12 upper-division credit hours.

## Requirements

GEOG 100-3 Environments and People: The Geography of Natural Hazards
GEOG 101-3 Human Geographies of Global Change
GEOG 202-3 Economic Geography of Resources and Sustainability
GEOG 206-3 Society and Space

A minimum of two, maximum of three of:

- GEOG 301-3 Cultural Geography
- GEOG 305-3 Political Ecology
- GEOG 306-3 International Development: People, Places, Policies, and Promises
- GEOG 308-3 Environments of Health and Care
- GEOG 309-3 Migration and Settlement

A minimum of one, maximum of two of:

- GEOG 401-3 Tenure, Conflict, and Resource Geography
- GEOG 403-3 First Nations and Indigenous Geography
- GEOG 420-3 Geographies of Environmental Justice
- GEOG 424-3 Social Geography of Northern Communities
- GEOG 426-3 Geographies of Culture, Rights and Power
- GEOG 428-3 Health Geography in Practice

# Minor in Global Environmental Change

**See Calendar entry under Environmental Studies.**

# Health Sciences (BHSc Program)

- Biomedical Studies
- Community and Population Health - Aboriginal and Rural Health
- Community and Population Health - Environmental Health

Henry Harder, Professor
Shannon Wagner, Professor and Acting Chair
Sarah de Leeuw, Associate Professor
Luke Harris, Associate Professor
Margot Parkes, Associate Professor and Canada Research Chair
Mamdouh Shubair, Assistant Professor
Russ Callaghan, Adjunct Professor
Anne George, Adjunct Professor
Kuo Kuo-Hsin, Adjunct Professor
Josée Lavoie, Adjunct Professor
William Tippett, Adjunct Professor
Anne Sommerfeld, Senior Lab Instructor

Website: www.unbc.ca/health-sciences/undergraduate

The Bachelor of Health Sciences degree is a four-year program consisting of a range of courses that relate directly to the science of health, in the recognition that health is a complex entity defying a simple explanation or a single disciplinary perspective. The courses identified within the School of Health Sciences offer learning opportunities from a variety of disciplines, including the life sciences, social sciences, behavioural sciences, and ethics and law, to enable students to develop a body of knowledge and understanding relating to the dimensions of health. Some of these courses are considered to be 'core' and therefore central to the basic understandings of health, while others offer the student opportunities to learn about a specific health perspective that is focused on one of three Majors:

i. Biomedical Studies
ii. Community and Population Health-Aboriginal and Rural Health
iii. Community and Population Health-Environmental Health

Graduation from either of the Community and Population Health Majors enables students to embark on careers or graduate programs related to health care management, administration, information systems or public health.

Students pursuing the Biomedical Studies Major are required to complete a set of courses that enables them to be prepared for application to professional programs, such as medicine, nursing, pharmacy, occupational therapy, dentistry, speech pathology or physiotherapy. This major provides a foundational, multidisciplinary knowledge base that is focused on the natural and physical sciences, and social sciences, and includes population health and research methodology. Students interested in other fields requiring extensive biomedical laboratory skills may enroll degree in Biochemistry and Molecular Biology (BCMB).

All students graduating with the Bachelor of Health Sciences degree will have developed critical analytical skills, life-long learning skills, and the ability to work from the evidence of best practice.

## General Requirements

To be awarded the BHSc degree, students are required to complete 122 credit hours of University-level courses consisting of 67 credit hours of common requirements for all BHSc students, with the remainder coming from the following majors, and electives:

**Biomedical Studies:** Students take 34 credit hours of courses from the Biomedical Studies Major and 21 elective credit hours.

**Community and Population Health-Aboriginal and Rural Health:** Students take 27 credit hours from the common course requirements for both Community and Population Health Majors, as well as a minimum of 12 credit hours (6 specified, 6 with some choice) in Aboriginal and Rural Health-related courses, thus adding to a focus of knowledge and understanding of this specific subject material. The remaining 16 credit hours are obtained from elective credit hours.

**Community and Population Health - Environmental Health:** Students take 27 credit hours from the common course requirements for both Community and Population Health Majors, as well as a minimum of 12 credit hours (6 specified, 6 with some choice) in Environmental Health-related courses. The remaining 16 credit hours are obtained from elective credit hours.

Students enrolling in Health Sciences courses with prerequisites are required to have completed all prerequisite courses for those courses with a C- or better, or have permission to enroll from the School Chair.

To change BHSc majors, students must apply through Student Advising.

## Admission Requirement

Admission to the Bachelor of Health Sciences program is based on academic qualifications and available space. At the time of application, students must specify whether they intend to pursue either the Biomedical Studies Major or one of the two Community and Population Health Majors. Priority admission is given to students who meet admission criteria and apply by the deadline of March 1. Applications received after the deadline may be reviewed based on available space in the program. Self-identified Aboriginal applicants who meet or exceed the minimum requirements for admission to the program are given priority for up to twenty percent (20%) of the first-year seats for the Bachelor of Health Sciences program.

Applicants from BC and Yukon secondary schools must:
- Meet the basic UNBC admission requirements, and
- Have completed Principles of Mathematics 11 or Pre-Calculus 11, Chemistry 11, Biology 12, English 12 and other approved Grade 12 courses as specified in the Admissions sections of the Undergraduate Calendar with a minimum of C+ (65%) in each course.

Other Applicants must:

- Meet UNBC admission requirements, and
- Have completed the equivalent of Principles of Mathematics 11 or Pre-Calculus 11, Chemistry 11, Biology 12, English 12, and other approved Grade 12 courses as specified in the Admissions section of the Undergraduate Calendar with a minimum of C+ (65%) in each course.

Students interested in specializing in the Biomedical Studies Major are strongly encouraged to take: Pre-Calculus 12, or Principles of Mathematics 12, and Chemistry 12 before entering the Program.

## Common Requirements: All Majors

In order to meet the graduation requirements for a BHSc all students must successfully complete the following common requirements consisting of 67 credit hours. It is recommended that students take the courses listed below in the year of study indicated:

**1st year - 23 credit hours**

| | |
|---|---|
| BIOL 103-3 | Introductory Biology I |
| BIOL 104-3 | Introductory Biology II |
| BIOL 123-1 | Introductory Biology I Laboratory |
| BIOL 124-1 | Introductory Biology II Laboratory |
| FNST 100-3 | The Aboriginal Peoples of Canada |
| HHSC 101-3 | Introduction to Health Science I: Issues and Controversies |
| HHSC 103-3 | Health Care Systems |
| PSYC 101-3 | Psychology as a Science |
| PSYC 102-3 | Psychology and Human Problems |

**2nd year - 20 credit hours**

| | |
|---|---|
| BIOL 203-3 | Microbiology |
| HHSC 111-4 | Anatomy and Physiology I |
| HHSC 112-4 | Anatomy and Physiology II |
| HHSC 201-3 | Ethics and Law in Health Care |
| HHSC 311-3 | Nutrition |
| STAT 240-3 | Basic Statistics |
| or ECON 205-3 | Statistics for the Social and Management Sciences |

**3rd year - 15 credit hours**

| | |
|---|---|
| FNST 302-3 | First Nations Health and Healing |
| HHSC 350-3 | Introduction to Epidemiology |
| HHSC 351-3 | Research Design and Methods for Health Sciences |
| PSYC 309-3 | Introduction to Health Psychology |
| PSYC 345-3 | Lifespan Development |
| or SOCW 421-3 | Human Growth and Development |

**4th year - 9 credit hours**

| | |
|---|---|
| HHSC 451-3 | Health Sciences Research Project |
| HHSC 471-3 | Aboriginal Health and Chronic Disease |
| PSYC 409-3 | Advanced Health Psychology |

# Major in Biomedical Studies

Students pursuing a major in Biomedical Studies are required to complete the following 34 credit hours of courses. It is recommended that students take the courses listed below in the year of study indicated:

**1st year - 14 credit hours**

| | |
|---|---|
| CHEM 100-3 | General Chemistry I |
| CHEM 120-1 | General Chemistry Lab I |
| CHEM 101-3 | General Chemistry II |
| CHEM 121-1 | General Chemistry Lab II |

Two of:

| | |
|---|---|
| ENGL 100-3 | Introduction to Literary Structures |
| ENGL 102-3 | Introduction to Poetry |
| ENGL 103-3 | Introduction to Fiction |
| ENGL 104-3 | Introduction to Film |
| ENGL 170-3 | Writing and Communication Skills |

**2nd year - 14 credit hours**

| | |
|---|---|
| BIOL 210-3 | Genetics |
| CHEM 201-3 | Organic Chemistry I |
| CHEM 250-1 | Organic Chemistry Lab I |
| CHEM 203-3 | Organic Chemistry II |
| CHEM 251-1 | Organic Chemistry Lab II |
| CHEM 204-3 | Introductory Biochemistry |

**3rd and 4th years - 6 credit hours**

| | |
|---|---|
| BIOL 311-3 | Cell and Molecular Biology |
| BCMB 306-3 | Intermediary Metabolism |

**Note:** Students intending to apply to professional health degree programs are encouraged to take the following courses as electives: PHYS 110-4, PHYS 111-4, MATH 100-3 and MATH 101-3.

# Majors in Community and Population Health

Students pursuing a major in either Community and Population Health-Aboriginal and Rural Health, or Community and Population Health-Environmental Health are required to complete the following 27 credit hours. It is recommended that students take the courses listed below in the year of study indicated:

**1st year - 9 credit hours**

CHEM 110-3 Chemistry of Everyday Life
or CHEM 100-3 General Chemistry I
ECON 210-3 Introduction to Health Economics and Policy
or GEOG 202-3 Economic Geography of Resources and Sustainability

One of:

ENGL 100-3 Introduction to Literary Structures
ENGL 102-3 Introduction to Poetry
ENGL 103-3 Introduction to Fiction
ENGL 104-3 Introduction to Film
ENGL 170-3 Writing and Communication Skills

**2nd year - 3 credits**

HHSC 102-3 Introduction to Health Science II: Rural and Aboriginal Issues

**3rd year - 6 credits**

HHSC 370-3 Occupational Health
HHSC 301-3 Pathophysiology

**4th year - 9 credits**

HHSC 421-3 Medical Geography
or ENVS 306-3 Human Ecology
HHSC 473-3 Health Promotion
SOCW 444-3 Social Work Critical Issues in Aging

In addition to the 27 credit hours listed above, students pursuing a major in either Community and Population Health-Aboriginal and Rural Health, or Community and Population Health-Environmental Health, are required to complete 12 credit hours focused in either Aboriginal and Rural Health or Environmental Health, specific to their major, as listed below.

# Major in Community and Population Health – Aboriginal and Rural Health

Students must take:

ENPL 313-3 Rural Community Economic Development
FNST 303-3 First Nations Religion and Philosophy
or FNST 304-3 Indigenous Environmental Philosphy

Students must take an additional 6 credit hours from the following list, of which at least 3 credit hours must be upper-division.

Please not that some of these courses may require additional prerequisites:

ANTH 201-3 Medical Anthropology
ANTH 206-3 Ethnography in Northern British Columbia
ECON 410-3 Health Economics
FNST 249-3 Aboriginal Resource Planning
FNST 305-3 Seminar in First Nations Studies
POLS 403-3 Social and Health Policy and Administration
SOCW 440-3 Social Work and Mental Health
SOCW 441-3 Social Work and Substance Abuse
SOCW 443-3 Medical Social Work

# Major in Community and Population Health – Environmental Health

Students must take:

ENPL 205-3 Environment and Society
ENSC 308-3 Northern Contaminated Environments

Students must take an additional 6 credit hours from the following list (please note that some of these courses may require additional prerequisites):

ECON 410-3 Health Economics
ENPL 208-3 First Nations Community and Environmental Planning
ENPL 304-3 Mediation, Negotiation and Public Participation
HIST 360-3 An Introduction to Environmental History
INTS 470-3 International Environmental Policy
NREM 306-3 Society, Policy and Administration
or POLS 344-3 Society, Policy and Administration of Natural Resources
POLS 403-3 Social and Health Policy and Administration

## Elective and Academic Breadth for all BHSC Majors

Electives at any level sufficient to ensure completion of a minimum 122 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15). It is highly recommended that students complete the optional course HHSC 105-3 Functional Anatomy before HHSC 111-4 Anatomy and Physiology I.

# Bachelor of Health Sciences Honours (BHSc, Honours)

Entry to the Honours Program takes place after the end of the second year (i.e., upon completion of 60 credit hours) and requires a minimum CGPA of 3.33 over the most recent 30 credit hours or permission of the School Chair. Consultation with Student Advising is highly recommended before applying. Attaining the minimum requirement does not guarantee entry to the honours program, which is at the discretion of the School Chair. Subsequent to entry and to remain in the honours program, students must maintain a minimum SGPA of 3.33 in each semester. All honours students complete a thesis project (HHSC 490-6 Honours Thesis) under the direct supervision of a faculty member.

To be awarded the BHSc Honours degree, students are required to complete 128 credit hours. This consists of 67 credit hours of common requirements for all BHSc students, with the remainder coming from the following majors, and electives, as follows:

**Biomedical Studies:** Students take 34 credit hours of courses from the Biomedical Studies Major; 18 elective credit hours of which at least 3 credit hours must be at the Health Sciences upper level; and the following 9 Honours credit hours:

| | |
|---|---|
| HHSC 490-6 | Honours Thesis |
| HHSC 497-3 | Senior Seminar |

**Community and Population Health - Aboriginal and Rural Health:** Students take 27 credit hours from the common course requirements for both Community and Population Health Majors, as well as a minimum of 12 credit hours (6 specified, 6 chosen) in Aboriginal and Rural Health-related courses; 13 credit hours are obtained from elective credit hours; and the following 9 Honours credit hours:

| | |
|---|---|
| HHSC 490-6 | Honours Thesis |
| HHSC 497-3 | Senior Seminar |

**Community and Population Health - Environmental Health:** Students take 27 credit hours from the common course requirements for both Community and Population Health Majors, as well as a minimum of 12 credit hours (6 specified, 6 chosen) in Environmental Health-related courses; 13 credit hours are obtained from elective credit hours; and the following 9 Honours credit hours:

| | |
|---|---|
| HHSC 490-6 | Honours Thesis |
| HHSC 497-3 | Senior Seminar |

The minimum requirement for completion of a BHSc Honours is 128 credit hours.

All Honours Thesis research must comply with the Research Ethics Board requirements and is carried out at the discretion of the School of Health Sciences.

# History (BA Program)

Charles Jago, Professor Emeritus
Gordon Martel, Professor Emeritus
William Morrison, Professor Emeritus

Jacqueline Holler, Associate Professor and Chair
Theodore Binnema, Professor
Jonathan Swainger, Professor
Dana Wessell Lightfoot, AssociateProfessor
Benjamin Bryce, Assistant Professor
Stephanie Cousineau, Adjunct Professor
Nathan Smith, Adjunct Professor

Website: www.unbc.ca/history

Tracing the origins of their discipline to the Ancient Greek scholar Herodotus (fifth century B.C.E.), historians examine the records of the human past, with the goal of understanding change over time. We are particularly interested in establishing cause and effect in the patterns of how society, politics, economies, culture, identity, and thought developed. Traditionally, historians have examined prominent individuals or critical events in politics, warfare, diplomacy, economics and intellectual activity. But in recent decades, the scope of historical study has expanded to encompass a wide range of phenomena and a broad spectrum of society. Women's roles in history, the daily life of ordinary men and women in the past, and the impact of imperialism and colonialism are just a few of the topics that have come under intense historical scrutiny in recent years. Of particular interest to the current generation of historians are the relationship of the individual to society; encounters between diverse cultures; the dynamics of class, race, and gender; and the expression of power and authority (political, social, or cultural).

The study of history has direct relevance on the present. It provides an enlightening perspective on the cultures and societies of the past and on how the ideals, institutions, and issues of today arose and evolved over time. The discipline of History also requires intellectual rigour, and cultivates critical thinking, creative analysis, and both oral and written communication skills. History majors are highly sought after in fields such as law, education, journalism, business, government service, and "public history" (i.e., museums, historical sites, and archives). A History major is also an ideal foundation for graduate study in the Humanities and Social Sciences.

## Major in History

A degree in History requires students to complete 54 credit hours of History courses, at least 30 credit hours of which must be upper-division courses.

The minimum requirement for completion of a Bachelor of Arts with a major in History is 120 credit hours.

### Program Requirements

#### Lower-Division Requirement

**100 and 200 Level**

| | |
|---|---|
| HIST 190-3 | World History to 1550 |
| HIST 191-3 | World History since 1550 |

Twelve additional credit hours in 200-level History courses.

#### Upper-Division Requirement

**300 and 400 Level**

| | |
|---|---|
| HIST 300-3 | Historiography: The Nature of the Historical Discipline |

Eighteen credit hours of History at the 300 level, in addition to HIST 300-3.

Nine credit hours of History at the 400 level.

### Subject Requirement

Six additional credit hours of History at any level to ensure completion of 54 credit hours of History in total.

#### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# BA Honours – History

The BA Honours - History provides a higher level of training and specialization for students planning to proceed to postgraduate work or professional schools. The program of study is offered to students majoring in history who have completed their first two years (60 credit hours).

In order to enter the honours degree program, students must have completed HIST 190-3 World History to 1550 and HIST 191-3 World History since 1550; 12 credit hours in 200-level history courses; HIST 300-3 (Historiography: The Nature of the Historical Discipline), and have attained a cumulative GPA of no less than 3.33 upon completion of second year (i.e., 60 credit hours). Having fulfilled the requirements of admission to the History honours degree program, students must then complete 18 credit hours in 300-level history courses; 15 credit hours in 400-level history courses; and 12 credit hours in four additional history courses designed for honours students, for a total of 66 credit hours as a component of an undergraduate degree totalling 120 credit hours. These honours history courses are designed to be taken in the sequence indicated, which can be altered only under exceptional circumstances and with the permission of the Chair.

| | |
|---|---|
| HIST 501-3 | Honours Directed Readings<br>(September Term of third year) |
| HIST 500-3 | Historiography: Contemporary Theories and Methods<br>(January Term of third year) |
| HIST 505-6 | Honours Thesis<br>(September & January Term of fourth year) |

A Cumulative GPA of not less than 3.33 must be maintained while in the honours program.

The minimum requirement for completion of a BA Honours - History is 120 credit hours.

# English/History Joint Major

**See Calendar entry under English.**

# Joint Major in History/Political Science

The minimum requirement for completion of a Bachelor of Arts with a Joint Major in History and Political Science is 120 credit hours.

## Program Requirements

### Lower-Division Requirement

| | |
|---|---|
| HIST 190-3 | World History to 1550 |
| HIST 191-3 | World History since 1550 |
| POLS 100-3 | Contemporary Political Issues |
| ECON 205-3 | Statistics for Social and Management Sciences |
| or STAT 240-3 | Basic Statistics |
| POLS 200-3 | Canadian Government and Politics |
| POLS 202-3 | Comparative Government and Politics |
| POLS 270-3 | Political Philosophy: Antiquity to Early Modernity |
| POLS 290-3 | Research and Writing for Political Science |

Nine credit hours of History at the 100 or 200 level.

### Upper-Division Requirement

| | |
|---|---|
| HIST 300-3 | Historiography: The Nature of the Historical Discipline |
| POLS 303-3 | Democracy and Dictatorship |
| POLS 320-3 | Canadian Politics and Policy |
| POLS 370-3 | Political Philosophy: Early Modernity to Post-Modernity |

Nine credit hours in Political Science at the 300 or 400 level.

Eighteen credit hours in History at the 300 or 400 level.

### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Joint Major in History/Women's Studies

The minimum requirement for completion of a Bachelor of Arts with a Joint Major in History and Women's Studies is 120 credit hours.

## Program Requirements

### Lower-Division Requirement

| | |
|---|---|
| HIST 190-3 | World History to 1550 |
| HIST 191-3 | World History since 1550 |
| WMST 100-3 | Introduction to Women's Studies |

Six additional credit hours of History at the 100 or 200 level.

Six additional credit hours of Women's Studies at the 100 or 200 level.

### Upper-Division Requirement

| | |
|---|---|
| WMST 302-3 | Women and the Contemporary World |
| WMST 307-3 | Qualitative Research Methods |
| HIST 300-3 | Historiography: The Nature of the Historical Discipline |
| HIST 309-3 | Women in Canada |
| WMST 311-3/ HIST 311-3 | History of Feminism |
| WMST 312-3/ HIST 312-3 | An Introduction to the History of Gender |
| HIST 453 (3-6) | Topics in History of Gender |
| HIST 454 (3-6) | Topics in Women's History |

Nine additional credit hours of History at the 300 or 400 level.

### Additional Requirement

Twelve additional credit hours selected from the following:

| | |
|---|---|
| WMST 303-3 | Lesbian and Bisexual Lives |
| WMST 304-3 | Contemporary Women's Writings in an International Frame |
| WMST 309-3 | Gender and Film |
| WMST 306-3/ FNST 306-3 | Indigenous Women: Perspectives |
| WMST 401-3 | Cultural Studies: Race, Gender, Representation |
| WMST 410-3 | Feminist Political Philosophy |
| WMST 411-3 | Contemporary Feminist Theories |
| WMST 413-(3-6)/ FNST 413-(3-6) | Topics in Aboriginal Women's Studies |
| WMST 420-3/ ENGL 410-3 | Contemporary Women's Literature |
| WMST 498 (3-6) | Selected Topics |
| ANTH 401-3 | Anthropological Perspectives on Inequality |
| ANTH 406-3 | Feminist Perspectives in Anthropology |
| COMM 333-3 | Women in Organizations |
| ECON 301-3 | Women and the Economy |
| ENVS 309-3 | Gender and Environment |
| FNST 407-3 | Race, Class, Gender, Power |
| INTS 308-3 | Gender and International Studies |
| NURS 412-3 | Women and Health |
| SOCW 433-3 | Women in the Human Services |
| SOCW 449-3 | Gender and Sexuality |

### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Minor in History

The minor in History provides students with an understanding of how to evaluate historical sources and historical writings and with specialized knowledge of historical processes in fields of the student's choosing.

The minor in History requires students to take at least 24 credit hours in History, of which 18 must be upper-division. A maximum of two courses (6 credit hours) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in History.

## Program Requirements

| | |
|---|---|
| HIST 190-3 | World History to 1550 |
| HIST 191-3 | World History since 1550 |
| HIST 300-3 | Historiography: The Nature of the Historical Discipline |

Fifteen additional credit hours of 300- or 400- level History courses.

# Integrated Analytical Skills & Knowledge Program

Paul Bowles, Professor
Heather Smith, Professor
Lisa Dickson, Associate Professor
Ross Hoffman, Associate Professor
Tracy Summerville, Associate Professor and Coordinator

The Integrated Analytical Skills & Knowledge Program at UNBC offers first-year students a rich and unique learning experience. Supported by seven academic units in the College of Arts, Social and Health Sciences (Anthropology, Economics, English, First Nations Studies, International Studies, Political Science, and Northern Studies), IASK delivers an integrated and interdisciplinary curriculum. IASK is cohort based: small groups of students will work together across courses. Intake for IASK is limited to 65 students who self-select to take part in the Program. IASK courses are accepted as meeting the degree requirements for the seven departments listed above.

The IASK is made up of 18 credit hours spread out over two terms. However, IASK does not occupy the full first year, as students can register for other courses and programs. That is, 9 credit hours are taken in the September Semester and 9 credit hours are taken in the January Semester. The courses blend content and teaching in ways that prepare students for success in university and beyond.

Curriculum in IASK focuses on learning outcomes and on content breadth across the Liberal Arts. Learning outcomes in IASK include the following: 1) Appropriate depth and breadth of knowledge and skills; 2) Analytical, critical, and creative thinking skills; 3) Liberality, inclusiveness, and an appreciation of diversity; 4) Personal growth, leadership skills and effective communication; 5) Life-long learning and intellectual development; 6) Engaged citizenship from the local to global levels.

IASK is recommended for students entering UNBC for the first time in one of the seven academic units listed above and who desire to work with a small group of students in a learning environment designed to facilitate student engagement with their peers. Through interaction with a small group of professors, this program will also assist first-year students to achieve improved academic performance throughout their four years at UNBC.

## Curriculum:

- IASK 101-3 Ways of Knowing
- IASK 102-3 Waves of Globalization
- IASK 103-3 Foundations of Learning I
- IASK 104-3 Peoples, Places and Culture
- IASK 105-3 What is Security?
- IASK 106-3 Foundations of Learning II
- IASK 107-3 Special Topics

# International Studies (BA Program)

Ken Wilkening, Associate Professor and Chair
Paul Bowles, Professor
Heather Smith, Professor
Matias Margulis, Assistant Professor
Ami Hagiwara, Lecturer

Website: www.unbc.ca/international-studies

The Department of International Studies seeks to familiarize students with the global community in which they live and to prepare them to pursue careers involving international interactions. Participants are provided with a variety of opportunities to explore issues from economic, political, social, cultural and environmental perspectives. Foreign language training and study abroad experiences are incorporated into the program and special attention is given to British Columbia's immediate international neighbours: the Pacific Rim countries, the nations of the Circumpolar North, and the United States.

## Major in International Studies

Undergraduate students are required to complete 54 credit hours of International Studies coursework as part of their overall program in order to graduate with a major in International Studies. 12 credit hours are required in foreign language study, and 33 credit hours are required at the upper-division (300/400) level.
The minimum requirement for completion of a Bachelor of Arts with a major in International Studies is 120 credit hours.

### Program Requirements

#### Lower-Division Requirement

**100 and 200 Level**

COMM 100-3 Introduction to Canadian Business
ECON 100-3 Microeconomics
ECON 101-3 Macroeconomics
or ECON 202-3 History of Economic Thought
or POLS 202-3 Comparative Government and Politics
ECON 205-3 Statistics for the Social and Management Sciences
or STAT 240-3 Statistics for Social and Health Sciences
INTS 200-3 Contemporary Russia
or INTS 202-3 Contemporary United States
or INTS 203-3 Contemporary Japan
or INTS 204-3 Contemporary China
or INTS 240-3 Contemporary Circumpolar North
INTS 101-3 Canada and the World
or INTS 206-3 Contemporary International Issues
INTS 205-3 Introduction to International Studies
POLS 200-3 Canadian Government and Politics

#### Language Requirement

Students majoring in International Studies must complete four language courses. The normal pattern is to take one of the following sequences.

**Chinese (Mandarin)**

INTS 161-3 Beginning Chinese I
INTS 162-3 Beginning Chinese II
INTS 261-3 Intermediate Chinese I
INTS 262-3 Intermediate Chinese II
or
**Japanese**
INTS 121-3 Beginning Japanese I
INTS 122-3 Beginning Japanese II
INTS 221-3 Intermediate Japanese I
INTS 222-3 Intermediate Japanese II
or
**Russian**
INTS 131-3 Beginning Russian I
INTS 132-3 Beginning Russian II
INTS 231-3 Intermediate Russian I
INTS 232-3 Intermediate Russian II
or
**Swedish**
INTS 141-3 Beginning Swedish I
INTS 142-3 Beginning Swedish II
INTS 241-3 Intermediate Swedish I
INTS 242-3 Intermediate Swedish II
or
**Other**
INTS 151-3 Beginning International Language I
INTS 152-3 Beginning International Language II
INTS 251-3 Intermediate International Language I
INTS 252-3 Intermediate International Language II

It is also possible to fulfill this requirement by taking courses in more than one language, as long as at least 6 credit hours are in one language. Students wishing to take advantage of this option must get approval from the Department's undergraduate advisor.

Credit for training in languages other than English or French at the university/college level will be considered and prior learning assessment is offered where possible. In all such cases, students must contact the Department Chair prior to registration.

#### Upper-Division Requirement

**300 and 400 Level**

INTS 310-3 Origins and Evolution of International Studies

Thirty credit hours of additional 300 and 400 level International Studies courses.

Students should know that certain 300 and 400 level courses are offered only in alternate years.

#### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# BA Honours – International Studies

The BA Honours - International Studies provides a higher level of training and specialization for students, especially those planning to proceed to postgraduate work.

In order to enter the International Studies honours BA program, students must have taken INTS 205-3 (Introduction to International Studies), completed a total of 60 credit hours, and achieved an accumulated GPA of 3.33 or higher.

Students taking the honours BA will fulfill all the requirements of the International Studies BA program, plus the three courses listed below for a total of 120 credit hours:

INTS 409-3 Theories of International Studies
INTS 590-3 Honours Seminar
INTS 591-3 Honours Thesis
Students must maintain an accumulative GPA of 3.33 or higher while in the honours program.

The minimum requirement for completion of a BA Honours - International Studies is 120 credit hours.

# Economics/International Studies Joint Major

**See calendar entry under Economics**

# Joint Major in International Studies/ Political Science

The minimum requirement for completion of a Bachelor of Arts with a Joint Major in International Studies and Political Science is 120 credit hours.

## Program Requirements

### Lower-Division Requirement

ECON 100-3 Microeconomics
or ECON 202-3 History of Economic Thought
ECON 101-3 Macroeconomics
ECON 205-3 Statistics for the Social and Management Sciences
or STAT 240-3 Basic Statistics
INTS 101-3 Canada and the World
INTS 205-3 Introduction to International Studies
POLS 100-3 Contemporary Political Issues
POLS 200-3 Canadian Government and Politics
POLS 202-3 Comparative Government and Politics
POLS 270-3 Political Philosophy: Antiquity to Early Modernity
POLS 290-3 Research and Writing for Political Science

One of:
INTS 200-3 Contemporary Russia
INTS 202-3 Contemporary United States
INTS 203-3 Contemporary Japan
INTS 204-3 Contemporary China
INTS 240-3 Contemporary Circumpolar North

### Upper-Division Requirement

INTS 310-3 Origins and Evolution of International Studies

Nine credit hours of 300 or 400 level International Studies.

POLS 370-3 Political Philosophy: Early Modernity to Post-Modernity
POLS 303-3 Democracy and Dictatorship

Two of:
POLS 305-3 United States Politics
POLS 311-3 Russian Politics and Society
POLS 314-3 European Politics and Government
POLS 405-3 Topics in Society and Democracy
POLS 415-3 Comparative Northern Development

Fifteen additional credit hours of 300 or 400 level. International Studies and Political Science courses.

### Language Requirement

Twelve credit hours of language courses. At least two courses must be in one language.

### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Minor in International Studies

Eighteen credit hours, 12 of which must be upper-division International Studies courses.

A maximum of two courses (six credit hours) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in International Studies.

One of:
INTS 101-3 Canada and the World
INTS 205-3 Introduction to International Studies
INTS 206-3 Contemporary International Issues

Three credit hours of International Studies at any level.

Twelve credit hours of 300 or 400 level International Studies.

Students should know that certain 300 or 400 level courses are offered only in alternate years.

Alternative courses may be substituted for the above with the written permission of the Department Chair and Dean of the College.

# Mathematics and Statistics (BSc Program)

Jennifer Hyndman, Professor and Chair
Iliya Bluskov, Professor
Sam Walters, Professor
Lee Keener, Professor
Pranesh Kumar, Professor
Kevin Keen, Associate Professor
Dan Ryan, Associate Professor
Edward Dobrowolski, Assistant Professor
Francesca Apruzzesse, Adjunct Professor

Website: www.unbc.ca/math-statistics

The Department of Mathematics and Statistics provides undergraduate and postgraduate instruction and training in pure mathematics, applied mathematics, and statistics. A Bachelor of Science degree is available in Mathematics, as well as joint BSc degrees in Mathematics and Physics, Economics and Mathematics, Chemistry and Mathematics, and Computer Science and Mathematics.

In addition, there is a minor in Mathematics and a minor in Statistics. A graduate degree (MSc—Mathematics) is also supported by the Department of Mathematics and Statistics. Students interested in graduate studies are advised to consult the UNBC Graduate Calendar for further information.

The Department of Mathematics and Statistics offers Mathematics and Statistics service courses to students in the biological sciences, health sciences, management, economics, social sciences, and other areas.

Some sections of introductory calculus are enhanced through the use of computer software which provides exceptional computational power and high-quality graphical display. Introductory statistics courses teach the use of statistical analysis software to analyze data.

An important feature of the Mathematics degree program is the early emphasis on the development of abstract reasoning and the relation of the abstract to the concrete. The degree requirements have been chosen so as to provide students with a broad background in Mathematics while still leaving them room to pursue individual interests.

For more information please visit our website at www.unbc.ca/math-statistics.

## Major in Mathematics

A major in Mathematics requires 17 MATH or STAT courses (51 credit hours), at least 30 credit hours of which must be upper-division courses: and, of those upper-division credit hours, at least 12 must be taken at the 400 level.

MATH 342-3 (Biostatistics) may not be used for credit towards any Mathematics major, minor, or joint major.

MATH 150-3 (Finite Mathematics for Business and Economics) may not be used for credit towards any Mathematics major or joint major.

The minimum requirement for completion of a Bachelor of Science with a major in Mathematics is 120 credit hours.

## Program Requirements

**Note:** Unless otherwise stated, students enrolling in any MATH or STAT courses with prerequisites are required to have completed all prerequisite courses for that course with a C- or better, or have permission to enroll from the Department Chair.

### Literacy Requirement

One of:

| | |
|---|---|
| ENGL 170-3 | Writing and Communication Skills |
| ENGL 270-3 | Expository Writing |

### Lower-Division Requirement

**100 Level**

| | |
|---|---|
| CPSC 100-4 | Computer Programming I |
| CPSC 141-3 | Discrete Computational Mathematics |
| MATH 100-3 | Calculus I |
| or MATH 105-3 | Enriched Calculus |
| MATH 101-3 | Calculus II |

**200 Level**

| | |
|---|---|
| MATH 200-3 | Calculus III |
| MATH 201-3 | Introduction to Complex Analysis |
| MATH 220-3 | Linear Algebra |
| MATH 224-3 | Foundations of Modern Mathematics |
| MATH 230-3 | Linear Differential Equations and Boundary Value Problems |

### Recommended

| | |
|---|---|
| CPSC 101-4 | Computer Programming II |
| CPSC 242-3 | Mathematical Topics for Computer Science |

### General Science Requirement

Two of:
BIOL 103-3 Introductory Biology I
and BIOL 123-1 Introductory Biology I Laboratory
BIOL 104-3 Introductory Biology II
and BIOL 124-1 Introductory Biology II Laboratory

CHEM 100-3 General Chemistry I
and CHEM 120-1 General Chemistry Lab I
CHEM 101-3 General Chemistry II
and CHEM 121-1 General Chemistry Lab II
PHYS 100-4 Introduction to Physics I
or PHYS 110-4* Introductory Physics I:
PHYS 111-4* Introductory Physics II: Waves and Electricity

***Note:** PHYS 110-4 (Introductory Physics I: Mechanics) and PHYS 111-4 ( Introductory Physics II: Waves and Electricity) are strongly recommended for all majors.

### Upper-Division Requirement

**300 Level**
MATH 302-3 Theory of Metric Spaces
MATH 320-3 Survey of Algebra
MATH 336-3 Intermediate Differential Equations
or MATH 335-3 Numerical Analysis I
STAT 371-3 Probability and Statistics for Scientists and Engineers
STAT 372-3 Mathematical Statistics

**300 or 400 Level**
MATH 326-3 Advanced Linear Algebra
or MATH 405-3 Topology

**400 Level**
Twelve additional credit hours of 400-level MATH or STAT courses.

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

## BSc Honours – Mathematics

The Honours in Mathematics recognizes undergraduate students who develop a breadth of knowledge through courseswork and research. Studetns considering graduate work or industrial research gain experience and confidence in working in areas where the outcome is unknown.

Entry into the Mathematics Honours Program takes place after completion of 60 credit hours and requires a minimum Cumulative GPA of 3.33 over the previous 30 credit hours, and the permission of the Department Chair. Candidates are required to consult with their Student Advisor prior to applying for the program. Attainting the minimum requirement does not guarantee entry to the Honours Program, which is at the discretion of the Department of Mathematics and Statistics and depends on the availability of a supervisor. Faculty members are under no obligation to supervise Honours students. To remain in the Honours Program requires the maintenance of a minimum Cumulative GPA of 3.33.

To be awarded the BSc Honours degree students will:

- complete 126 credit hours
- satisfy the requirements for a BSc in Mathematics
- within the existing 400-level requirements take
  - one of MATH 420-3 Structure of Groups and Rings or MATH 421-3 Field Theory
  - one of MATH 402-3 Topological and Normed Linear Spaces or MATH 403-3 Measure Theory and Integration
  - one of STAT 471-3 Linear Models, or MATH 472-3 Survey Sampling Design and Analysis, or MATH 473-3 Experimental Design and Analysis
- complete 6 credit hours of MATH 530 or STAT 530, with the outcome of one undergraduate thesis under the supervision of a faculty member.

**Note:** Because faculty are under no obligation to supervise undergraduate theses, students are encouraged to find an Undergraduate Thesis supervisor well in advance of completing 90 credit hours.

## Chemistry/Mathematics Joint Major

**See Calendar entry under Chemistry.**

## Computer Science/Mathematics Joint Major

**See Calendar entry under Computer Science.**

# Joint Major in Mathematics/Physics

The minimum requirement for completion of a Bachelor of Science with a Joint Major in Mathematics and Physics is 125 credit hours.

MATH 150-3 (Finite Mathematics for Business and Economics) may not be used for credit towards any Mathematics major or joint major.

PHYS 307-3 (Selected Topics in Environmental Physics) may not be used as Physics credit toward any Physics major, minor, or joint major.

## Program Requirements

### Lower-Division Requirement

| | |
|---|---|
| CPSC 100-4 | Computer Programming I |
| MATH 100-3 | Calculus I |
| or MATH 105-3 | Enriched Calculus |
| MATH 101-3 | Calculus II |
| MATH 200-3 | Calculus III |
| MATH 201-3 | Introduction to Complex Analysis |
| MATH 220-3 | Linear Algebra |
| MATH 230-3 | Linear Differential Equations and Boundary Value Problems |
| PHYS 110-4 | Introductory Physics I: Mechanics |
| PHYS 111-4 | Introductory Physics II: Waves and Electricity |
| PHYS 200-3 | Thermal Physics |
| PHYS 202-4 | Electromagnetism and Optics |
| PHYS 205-3 | Modern Physics I |
| PHYS 206-4 | Modern Physics II |

### Upper-Division Requirement

| | |
|---|---|
| MATH 320-3 | Survey of Algebra |
| MATH 326-3 | Advanced Linear Algebra |
| MATH 335-3 | Numerical Analysis I |
| MATH 336-3 | Intermediate Differential Equations |
| STAT 371-3 | Probability and Statistics for Scientists and Engineers |

| | |
|---|---|
| PHYS 300-3 | Classical Mechanics |
| PHYS 302-3 | Quantum Mechanics I |
| PHYS 310-3 | Classical Electromagnetism I |
| PHYS 400-3 | Quantum Mechanics II |
| PHYS 407-3 | Statistical Mechanics |

**Subject Upper-Division Requirements:** 9 additional upper-division credit hours are required from MATH or STAT courses, of which at least 6 must be at the 400 level. An additional 6 credit hours of the 300- or 400-level PHYS courses are required. Of these combined Subject Upper-Division Requirements, at least 9 credit hours must be at the 400 level.

### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 125 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Economics/Mathematics Joint Major

**See Calendar entry under Economics.**

# Minor in Mathematics

The minor in Mathematics requires students to take 27 credit hours, 12 of which must be upper-division credits.

There is no limit to the number of courses that may be used to fulfill program requirements for a major (or another minor) and also a minor in Mathematics.

MATH 342-3 (Biostatistics) may not be used for credit towards the 12 credit hours of upper-division Mathematics course requirements for the Mathematics minor.

## Requirements

**100 Level**

| | |
|---|---|
| CPSC 141-3 | Discrete Computational Mathematics |
| MATH 100-3 | Calculus I |
| or MATH 105-3 | Enriched Calculus |
| MATH 101-3 | Calculus II |

**200 Level**

| | |
|---|---|
| MATH 200-3 | Calculus III |
| MATH 220-3 | Linear Algebra |

Twelve additional credit hours in Mathematics at the 300 or 400 level.

# Minor in Statistics

The Minor in Statistics requires students to take 24 credit hours, 18 of which must be upper-division credit hours.

There is no limit to the number of courses that may be used to fulfill program requirements for a major or another minor with a Minor in Statistics.

## Requirements

### Lower-Division Requirement

| | |
|---|---|
| MATH 100-3 | Calculus I or MATH 105-3 Enriched Calculus |
| MATH 101-3 | Calculus II |

### Upper-Division Requirement

| | |
|---|---|
| STAT 371-3 | Probability and Statistics for Scientists and Engineers |
| STAT 372-3 | Mathematical Statistics |

Four of:

| | |
|---|---|
| BIOL 325-3 | Ecological Analyses |
| ECON 312-3 | Introduction to Econometrics |
| ENSC 450-3 | Geophysical Data Analysis |
| GEOG 300-3 | Geographical Information Systems |
| GEOG 413-3 | Advanced GIS |
| GEOG 432-3 | Remote Sensing |
| GEOG 457-3 | Advanced Remote Sensing |
| HHSC 350-3 | Introduction to Epidemiology |
| STAT 441-3 | Nonparametric Statistics |
| STAT 471-3 | Linear Models |
| STAT 472-3 | Survey Sampling Design and Analysis |
| STAT 473-3 | Experimental Design and Analysis |
| STAT 475-3 | Methods for Multivariate Data |

**Note:** Students are required to complete any additional prerequisite courses.

### Recommended

| | |
|---|---|
| STAT 240-3 | Basic Statistics |

# Natural Resources Management (BSc Program)

Kathy Lewis, Professor and Chair
Mark Dale, Professor
Russell Dawson, Professor, and Canada Research Chair, Avian Ecology
Arthur Fredeen, Professor
Oscar Garcia, Professor, and Endowed Chair, Forest Growth and Yield
Michael Gillingham, Professor
Staffan Lindgren, Professor
Hugues Massicotte, Professor
William McGill, Professor
Ken Otter, Professor
Katherine Parker, Professor, and Ian McTaggart Cowan Muskwa Kechika Research Professor
Mark Shrimpton, Professor
Annie Booth, Associate Professor
Philip Burton, Associate Professor
Scott Green, Associate Professor
Ian Hartley, Associate Professor
Dezene Huber, Associate Professor, and Canada Research Chair, Forest Entomology and Chemical Ecology
Chris Johnson, Associate Professor
Chris Opio, Associate Professor
Paul Sanborn, Associate Professor
John Shultis, Associate Professor
Pamela Wright, Associate Professor
Allan Costello, Assistant Professor
Philip Mullins, Assistant Professor
Lisa Poirier, Assistant Professor
Bryan Bogdanski, Adjunct Professor
Alan Carroll, Adjunct Professor
Craig Delong, Adjunct Professor
Marten Geertsema, Adjunct Professor
Susan Grainger, Adjunct Professor
Sybille Haeussler, Adjunct Professor
Chris Hawkins, Adjunct Professor
Doug Heard, Adjunct Professor
George Iwama, Adjunct Professor
Michael Jull, Adjunct Professor
Pat Maher, Adjunct Professor
Ian Picketts, Adjunct Professor
Susan Stevenson, Adjunct Professor
Saphida Migabo, Senior Lab Instructor
Roy Rea, Senior Lab Instructor
Cedar Welsh, Senior Lab Instructor

Website: www.unbc.ca/forestry
Website: www.unbc.ca/outdoor-recreation-tourism-management
Website: www.unbc.ca/wildlife-fisheries

The Natural Resources Management program offers students an integrated resource management approach with specialization through majors in Forest Ecology and Management, Wildlife and Fisheries, and Outdoor Recreation and Conservation.

The recognition that management of any natural resource has implications for all other natural resources is a primary driving factor in the undergraduate curriculum for this degree program. Multiple and sustainable resource management is emphasized. The Forest Ecology and Management major is accredited by the Canadian Forestry Accreditation Board and meets certification requirements for the Association of BC Forest Professionals. Government, industry and private experts assist in course presentations. The University has two research forests (Aleza Lake Research Forest, John Prince Research Forest) available to students in this program.

## Major in Forest Ecology and Management

Undergraduate students are required to take a total of 96 credit hours of program core courses in addition to a qualified minor as outlined below.

The minimum requirement for completion of a Bachelor of Science with a major in Forest Ecology and Management is 123 credit hours.

### Program Requirements

#### Lower-Division Requirement

**100 Level**

| | |
|---|---|
| BIOL 103-3 | Introductory Biology I |
| BIOL 123-1 | Introductory Biology I Laboratory |
| BIOL 104-3 | Introductory Biology II |
| BIOL 124-1 | Introductory Biology II Laboratory |
| CHEM 100-3 | General Chemistry I |
| CHEM 101-3 | General Chemistry II |
| CHEM 120-1 | General Chemistry Lab I |
| CHEM 121-1 | General Chemistry Lab II |
| COMM 100-3 | Introduction to Canadian Business |
| ECON 100-3 | Microeconomics |
| MATH 152-3 | Calculus for Non-majors |
| NREM 100-3* | Field Skills |
| NREM 101-3 | Introduction to Natural Resources Management and Conservation |
| NRES 100-3 | Communications in Natural Resources and Environmental Studies |

***Note:** Applications for exemption from NREM 100-3 must be made within the first year of study in any Natural Resource Management major.

**200 Level**

| | |
|---|---|
| BIOL 201-3 | Ecology |
| COMM 230-3 | Organizational Behaviour |
| ENSC 201-3 | Weather and Climate |
| FSTY 201-3 | Forest Plant Systems |
| FSTY 205-3 | Introduction to Soil Science |
| FSTY 207-1 | Terrestrial Ecological Classification |
| FSTY 209-4 | Forest Biology and Silvics |

GEOG 205-3 Cartography and Geomatics
or GEOG 300-3 Geographic Information Systems
GEOG 210-3 Geomorphology
STAT 240-3 Basic Statistics
NREM 203-3 Resource Inventories and Measurements

### Upper-Division Requirement

**300 Level**
FSTY 305-4 Silviculture
FSTY 307-3 Disturbance Ecology and Forest Health
FSTY 317-1 Forest Disturbance Agents
FSTY 310-3 Forest Economics
or NREM 306-3 Society, Policy and Administration
NREM 303-3 First Nations' Approaches to Resource Management
NREM 333-3 Field Applications in Resource Management

**400 Level**
FSTY 408-3 Forest Practices and Management
NREM 400-4 Natural Resources Planning
NREM 411-3 Environmental and Professional Ethics
NRES 421-1 Professional Writing
and NRES 422-2 Undergraduate Report
or NRES 430-6 Undergraduate Thesis

Minor requirement associated with Forest Ecology and Management major

Forest Ecology and Management students are required to complete a minor as part of their degree. The eligible minors will allow students to gain a solid foundation in numerous specialized areas of forest management.

Eligible minors include:
- Biology and Conservation
- Earth Sciences
- Environmental Planning
- Environmental Science
- Environmental Studies
- Forest Recreation
- General Business
- Geographic Information Systems (GIS)
- Global Environmental Change
- Indigenous Ecological Knowledge
- Natural Resources Planning and Operations
- Social Dimensions of Natural Resources Management
- Soils and the Environment

Minors have different credit hours requirements, but for all minors, 12 credit hours must be at the upper-division (i.e., 300 or 400) level. Students must ensure that all prerequisite courses have been completed for elective choices in each minor. Beyond the specific minor requirements, students must complete elective credit hours as necessary to ensure completion of a minimum of 123 credit hours.

## BSc Honours – Forest Ecology and Management

The Honours in Forest Ecology and Management offers students a higher level of education and research experience for proceeding to post graduate studies. Honours students are required to complete the degree requirements for the BSc Natural Resources Management (Forest Ecology and Management Major). In addition, required hours of electives credits must be at the 300 or 400 level and each student must complete a 6 credit-hour research thesis under the supervision of a faculty member.

Entry into the Honours Program takes place after the completion of 60 credit hours and requires a minimum Cumulative GPA of 3.33. Attaining the minimum requirement does not guarantee entry into the Honours Program, which is at the discretion of the Ecosystem Science and Management Program. Maintenance of a Cumulative GPA of 3.33 is required to remain in the Honours Program.

Elective credit hours are determined to be the number of credit hours needed to ensure completion of a minimum of 123 credit hours, not including thesis.

**Note:** Students are responsible for finding their own undergraduate thesis research supervisor. Faculty members are under no obligation to supervise Honours students.

## Major in Outdoor Recreation and Conservation

This BSc Major in Outdoor Recreation and Conservation focuses on the natural and social dimensions of outdoor recreation and conservation planning and management within an integrated natural resource management framework. Emphasis in this major is placed on planning and managing environmentally and culturally sensitive recreation and conservation opportunities in natural environment settings.

Northern British Columbia provides an unparalleled setting for learning, teaching, and researching the various aspects of outdoor recreation and conservation management. British Columbia has a large land base and a range of natural environments that support a vast array of dispersed and concentrated outdoor recreation opportunities. The program examines the components of planning and managing recreation opportunities through the study of such subject areas as ecology, integrated resource management, planning, protected areas management, environmental studies and geography (e.g., GIS).

Students must complete a minimum of 120 credit hours through (a) the common degree requirements, (b) the Area of Specialization requirements and (c) elective credit hours in any subject.

## Common Degree Requirements

### Lower-Division Requirement

**100 Level**

BIOL 103-3 Introductory Biology I
BIOL 123-1 Introductory Biology I Laboratory
BIOL 104-3 Introductory Biology II
BIOL 124-1 Introductory Biology II Laboratory
CHEM 100-3 General Chemistry I
CHEM 101-3 General Chemistry II
or PSYC 101-3 Psychology as a Science
or PHYS 100-4 Introduction to Physics I
ECON 100-3 Microeconomics
or ENVS 101-3 Introduction to Environmental Citizenship
or FNST 100-3 The Aboriginal Peoples of Canada
or GEOG 100-3 Environments and People: The Geography of Natural Hazards
NREM 100-3* Field Skills
ORTM 100-3 Foundations of Outdoor Recreation and Tourism Management

***Note:** Applications for exemption from NREM 100-3 must be made within the first year of study in any Natural Resource Management major.

**200 Level**

BIOL 201-3 Ecology
ECON 205-3 Statistics for the Social and Management Sciences
or STAT 240-3 Basic Statistics
GEOG 204-3 Introduction to GIS for the Social Sciences
or GEOG 300-3 Geographic Information Systems
NREM 203-3 Resource Inventories and Measurements
or NREM 204-3 Introduction to Wildlife and Fisheries
or GEOG 210-3 Geomorphology
NREM 210-4 Integrated Resource Management
ORTM 200-3 Sustainable Recreation and Tourism
ORTM 205-3 Outdoor Skills and Leadership

### Upper-Division Requirement

**300 Level**

NREM 303-3 First Nations' Approaches to Resource Management
or FNST 304-3 Indigenous Environmental Philosophy
ORTM 300-3 Recreation and Tourism Impacts
ORTM 305-3 Protected Area Planning and Management
ORTM 310-3 Research Methods and Analysis
ORTM 332-3 Outdoor, Environmental, and Experiential Education
ORTM 333-3 Field School

**400 Level**

NREM 400-4 Natural Resources Planning
NREM 411-3 Environmental and Professional Ethics
ORTM 400-3 Conservation Area Design and Management
ORTM 412-3 Issues and Trends in Recreation and Tourism

Two of:

ORTM 306-3* Indigenous Tourism and Recreation
ORTM 403-3* International Dimensions in Recreation and Tourism
ORTM 407-3* Recreation, Tourism and Communities
ORTM 408-3* The Psychology of Recreation and Tourism
ORTM 409-3* Critical Approaches to Outdoor Recreation Activities
ORTM 414-3 Polar Tourism and Recreation
ORTM 498 (1-3) Special Topics

***Note:** Students should note that some senior-level ORTM classes are offered in alternating years.

## Area of Specialization

Students must choose one of the following Areas of Specialization. Courses used to fulfill common degree requirements above may not be used to satisfy an Area of Specialization requirement.

1. Environmental Design and Planning
2. Conservation Education
3. Natural Science
4. Applications of Recreation and Tourism

### Environmental Design and Planning

ENPL 104-3 Introduction to Planning
ENPL 204-3 Principles and Practices of Planning
BIOL 411-3 Conservation Biology

One of:

ENPL 304-3 Mediation, Negotiation and Public Participation
ENVS 326-3 Natural Resources, Environmental Issues and Public Engagement
NREM 306-3 Society, Policy and Administration

One of:

ENPL 303-3 Spatial Planning and Geographical Information Systems (GIS)
ENPL 415-3 Ecological Design
GEOG 432-3 Remote Sensing
NREM 410-3 Watershed Management

### Conservation Education

EDUC 101-3 Introduction to Education
EDUC 201-3 Education Theory and Practice
ENVS 101-3 Introduction to Environmental Citizenship
ORTM 409-3* Critical Approaches to Outdoor Recreation Activities

One of:

FSTY 201-4 Plant Systems
BIOL 301-3 Systematic Botany
BIOL 307-3 Ichthyology and Herpetology
BIOL 308-3 Ornithology and Mammalogy
ENVS 325-3 Global Environmental Change: Science and Policy

One of:

| | |
|---|---|
| BIOL 404-3 | Plant Ecology |
| BIOL 411-3 | Conservation Biology |
| BIOL 412-3 | Wildlife Ecology |
| BIOL 420-3 | Animal Behaviour |
| GEOG 432-3 | Remote Sensing |
| NREM 410-3 | Watershed Management |

### Natural Science

| | |
|---|---|
| NREM 204-3 | Introduction to Wildlife and Fisheries |
| FSTY 201-4 | Plant Systems |
| or BIOL 204-3 | Plant Biology |
| BIOL 411-3 | Conservation Biology |

Three of:

| | |
|---|---|
| BIOL 202-3 | Invertebrate Zoology |
| BIOL 301-3 | Systematic Botany |
| BIOL 302-3 | Limnology |
| BIOL 304-3 | Plants, Society and the Environment |
| BIOL 307-3 | Ichthyology and Herpetology |
| BIOL 308-3 | Ornithology and Mammalogy |
| BIOL 318-3 | Fungi and Lichens |
| BIOL 322-3 | Entomology |
| BIOL 333-3 | Field School |
| BIOL 350-3 | Ethnobotany |
| BIOL 402-3 | Aquatic Plants |
| BIOL 404-3 | Plant Ecology |
| BIOL 412-3 | Wildlife Ecology |
| BIOL 420-3 | Animal Behaviour |
| BIOL 421-3 | Insects, Fungi and Society |
| ENVS 325-3 | Global Environmental Change: Science and Policy |
| NREM 333-3 | Field Applications in Resource Management |

### Applications of Recreation and Tourism

ORTM 202-3 Ecotourism and Adventure Tourism

Six credit hours of:

| | |
|---|---|
| ORTM 306-3* | Indigenous Tourism and Recreation |
| ORTM 403-3* | International Dimensions in Recreation and Tourism |
| ORTM 407-3* | Recreation, Tourism and Communities |
| ORTM 408-3* | The Psychology of Recreation and Tourism |
| ORTM 409-3* | Critical Approaches to Outdoor Recreation Activities |
| ORTM 414-3 | Polar Tourism and Recreation |
| ORTM 433 (1-6) | Field Experience II |
| ORTM 440 (2-6) | Internship |
| ORTM 498 (1-3) | Special Topics |
| ORTM 499 (1-6) | Independent Study |

Two of:

| | |
|---|---|
| BIOL 204-3 | Plant Biology |
| BIOL 301-3 | Systematic Botany |
| BIOL 304-3 | Plants, Society and the Environment |
| BIOL 307-3 | Ichthyology and Herpetology |
| BIOL 308-3 | Ornithology and Mammalogy |
| BIOL 318-3 | Fungi and Lichens |
| BIOL 333-3 | Field School |
| BIOL 350-3 | Ethnobotany |
| ENVS 306-3 | Human Ecology |
| ENVS 325-3 | Global Environmental Change: Science and Policy |
| NREM 333-3 | Field Applications in Resource Management |
| BIOL 404-3 | Plant Ecology |
| BIOL 411-3 | Conservation Biology |
| BIOL 420-3 | Animal Behaviour |

### Elective Requirements

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours.

## BSc Honours – Outdoor Recreation and Conservation

The Honours in Natural Resource Management (Outdoor Recreation and Conservation) offers students a higher level of education and substantial research experience for proceeding to postgraduate studies.

To enter the Honours Program, students must have completed 60 credit hours and obtained a minimum Cumulative GPA of 3.33. Attaining the minimum requirement will not guarantee entry into the Honours Program, which will be at the discretion of the Outdoor Recreation and Tourism Management Program. Maintenance of a Cumulative GPA of 3.33 is required to remain in the Honours Program.

Honours students are required to complete the degree requirements for the BSc in NRM (Outdoor Recreation and Conservation). In addition, each student must also complete an additional 6 credit hours in the form of an undergraduate thesis (NRES 430-6) under the supervision of a faculty member.

**Note:** Students are responsible to find their own undergraduate thesis research supervisor. Faculty members are under no obligation to supervise Honours students.

# Major in Wildlife and Fisheries

Undergraduate students are required to take 21 Biology and Natural Resources Management courses (65-66 credit hours). Of these, 14 courses must be upper division.

The minimum requirement for completion of a Bachelor of Science with a major in Wildlife and Fisheries is 123 credit hours.

## Program Requirements

### Lower-Division Requirement

**100 Level**

BIOL 103-3 Introductory Biology I
BIOL 123-1 Introductory Biology I Laboratory
BIOL 104-3 Introductory Biology II
BIOL 124-1 Introductory Biology II Laboratory
CHEM 100-3 General Chemistry I
CHEM 101-3 General Chemistry II
CHEM 120-1 General Chemistry Lab I
CHEM 121-1 General Chemistry Lab II
MATH 152-3 Calculus for Non-majors
NREM 100-3* Field Skills
NREM 101-3 Introduction to Natural Resources Management and Conservation
NRES 100-3 Communications in Natural Resources and Environmental Studies
or ENGL 170-3 Writing and Communication Skills
PHYS 115-4 General Introduction to Physics
or PHYS 100-4 Introduction to Physics I

***Note:** Applications for exemption from NREM 100-3 must be made within the first year of study in any Natural Resources Management major.

**200 Level**

BIOL 201-3 Ecology
BIOL 210-3 Genetics
CHEM 220-3 Organic and Biochemistry
FSTY 201-3 Forest Plant Systems
or BIOL 301-3 Systematic Botany
FSTY 205-3 Introduction to Soil Science
FSTY 207-1 Terrestrial Ecological Classification
STAT 240-3 Basic Statistics
NREM 204-3 Introduction to Wildlife and Fisheries

Two of:
BIOL 202-3 Invertebrate Zoology
BIOL 204-3 Plant Biology
NREM 210-4 Integrated Resource Management
GEOG 210-3 Geomorphology

### Upper-Division Requirement

**300 Level**

BIOL 302-3 Limnology
BIOL 307-3 Ichthyology and Herpetology
BIOL 308-3 Ornithology and Mammalogy
BIOL 315-3 Animal Diseases and Parasites
BIOL 325-3 Ecological Analyses
ENPL 305-3 Environmental Impact Assessment
or ENVS 326-3 Natural Resources, Environmental Issues and Public Engagement
or NREM 411-3 Environmental and Professional Ethics
GEOG 300-3 Geographic Information Systems
NREM 303-3 First Nations' Approaches to Resource Management
or NREM 306-3 Society, Policy and Administration

**400 Level**

BIOL 402-3 Aquatic Plants
or BIOL 404-3 Plant Ecology
BIOL 406-3 Fish Ecology
BIOL 410-3 Population and Community Ecology
BIOL 411-3 Conservation Biology
BIOL 412-3 Wildlife Ecology
BIOL 413-3 Wildlife Management
BIOL 414-3 Fisheries Management
NREM 400-4 Natural Resources Planning
or NREM 410-3 Watershed Management
or NREM 333-3 Field Applications in Resource Management

### Elective Requirement

Elective credit hours as necessary to ensure completion of a minimum of 123 credit hours.

# BSc Honours – Wildlife and Fisheries

The Honours in Natural Resource Management (Wildlife and Fisheries) recognizes Undergraduate students who both excell at their studies and who complete the Undergraduate Thesis (normally NRES 430).

To enter the Honours program, students must have completed 60 credit hours and obtained a minimum Cumulative GPA of 3.33. Attaining the minimum requirement will not guarantee admission into the Honours program, which will be at the discretion of the Ecosystem Science and Management Program. Maintenance of a Cumulative GPA of 3.33 is required to remain in the Honours program.

Honours students are required to complete the degree requirements for the BSc in Natural Resources Management (Wildlife and Fisheries). In addition, each student must also complete an additional 6 credit hours in the form of an undergraduate thesis (as part of their elective credits) under the supervision of a faculty member.

**Note:** Students are responsible to find their own undergraduate thesis research supervisor. Faculty members are under no obligation to supervise honours students.

# Minor in Earth Sciences

The Earth Sciences minor provides depth in areas of earth science that support natural resource management. Students are required to complete 18 credit hours (12 of which must be 300 or 400 level) chosen from the following lists, with at least one course from each of the first three groups. A maximum of two courses (6 credit hours) used to fulfill the requirements for a major, or another minor, may also be used to fulfill requirements for this minor. It is the student's responsibility to ensure that they have the required prerequisites.

### Hydrology

| | |
|---|---|
| ENSC 202-3 | Introduction to Aquatic Systems |
| ENSC 451-3 | Groundwater Hydrology |
| ENSC 454-3 | Snow and Ice |
| GEOG 310-3 | Hydrology |
| or NREM 410-3 | Watershed Management |

### Geomorphology

| | |
|---|---|
| GEOG 311-3 | Concepts in Geomorphology |
| GEOG 405-3 | Fluvial Geomorphology |
| GEOG 411-3 | Advanced Elements in Geomorphology |
| GEOG 412-3 | Geomorphology of Cold Regions |
| GEOG 414-3 | Weathering Processes |

### Soil Science

| | |
|---|---|
| FSTY 315-3 | Forest Soil Management |
| FSTY 425-3 | Soil Formation and Classification |
| FSTY 455-3 | Biogeochemical Processes in Soil Systems |

### Other

| | |
|---|---|
| ENSC 425-3 | Climate Change and Global Warming |
| GEOG 413-3 | Advanced GIS |
| GEOG 432-3 | Remote Sensing |
| GEOG 457-3 | Advanced Remote Sensing |

# Minor in Forest Recreation

The Minor in Forest Recreation provides natural resource management students and others with an opportunity to gain a foundation and expertise in the specialized aspects of forest recreation while pursuing another major. The minor requires students to take a total of 18 credit hours. The minor has three required courses basic to the field of Forest Recreation (nine credit hours) and a set of elective courses (minimum of nine credit hours).

### Required Courses

| | |
|---|---|
| ORTM 100-3 | Foundations of Outdoor Recreation and Tourism |
| ORTM 200-3 | Sustainable Recreation and Tourism |
| ORTM 300-3 | Recreation and Tourism Impacts |

### Elective Courses

Nine credit hours from the following list with a minimum of 3 credit hours at the 400 level:

| | |
|---|---|
| ORTM 202-3 | Ecotourism and Adventure Tourism |
| ORTM 305-3 | Protected Area Planning and Management |
| ORTM 306-3 | Indigenous Tourism and Recreation |
| ORTM 400-3 | Recreation and Tourism Ecology, Management and Design |
| ORTM 407-3 | Recreation, Tourism and Communities |
| ORTM 409-3 | Critical Approaches to Outdoor Recreation Activities |
| ORTM 412-3 | Issues and Trends in Outdoor Recreation and Tourism |
| ORTM 498-(1-3) | Special Topics |
| ORTM 499-(1-6) | Independent Study |

A maximum of two courses (6 credit hours) used to fulfill program requirements for a major (or another minor) may also be used to fulfill requirements for this minor.

# Minor in Natural Resources Planning and Operations

The Natural Resources Planning and Operations minor is designed for students primarily interested in planning and operations (and their governing policies) related to the management of forested and non-forested lands. Students will learn about natural resource policy, forest-management planning and operations, environmental impacts of management practices, forest productivity and timber supply, and resource sustainability along with current computer-based management tools. It is strongly recommended that students taking this minor have a background in forest ecology and management.

The minor in Natural Resources Planning and Operations requires the completion of 19 credit hours, of which 12 credit hours must be at the upper-division (i.e., 300 or 400) level. Courses used to fulfill major requirements may not be applied toward the minor in Forest Planning and Operations. It is the student's responsibility to ensure that they have the required prerequisites.

### Required Courses

| | |
|---|---|
| NREM 210-4 | Integrated Resource Management |
| ENVS 326-3 | Natural Resources, Environmental Issues, and Public Engagement |

Four from the following courses (with no more than two courses in any single program [e.g., ENPL]):

| | |
|---|---|
| BIOL 325-3 | Ecological Analysis |
| BIOL 413-3 | Wildlife Management |
| ECON 305-3 | Environmental Economics |
| ECON 411-3 | Cost-Benefit Analysis |
| ENPL 204-3 | Principles and Practices of Planning |
| ENPL 303-3 | Spatial Planning with GIS |

| | |
|---|---|
| ENPL 304-3 | Mediation, Negotiation and Public Participation |
| ENPL 305-3 | Environmental Impact Assessment |
| ENPL 410-3 | Land Use Planning |
| ENPL 411-3 | Planning Theory, Process and Implementation |
| ENSC 453-3 | Environmental Resource Management / Decision Making |
| FSTY 310-3 | Forest Economics |
| FSTY 405-3 | Forest Growth and Yield |
| FSTY 407-3 | Forest Products |
| FSTY 415-3 | Forest Soils |
| GEOG 413-3 | Advanced GIS |
| NREM 306-3 | Society, Policy and Administration |
| NREM 410-3 | Watershed Management |
| NREM 413-3 | Agroforestry |

# Minor in Social Dimensions of Natural Resources Management

The Minor in Social Dimensions of Natural Resources Management prepares students to engage the public and First Nations in collaborative processes dealing with the range of values encompassed within the practice of natural resources management. Upon completion of the minor, students will be familiar with planning policy and practice as it applies to natural resources management, the range of values and social considerations that apply to a number of resource sectors, and tools for soliciting and involving multi-stakeholder interests.

The minor in Social Dimensions of Natural Resources Management requires the completion of a minimum of 24 credit hours of study. A maximum of two courses (6 credit hours) used to fulfill the requirements for a major, or another minor, may also be used to fulfill requirements for this minor. Students need to fulfill the prerequisite requirements for this minor.

## Required Courses

ENPL 401-3 Environmental Law

One of:

| | |
|---|---|
| ENPL 304-3 | Mediation, Negotiation and Public Participation |
| ENVS 326-3 | Natural Resources, Environmental Issues, and Public Engagement |

One of:

| | |
|---|---|
| POLS 332-3 | Community Development |
| POLS 434-3 | Resource Communities in Transition |

An additional five of the following courses (no more than 2 courses in any single program [e.g., ENPL]):

| | |
|---|---|
| BIOL 350-3 | Ethnobotany |
| ENPL 104-3 | Introduction to Planning |
| ENPL 304-3 | Mediation, Negotiation and Public Participation |
| ENPL 319-3 | Social Research Methods |
| ENPL 409-4 | Advanced First Nations Community and Environmental Planning |
| ENVS 326-3 | Natural Resources, Environmental Issues, and Public Engagement |
| ENVS 325-3 | Global Environmental Change: Science and Policy |
| FNST 203-3 | Introduction to Traditional Ecological Knowledge |
| FNST 304-3 | Indigenous Environmental Philosophy |
| FSTY 440-3 | Internship |
| GEOG 401-3 | Tenure, Conflict and Resource Geography |
| GEOG 403-3 | First Nations and Indigenous Geography |
| GEOG 424-3 | Social Geography of Northern Communities |
| HIST 421-3 | Topics in Environmental History |
| NREM 413-3 | Agroforestry |
| ORTM 200-3 | Sustainable Outdoor Recreation and Tourism |
| POLS 316-3 | Municipal Government and Politics |
| POLS 332-3 | Community Development |
| POLS 434-3 | Resource Communities in Transition |

# Nature-Based Tourism Management (BA Program)

Kathy Lewis, Professor and Chair
Philip Mullins, Assistant Professor
John Shultis, Associate Professor
Pam Wright, Associate Professor
Pat Maher, Adjunct Professor
Ian Picketts, Adjunct Professor

Website: www.unbc.ca/outdoor-recreation-tourism-management

Tourism has become the largest industry and employer in the world. One of the most important and fastest growing sectors in tourism is nature-based tourism, which comprises attractions, activities and experiences involving interaction with natural and cultural resources (e.g., ecotourism, adventure tourism, indigenous tourism). This degree examines the various components of the nature-based tourism system, giving emphasis to the entrepreneurial perspectives and sustainability issues in the industry. Reflecting the interdisciplinarity of the field, and related career directions, students select from the following Areas of Specialization: marketing and entrepreneurship, outdoor education and leadership, indigenous/cultural tourism, or environment and society.

## Major in Nature-Based Tourism Management

Students must complete a minimum of 120 credit hours through (a) the common degree requirements, (b) the requirements of an Area of Specialization and (c) elective credit hours in any subject.

### Common Degree Requirements

#### Lower-Division Requirement

**100 Level**

BIOL 110-3 Introductory Ecology
COMM 100-3 Introduction to Canadian Business
ECON 100-3 Microeconomics
ENPL 104-3 Introduction to Planning
GEOG 100-3 Environments and People: The Geography of Natural Hazards
or GEOG 101-3 Human Geographies of Global Change
or FNST 100-3 The Aboriginal Peoples of Canada
or ENVS 101-3 Introduction to Environmental Citizenship
NREM 100-3* Field Skills
ORTM 100-3 Foundations of Outdoor Recreation and Tourism

***Note:** Applications for exemption from NREM 100-3 must be made within the first year of study in any Natural Resource Management major.

**200 Level**

COMM 240-3 Introduction to Marketing
ECON 205-3 Statistics for Social and Management Sciences
or STAT 240-3 Basic Statistics
ORTM 200-3 Sustainable Recreation and Tourism
ORTM 202-3 Ecotourism and Adventure Tourism
ORTM 205-3 Outdoor Skills and Leadership

#### Upper-Division Requirement

**300 Level**

COMM 302-3 Entrepreneurship
FNST 304-3 Indigenous Environmental Philosophy
or NREM 303-3 First Nations' Approaches to Resource Management
HIST 360-3 An Introduction to Environmental History
ORTM 300-3 Recreation and Tourism Impacts
ORTM 306-3** Indigenous Tourism and Recreation
ORTM 310-3 Research Methods and Analysis
ORTM 332-3 Outdoor, Environmental and Experiential Education
ORTM 333-3 Field School

**400 Level**

ORTM 412-3 Issues and Trends in Recreation and Tourism

Nine credit hours from*:

ORTM 305-3 Protected Areas Planning and Management
ORTM 400-3 Conservation Area Design and Management
ORTM 403-3** International Dimensions in Recreation and Tourism
ORTM 407-3** Recreation, Tourism and Communities
ORTM 408-3** The Psychology of Recreation and Tourism
ORTM 409-3** Critical Approaches to Outdoor Recreation Activites
ORTM 414-3** Polar Tourism and Recreation

ORTM 433 (1-6) Field School II
ORTM 440 (2-6) Internship
ORTM 498 (1-3) Special Topics
ORTM 499 (1-6) Independent Study
NOLS 300-2 Environmental Ethics, Leave No Trace and Leadership
NOLS 301-2 Group Leadership Techniques
NOLS 302 (2-6) Wilderness Skills Practicum
NOLS 303-2 Risk Management, Assessment and Decision Making

***Note:** Up to 6 credit hours of NOLS prefixed courses can count towards this category. Any additional NOLS credit hours can be used as elective credit.

****Note:** Student should note that some senior-level ORTM classes are offered in alternating years.

## Area of Specialization

Students must choose one of the following Areas of Specialization. Courses used to fulfill common degree requiremetns above may not be used to satisfy an Area of Specialization requirement.

1. Marketing and Entrepreneurship
2. Outdoor Education and Leadership
3. Indigenous/Cultural Tourism
4. Environment and Society

### Marketing and Entrepreneurship

COMM 210-3 Financial Accounting
COMM 342-3 Services Marketing

Two of:

- COMM 340-3 Marketing Communication
- COMM 343-3 Behavioural Marketing
- COMM 346-3 Internet Marketing
- COMM 441-3 International Marketing
- COMM 442-3 Marketing Strategy

Two of:

- COMM 230-3 Organizational Behaviour
- COMM 300-3 Introduction to Business Law
- COMM 303-3 Introduction to International Business
- COMM 443-3 Marketing Research
- ECON 305-3 Environmental Economics and Environmental Policy
- GEOG 424-3 Social Geography of Northern Communities

### Outdoor Education and Leadership

EDUC 101-3 Introduction to Education
EDUC 201-3 Education Theory and Practice
ENVS 101-3 Introduction to Environmental Citizenship
ORTM 408-3** The Psychology of Recreation and Tourism
ORTM 409-3** Critical Approaches to Outdoor Recreation Activities

One of:

- ANTH 405-3 Landscapes, Place and Culture
- BIOL 333-3 Field School
- BIOL 350-3 Ethnobotany
- ENVS 306-3 Human Ecology
- ENVS 325-3 Global Environmental Change: Science and Policy
- HIST 421-3 Topics in Environmental History
- NREM 333-3 Field Applications in Resource Management

### Indigenous/Cultural Tourism

FNST 100-3 The Aboriginal Peoples of Canada
or HIST 215-3 Global History of Indigenous People
FNST 203-3 Introduction to Traditional Ecological Knowledge

One of:

- ENPL 208-3 First Nations Community and Environmental Planning
- FNST 217-3 Contemporary Challenges Facing Aborignal Communities

Two of:

- BIOL 350-3 Ethnobotany
- ENPL 409-3 Advanced First Nations Community and Environmental Planning
- GEOG 301-3 Cultural Geography
- GEOG 403-3 Aboriginal Geography
- HIST 390-3 Aboriginal People in Canada
- NORS 321-3 Peoples and Cultures of the Circumpolar World
- POLS 332-3 Community Development

One of:

- ORTM 403-3** International Dimensions in Recreation and Tourism
- ORTM 407-3** Recreation, Tourism and Communities
- ORTM 414-3** Polar Tourism and Recreation

### Environment and Society

ENVS 101-3 Introduction to Environmental Citizenship
ENPL 205-3 Environment and Society
or ENPL 208-3 First Nations Community and Environmental Planning

One of:

- GEOG 204-3 Introduction to GIS for the Social Sciences
- GEOG 205-3 Cartography and Geomatics
- GEOG 300-3 Geographic Information Systems

One of:

- ENPL 304-3 Mediation, Negotiation and Public Participation
- ENVS 326-3 Natural Resources, Environmental Issues and Public Engagement
- NREM 306-3 Society, Policy and Administration

Two of:

- ANTH 405-3 Landscapes, Place and Culture
- ENPL 301-3 Sustainable Communities: Structure and Sociology
- ENVS 306-3 Human Ecology
- ENVS 309-3 Gender and Environmental Studies
- GEOG 305-3 Political Ecology
- GEOG 420-3 Geographies of Environmental Justice
- GEOG 424-3 Social Geography of Northern Communities
- HIST 421-3 Topics in Environmental History

### Course Prerequisites

Students should review all proposed course selections in advance to make sure course prerequisites are taken where needed.

### Elective

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours .

# BA Honours – Nature-Based Tourism Management

The Honours in Nature-Based Tourism Management offers students a higher level of education and substantial research experience for proceeding to postgraduate studies.

To enter the Honours Program, students must have completed 60 credit hours and obtained a minimum Cumulative GPA of 3.33. Attaining the minimum requirement will not guarantee entry into the Honours Program, which will be at the discretion of the Outdoor Recreation and Tourism Management Program. Maintenance of a Cumulative GPA of 3.33 is required to remain in the Honours Program.

Honours students must complete the degree requirements for the BA in Nature-Based Tourism Management. In additional, each student must also complete an additional 6 credit hours in the form of an undergraduate thesis (NRES 430-6) under the supervision of a faculty member.

**Note:** Students are responsible to find their own undergraduate thesis research supervisor. Faculty members are under no obligation to supervise Honours students.

# Minor in Outdoor Recreation and Tourism Management

The minor in Outdoor Recreation and Tourism Management is designed to afford students an opportunity to gain foundational knowledge in tourism and recreation while pursuing another major. The minor requires students to take a total of 18 credit hours. The minor has three required courses basic to the field of Outdoor Recreation and Tourism Management (9 credit hours) and a set of elective courses (minimum of 9 credit hours). A maximum of two courses (6 credit hours) used to fulfill program requirements for a major (or another minor) may also be used to fulfill requirements for this minor.

## Required Courses

ORTM 100-3 Foundations of Outdoor Recreation and Tourism

One of:

- ORTM 200-3 Sustainable Recreation and Tourism
- ORTM 202-3 Ecotourism and Adventure Tourism
- ORTM 205-3 Outdoor Skills and Leadership

ORTM 300-3 Recreation and Tourism Impacts

## Elective Courses

Nine credit hours from the following list with a minimum of 6 credit hours at the 400 level:

- ORTM 305-3 Protected Area Planning and Management
- ORTM 306-3 Indigenous Tourism and Recreation
- ORTM 332-3 Outdoor, Environmental, and Experiential Education
- ORTM 403-3 International Dimensions in Recreation and Tourism
- ORTM 407-3 Recreation, Tourism and Communities
- ORTM 408-3 The Psychology of Recreation and Tourism
- ORTM 409-3 Critical Approaches to Outdoor Recreation Activities
- ORTM 412-3 Issues and Trends in Recreation and Tourism
- ORTM 414-3 Polar Tourism and Recreation

# Northern Studies (BA Program)

Gary Wilson, Associate Professor, Political Science, and Northern Studies Coordinator

Website: www.unbc.ca/northern-studies

## Major in Northern Studies

Northern Studies is an interdisciplinary field of particular importance to the University of Northern British Columbia, and of growing relevance globally. Circumpolar environmental processes are becoming recognized as key indicators of global change; circumpolar indigenous peoples are gaining a greater voice both nationally and internationally; circumpolar political arrangements are illustrating new forms of regional governance. For these and other reasons, a better understanding of northern conditions and issues is needed.

Students are required to complete 54 credit hours of coursework consisting of seven core courses (21 credit hours) one course (3 credit hours) in Methodology; at least five courses (15 credit hours) from the "Environment and Health" list of courses, and at least five courses (15 credit hours) from the "Culture and People" list of courses.

The remaining electives and prerequisites are open to design by the student, but 30 credit hours must be at the Upper-division level.

**Note:** Completion of a Bachelor of Arts with a major in Northern Studies graduation requires a minimum of 120 credit hours.

Block transfer of credit up to 60 credit hours towards the Northern Studies BA at UNBC may be given to students from Yukon College who have completed one of the following two year Northern Studies programs at Yukon College: Diploma of Northern Studies, General Studies; Diploma of Northern Studies, Native Studies; Diploma of Northern Studies, Outdoor and Environmental Studies.

## Program Requirements

### Core Courses

| | |
|---|---|
| NORS 101-3 | Introduction to the Circumpolar North |
| NORS 311-3 | Lands and Environments of the Circumpolar North 1 |
| NORS 312-3 | Lands and Environments of the Circumpolar North 2 |
| NORS 321-3 | Peoples and Cultures of the Circumpolar World 1 |
| NORS 322-3 | Peoples and Cultures of the Circumpolar World 2 |
| NORS 331-3 | Contemporary Issues in the Circumpolar North 1 |
| NORS 332-3 | Contemporary Issues in the Circumpolar North 2 |

**Note:** These courses may be available in face-to-face format, cross-listed with other UNBC courses, or as web-based courses offered in conjunction with the University of the Arctic.

### Environment and Health

(at least 15 credit hours)

| | |
|---|---|
| ANTH 312-3 | Human Adaptability |
| ANTH 320-3 | Biology of Circumpolar Peoples |
| ANTH 409-3 | Topics in British Columbia Archaeology |
| BIOL 304-3 | Plants Society and the Environment |
| BIOL 350-3 | Ethnobotany |
| BIOL 404-3 | Plant Ecology |
| ECON 305-3 | Environmental Economics and Environmental Policy |
| ENPL 305-3 | Environmental Impact Assessment |
| ENSC 454-3 | Snow and Ice |
| ENVS 326-3 | Natural Resources, Environmental Issues and Public Engagement |
| FNST 249-3 | Aboriginal Resource Planning |
| FNST 302-3 | First Nations Health and Healing |
| FNST 304-3 | Indigenous Environmental Philosophy |
| FNST 316-3 | Aboriginal Health and Chronic Illness |
| FSTY 425-3 | Soil Formation and Classification |
| GEOG 308-3 | Environments of Health and Care |
| GEOG 312-3 | Geomorphology of Cold Regions |
| GEOG 403-3 | First Nations and Indigenous Geography |
| GEOG 424-3 | Social Geography of Northern Communities |
| HHSC 440-6 | Special Topics in Health Sciences |
| HHSC 473-3 | Health Promotion |
| INTS 335-3 | Global Environmental Challenge: Sustainability |
| NORS 498-3 | Special Topics in Northern Studies |
| NORS 499-3 | Independent Research/Directed Reading in Northern Studies |
| NREM 303-3 | First Nations Approaches to Resource Management |

### Culture and People

(at least 15 credit hours)

| | |
|---|---|
| ANTH 201-3 | Medical Anthropology |
| ANTH 206-3 | Ethnography in Northern British Columbia |
| ANTH 335-3 | Archaeological Heritage Management |
| ANTH 407-3 | Topics in British Columbia Ethnography |
| ANTH 409-3 | Topics in British Columbia Archaeology |
| ANTH 421-3-6 | Ethnographic Field Methods |
| ANTH 422-3-6 | Ethnographic Research Project |
| ANTH 451-3 | Traditional Use Studies |
| ECON 407-3 | The Economy of Northern BC |
| ENGL 320-3 | First Nations Literature |
| ENGL 420-3 | Special Topics in First Nations Literature |
| ENGL 431-3 | Northern BC Literature |
| FNST 217-3 | Contemporary Challenges Facing Aboriginal Communities |
| FNST 350-3 | Canadian Law and Aboriginal Peoples |
| FNST 306-3 | Indigenous Women: Perspectives |
| GEOG 403-3 | First Nations and Indigenous Geography |
| GEOG 424-3 | Social Geography of Northern Communities |
| HIST 390-3 | Aboriginal People in Canada |
| NORS 498-3 | Special Topics in Northern Studies |
| NORS 499-3 | Independent Research/Directed Reading in |

### Northern Studies

| | |
|---|---|
| ORTM 306-3 | Indigenous Tourism and Recreation |
| ORTM 407-3 | Recreation, Tourism and Communities |
| ORTM 414-3 | Polar Tourism and Recreation |
| POLS 316-3 | Community Government and Politics |
| POLS 332-3 | Community Development |
| POLS 412-3 | Comparative Aboriginal State Relations |
| POLS 414-3 | Comparative Federalism |
| POLS 415-3 | Comparative Northern Development |
| POLS 434-3 | Resource Communities in Transition |

### Methodology

Three credit hours from one of the following:

| | |
|---|---|
| ANTH 300-3 | Methods in Social Anthropology |
| BIOL 325-3 | Ecological Analyses |
| ECON 205-3 | Statistics for the Social and Management Sciences |
| ENPL 319-3 | Social Research Methods |
| FNST 200-3 | Methods and Perspectives in First Nations Studies |
| FNST 300-3 | Research Methods in First Nations Studies |
| GEOG 204-3 | Introduction to GIS for the Social Sciences |
| GEOG 205-3 | Cartography and Geomatics |
| GEOG 333-3 | Geography Field School |
| ORTM 310-3 | Research Methods and Analysis |
| POLS 290-3 | Research and Writing for Political Science |

**Note:** Students are encouraged to participate in an optional semester at another university in the circumpolar north, through exchange agreements between UNBC and other circumpolar universities. This should be done in consultation with the NORS Coordinator.

### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours, including any additional credits to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

# Minor in Northern Studies

Northern Studies is an interdisciplinary field of particular importance to the University of Northern British Columbia, and of growing relevance globally. Many circumpolar issues are gaining importance, and there are important lessons that can be exchanged between circumpolar regions and other areas of the globe. Northern Studies can be an interesting and useful complement to students' other areas of study.

A minor consists of eight courses (24 credit hours). Students must take seven required core courses (21 credit hours). Students must also take one methodology course (3 credit hours) from the list below.

Courses used to fulfill program requirements for a major or another minor may not be used to fulfill requirements for this minor.

## Required Core Courses

| | |
|---|---|
| NORS 101-3 | Introduction to the Circumpolar North |
| NORS 311-3 | Lands and Environments of the Circumpolar North 1 |
| NORS 312-3 | Lands and Environments of the Circumpolar North 2 |
| NORS 321-3 | Peoples and Cultures of the Circumpolar World 1 |
| NORS 322-3 | Peoples and Cultures of the Circumpolar World 2 |
| NORS 331-3 | Contemporary Issues in the Circumpolar North 1 |
| NORS 332-3 | Contemporary Issues in the Circumpolar North 2 |

**Note:** These courses may be available in face-to-face format, cross-listed with other UNBC courses, or as web-based courses offered in conjunction with the University of the Arctic.

### Methodology

(Choose one from the list)

| | |
|---|---|
| ANTH 300-3 | Methods in Social Anthropology |
| BIOL 325-3 | Ecological Analyses |
| ECON 205-3 | Statistics for the Social and Management Sciences |
| ENPL 319-3 | Social Research Methods |
| FNST 200-3 | Methods and Perspectives in First Nations Studies |
| FNST 300-3 | Research Methods in First Nations Studies |
| GEOG 204-3 | Introduction to GIS for the Social Sciences |
| GEOG 205-3 | Cartography and Geomatics |
| GEOG 333-3 | Geography Field School |
| ORTM 310-3 | Research Methods and Analysis |
| POLS 290-3 | Research and Writing for Political Science |

# School of Nursing (BScN Program)

- Northern Collaborative Baccalaureate Nursing Program
- Post-Diploma Baccalaureate Nursing Program
- Rural Nursing Certificate Program

Martha MacLeod, Professor and Chair
Lela Zimmer, Associate Professor
Khaldoun Aldiabat, Assistant Professor
Kathryn Banks, Assistant Professor
Davina Banner-Lukaris, Assistant Professor
Amy Klepetar, Assistant Professor
Sue Skeates, Assistant Professor
Greg Thomas-Reilly, Assistant Professor
Linda van Pelt, Assistant Professor
Erin Wilson, Assistant Professor
Janet Baillies, Adjunct Professor
Jennifer Beaveridge, Adjunct Professor
Anne Chisholm, Adjunct Professor
Gerritt Clements, Adjunct Professor
Dana Cole, Adjunct Professor
Tina Fraser, Adjunct Professor
Rosemary Graham, Adjunct Professor
Suzanne Johnston, Adjunct Professor
Connie-Marie Lapadat, Adjunct Professor
Colleen Regehr, Adjunct Professor
Cathy Ulrich, Adjunct Professor
Clara Antoniazzi, Senior Lab Instructor and Nursing Teaching Associate
Ngoc Huynh, Senior Lab Instructor
Gwen Keeler, Senior Lab Instructor

Website: www.unbc.ca/nursing

## Statement of Nursing

Nursing is a professional practice discipline which offers a valuable service to the public by working with individuals, families, groups, and communities, to develop and implement strategies to meet health care needs. Caring is a central and dominant feature of nursing.

Nursing:
a. considers the physical, psychological, social, environmental, and spiritual domains of clients;
b. requires cultural sensitivity; and,
c. collaborates with clients, other health care providers, and the community.

Nursing is based on knowledge and skills developed in its own and related disciplines. Nursing knowledge is developed through research and other methods.

Nursing advocates for a health care system that:
a. emphasizes health promotion, and illness prevention,
b. is based on practical, affordable, manageable, and culturally acceptable care and technology, and
c. is available for all clients in a universal, equitable manner.

## Statement of Nursing Education

Nursing education responds to societal concerns by developing a curriculum that is relevant and considers future trends in health care. Nursing education strives to provide an environment that is challenging and supportive, where all students learn the practice of nursing through the application and evaluation of knowledge, the practise of skills, and the internalization of caring and professional attitudes. A dynamic and positive relationship occurs between health care services and education through the sharing of knowledge, skills, and research.

## Undergraduate Programs of Study

UNBC offers the following programs:

- **Northern Collaborative Baccalaureate Nursing Program (NCBNP)** is offered collaboratively between UNBC, the College of New Caledonia (CNC), and Northwest Community College (NWCC), providing entry into the nursing profession. The integrated program of studies leads to a Bachelor of Science in Nursing (BScN), awarded by UNBC. Graduates are eligible to write the National Council Licensure Examination (NCLEX-RN) and to apply for registration with the College of Registered Nurses of British Columbia (CRNBC) after passing the exam.
- **Post-Diploma Baccalaureate Nursing Program** for registered nurses is offered by UNBC. Acknowledging the previous learning of post-RNs, the program is organized to expand and update knowledge and skills for nursing practice. Students have the opportunity to focus in one area of practice. Successful completion of the program leads to a BScN.

## Aims of the BScN Program

The goal of the BScN program is to improve access to and successful completion of nursing education for residents of the north. The aim of the nursing program is to prepare professional nurses who will:

- practice with cultural sensitivity
- practice with awareness of particular health needs of northern populations
- practice assessment and promotion of holistic health with individuals, families, groups, and communities
- participate in activities that reflect the appraisal of population health needs and implement and evaluate the appropriate interventions to meet those needs
- make nursing judgments that reflect application of current nursing research and research from related disciplines
- practice in a broad range of settings with an emphasis on northern communities
- influence health services to bring about policy development that meets the health needs of northern populations
- practice effectively within collaborative interdisciplinary and intersectorial health care teams
- demonstrate critical thinking skills and effective clinical decision making
- demonstrate skills of a self-directed learner

- meet professional practice requirements as identified in the CRNBC Professional Standards for Registered Nurses and Nurse Practitioners
- NCBNP students will meet professional practice requirements as identified in the current CRNBC Competencies in Context of Entry-level Registered Nurse Practice in British Columbia

## General Requirements

Nursing courses are normally restricted to students admitted into the BScN program, unless otherwise specified in a course description. Not all courses in the Calendar are offered every semester or academic year. Admission to the BScN program does not guarantee registration in any specific course; early registration is advised.

The admission criteria and general requirements set out in the Admissions section of this Calendar are applicable to this section.

### Standards of Professional Conduct

In addition to fulfilling all University and Program expectations, all students are expected to abide by professional standards as set forth in the current CRNBC Professional Standards for Registered Nurses and Nurse Practitioners and the Canadian Nurses Association (CNA) Code of Ethics for Registered Nurses. Violation of professional standards may result in suspension or dismissal from the program or the educational institution.

### College of Registered Nurses of British Columbia Requisite Skills and Abilities

All students who apply to the Northern Collaborative Baccalaureate Nursing Program must demonstrate the capacity to meet College of Registered Nurses of British Columbia's (CRNBC) Requisite Skills and Abilities. Certain basic skills and abilities are required for a student to attain the Competencies in the Context of Entry-Level Registered Nurse Practice in British Columbia. These Requisite Skills and Abilities can be found on the CRNBC website.

### Clinical Practica Scheduling and Expectations

Clinical practica may be configured and offered outside the existing timetable structure and sessional dates, such as a four or six week block. The students in the NCBNP must complete a consolidating nursing practicum following both their fourth and sixth semesters of study in the program.

Attendance in each clinical course is mandatory. Students who do not complete their total required practicum experience hours will be at risk of failure. Any time a student is unable to attend practicum due to unforeseen circumstances, the student must contact his/her clinical instructor and the clinical area with as much notice as possible. The opportunity to make up missed clinical time is not guaranteed and may only be granted for extreme extenuating circumstances.

### Program Costs

Costs associated with study in the BScN programs are the responsibility of the individual student, including transportation costs and any expenses involved in academic studies, lab, and clinical practica. Students may be required to complete clinical experiences at sites other than Prince George, Quesnel, or Terrace. Provision for all travel, accommodation, and living expenses associated with required clinical practice is the sole responsibility of the student.

### Academic Performance

Students must adhere to all policies and regulations of the institution(s) where they are registered for courses. This requirement includes, but is not limited to, matters related to academic appeals and academic dishonesty. Progression through the program is governed by guidelines on academic standing and continuance. Probation guidelines are governed by UNBC.

Students must obtain the minimum passing grade for all required Nursing and Health Sciences (NURS, HHSC or equivalent) courses as defined under "Qualification for Degree."

Students are required to withdraw from their respective Nursing programs if they have two instances of not meeting the minimum passing grade requirement either in the same Year or in two consecutive Years, in an combination of the following:

- NURS theory and/or practice courses
- required HHSC courses
- equivalents of the above

A 'Year' is comprised of all the mandatory NURS and HHSC (or equivalent) courses in a given Level (e.g. Year 1 includes all 100-level courses listed under the Lower-Division requirements in the Calendar) regardless of how long it takes the student to complete the courses. Students who are required to withdraw in Year 1 or Year 2 may reapply to the NCBNP after a minimum of 1 year. Those required to withdraw in Year 3 or 4 (including RNCP and Post-Diploma students) may reapply after 3 years. For NCBNP students, assessments are performed on an individual basis by a joint committee of the UNBC School of Nursing, NWCC, and CNC with no guarantee of readmission. Students who are readmitted must begin the Program at Year 1 and repeat all NURS and HHSC (or equivalent) courses. Any reapplications to the RNCP and Post-Diploma are assessed by the UNBC School of Nursing.

Students may be removed from a clinical setting due to "unsafe or unprofessional" performance/conduct, and may receive a grade of F in the clinical component of the course. When a student receives a grade of F for the clinical component of a course, the overall course grade will be computed on the basis of the grade achieved in all other components of the course, to a maximum grade of C-.

Student who withdraw from more than one NURS and/or HHSC course (or equivalent) in an academic year will be required to meet with the Program Coordinator at the institution they are currently attending to discuss whether the student is suited to continue in the program. Consultation must occur with and permission be granted by the Program Coordinator before the student will be allowed to register in subsequent courses.

## Misconduct

Any conduct that violates the ethical or legal standards of the institution at which the student is currently registered, particularly those related to academic dishonesty, is a serious offense. Academic misconduct and/or professional misconduct may result in the student being required to withdraw from the respective Nursing program and possibly the University. Satisfactory academic performance is not the sole criterion for progression or graduation. The School of Nursing and the NCBNP institutional partners reserve the right to require a student to withdraw from the student's respective program if the student is considered to be unsuited to proceed with the study or practice of nursing.

## Qualification for Degree

It is the responsibility of the student to ensure that his/her degree or certificate requirements are met. Graduation requirements are found in the Regulations and Policies section of this Calendar. To fulfill the requirements of graduation, the student must:

- attain a minimum Cumulative GPA of 2.33 (C+) on all courses used for credit towards the degree or certificate
- attain a minimum passing grade of (P) in NURS 220-5, NURS 329-1 and NURS 330-4, as applicable to the specific program
- obtain a minimum passing grade of 2.00 (C) in the following courses, or their equivalents, as applicable to the specific program. *Note: Students enrolling in any required course must have completed all prerequisites with a grade of (C) or better, or if NURS 220-5, NURS 329-1 or NURS 330-4 is the prerequisite, a passing grade of (P) is required:*
    - all NURS courses, including NURS electives
    - all mandatory HHSC courses
    - ANTH 213-3
    - STAT 240-3
    - POLS 403-3
- complete all requirements for the appropriate program as follows:
    - NCBNP BScN within eight years, starting with the first semester of registration in a NURS course in the NCBNP at UNBC or one of its collaborative partner institutions
    - Post-Diploma BScN within eight years, starting with the first semester of registration in a NURS course in the Post-Diploma BScN at UNBC
    - Certificate program within six years, starting with the first semester of registration in a NURS course in the Certificate program at UNBC.

## Letter of Permission

Once admitted to the Nursing Program, students who want to take course work at other institutions for transfer credit towards the degree require a Letter of Permission prior to registration in the course. A student who has committed an academic offense may be denied a Letter of Permission for subsequent coursework. Students who complete courses without having first obtained a Letter of Permission risk not having those courses accepted for transfer credit.

Students should contact the Nursing Advisor at the institution they are currently attending for further information. (Refer to Academic Regulation 19 in this Calendar).

## Course Challenge

Course challenge is available for up to six credits of the required nursing courses in the Post-Diploma Baccalaureate Nursing program. Up to six credits of course challenge may be applied towards the degree if less than nine credit hours of nursing courses have been transferred in. Only three credits of course challenge can apply towards the degree if the maximum of nine credit hours in nursing have been transferred in.

## Part-time Studies

With prior approval by the Nursing Advisor at the institution the student is applying to or currently attending, and subject to course availability, undergraduate Nursing programs may be taken on a part-time basis; however, students may be required to enroll full-time during a portion of their program.

## Leave of Absence

Students wanting to take a Leave of Absence must apply, in writing, to the Nursing Advisor at the institution that the student is currently attending. Upon approval, students are eligible for up to a one-year Leave of Absence. Students who do not apply for a Leave of Absence will be considered to be out-of-sequence and will lose their priority for registration.

## Time Lapse Between Clinical Practica

Students who are out of clinical practice in a Nursing education program for more than 18 months will be reassessed to determine what clinical practice remediation is needed. This may include repeating clinical courses taken previously, regardless of whether the student successfully completed the course.

Students reapplying to the program after a leave of over 18 months will need to be re-evaluated as to the level at which they will need to re-enter the program.

## Withdrawal from the Nursing Program

Students who voluntarily withdraw from the Nursing program must notify, in writing, the Nursing Advisor at the institution that the student is currently attending. Where students fail to notify the Nursing Advisor, the Nursing Advisor will deem a student to have voluntarily withdrawn from the Nursing program where the student has not registered in Nursing courses in any of the last three semesters.

# Northern Collaborative Baccalaureate Nursing Program

The Northern Collaborative Baccalaureate Nursing Program (NCBNP) requires students to take at least 95 credit hours of Nursing courses. The minimum requirement for completion of a Bachelor of Science in Nursing is 136 credit hours.

## Transfer Credit

Transfer credit and/or advanced standing may be awarded for course work completed at other recognized institutions. All transfer credit for course work taken prior to admission to the BScN program will be evaluated at the request of the student, and applied at the time of initial registration in the program.

The total transfer credit awarded on the basis of acceptable course work completed at non-collaborative partner institutions may not exceed 60 credit hours. Nursing courses must have been completed within five years prior to admission to be eligible for transfer credit into the nursing program.

## Criminal Records Search

NCBNP students are required to undergo criminal records searches prior to being admitted, as well as upon entry to third year. (Refer to Academic Regulation 20 in this Calendar.)

## Immunization and CPR Certification

All students accepted into the NCBNP are sent documentation and information regarding immunization policies. Once accepted into the Program, all students must submit:

- A record of immunization status. The following immunizations are strongly recommended and the current status of each is to be submitted:
  - Diphtheria, tetanus, poliomyelitis, measles, mumps, rubella, hepatitis B and varicella.
  - A Mantoux test (PPD) for tuberculosis.
  - Meningococcal C conjugate for those born on or after January 1, 1988.
  - Yearly Influenza vaccine. Submission deadline to be announced annually based on release date of vaccine.

  Completed immunization forms must be submitted to the Admissions Office at the institution the student is currently attending prior to Sept 30 in the first year of attendance. Failure to do so may result in the student not being allowed to practice in the clinical setting.
- Documentation of CPR certification, level C, which must be successfully maintained throughout the program. Proof of CPR certification (and re-certification, as needed) must be submitted prior to commencement of classes.
- CPR must be recertified every two years regardless of expiry date on the card.

## Admission Requirements

Self-identified Aboriginal applicants who meet or exceed the minimum requirements for admission to the program will be given priority for up to twenty percent (20%) of the first-year seats for the Northern Collaborative Baccalaureate Nursing Program (NCBNP).

Students must apply at the collaborative colleges: The College of New Caledonia in Prince George or Quesnel, or Northwest Community College in Terrace. Admission is based on academic qualifications and available space. Priority admission will be given to students who meet admission criteria (see Admissions Section in this calendar) and apply by the deadline of March 31. Applications received after the deadline may be reviewed based on available space in the program.

Applicants must:

- meet UNBC admission requirements, and
- have completed the equivalent of the following BC secondary school courses with a minimum C+ (67%) in each course:
  - one of Foundations of Mathematics 11, Pre-calculus 11, or Principles of Math 11
  - Chemistry 11
  - English 12
- have completed the equivalent of Biology 12 with a minimum B (73%) within 5 years prior to the semester of admission to the NCBNP

## Admission Requirements: Licensed Practical Nurse (LPN) Access

Licensed Practical Nurses (LPNs) who are applying for admission to the NCBNP must:

- meet all Northern Collaborative Baccalaureate Nursing Program admission requirements
- be a graduate of a Practical Nursing program recognized by the College of Licensed Practical Nurses of BC (CLPNBC) since 1994
- have current practising or be eligible for practising registration with the CLPNBC
- have practised as a LPN for a minimum of 1700 hours in a patient care setting during the last 4 years, OR graduated from a BC Practical Nursing Program within the year of application. Proof of worked hours must be submitted with application and can be obtained from employers

LPN applicants will be assessed on an individual basis and may be eligible for up to a maximum of 27 transfer credit hours of Nursing courses.

Applicants who have completed a BC Practical Nursing Certificate prior to 1994, or have completed a certificate or diploma from a program outside of BC, may not be exempt from any of the first or second year nursing courses.

All successful LPN applicants must meet individually with the Nursing Advisor at the institution to which they are applying in order to be referred to a Nursing Faculty member for transfer credit and proficiency assessment.

## Program Requirements

### Lower-Division Requirement

**100 Level**

ANTH 213-3 Peoples and Cultures (or equivalent)
HHSC 110-3 Basic Microbiology (at UNBC)
or BIO 105-3 Basic Microbiology (at CNC)
or BIOL 133-3 Applied Microbiology (at NWCC)
HHSC 111-4 Anatomy and Physiology I (at UNBC)
or BIO 111-3 Anatomy and Physiology I (at CNC)
or BIOL 131-3 Human Anatomy and Physiology I (at NWCC)
HHSC 112-4 Anatomy and Physiology II (at UNBC)
or BIO 112-3 Anatomy and Physiology II (at CNC)
or BIOL 132-3 Human Anatomy and Physiology II (at NWCC)
NURS 101-3 The Art and Science of Nursing
NURS 102-3 Communication Theory and Practice
PSYC 101-3 Psychology as a Science (or equivalent)

**200 Level**

STAT 240-3 Basic Statistics (at UNBC)
or ECON 205-3 Statistics for Social and Management Sciences (at UNBC)
or MATH 104-3 Introduction to Statistics (at CNC)
or MATH 157-3 Business Statistics (at CNC)
or PSYC 201-3 Statistics for the Social Sciences (at CNC)
or MATH 131-3 Introduction to Statistics (at NWCC)
or MATH 251-3 Statistics (at NWCC)

**Note:** UNBC STAT 240-3, CNC MATH 104-3, or NWCC MATH 131-3 are recommended for the Statistics requirement.

NURS 201-4 Introduction to Health Assessment
NURS 202-3 Pathophysiological Concepts (at CNC)
or BIOL 220-3 Pathophysiology (at NWCC)
NURS 203-3 Health Promotion in Families
NURS 204-3 Healing Modalities (at CNC)
or BIOL 221-3 Pharmacology for Nurses (at NWCC)
NURS 205-3 Introduction to First Nations Health
NURS 206-3 Basic Nutrition (at CNC)
or BIOL 222-3 Human Nutrition (at NWCC)
NURS 215-8 Nursing Care of the Adult
NURS 220-5 Extended Clinical Practicum I

### Upper-Division Requirement

Prior to each academic year, students will be advised which courses are being offered at each campus. Courses may be offered face-to-face, online, or using a combination of delivery methods. Students must expect to complete at least one practicum rotation at a site other than Prince George, Quesnel, or Terrace.

**300 Level**

NURS 304-3 Introduction to Nursing Knowledge
NURS 306-3 Introduction to Epidemiology
NURS 308-3 Ethics and Law in Nursing
NURS 317-5.5 Nursing Theory and Practice: Maternity
NURS 318-5.5 Nursing Theory and Practice: Pediatrics
NURS 323-5.5 Nursing Theory and Practice: Older Adult
NURS 326-5.5 Nursing Theory and Practice: Mental Health
NURS 329-1 Third-Year Objective Structured Clinical Examination
NURS 330-4 Extended Clinical Practicum II

**400 Level**

NURS 403-3 Introduction to Nursing Research
NURS 408-3 Nursing Leadership
NURS 418-7 Introduction to Community Health and Nursing
POLS 403-3 Social and Health Policy and Administration

At least one of the following areas of clinical focus:

NURS 420-8 Community Health Nursing
or
NURS 422-8 First Nations Health and Nursing
or
NURS 426-8 Acute Care Nursing
or
NURS 432-8 Mental Health Nursing
or
NURS 435-8 Pediatric Nursing
or
NURS 454-8 Perinatal Care
or
NURS 455-8 Critical Care, Emergency and Trauma
or
NURS 461-8 Rural Health and Nursing
or
NURS 497-8 Specialty Focus in Nursing

### Elective Requirement

Eighteen credit hours chosen to fulfill the requirements below, and to ensure completion of a minimum of 136 credit hours. A course may not be used to satisfy the requirements in more than one category. Students are strongly advised to complete elective course work prior to fourth year.

- 3 credit hours in First Nations Studies at any level, or HIST 215-3 Global History of Indigenous People, or equivalent
- 3 credit hours in Humanities at any level, or ENGL 170-3, or equivalent
- 3 additional credit hours in Nursing at the 200 level or above, or 3 credit hours at the 200 level or above in a subject related to Nursing (with permission of Program)
- At least 3 credit hours at the 200 level or above in any subject
- At least 3 credit hours at the 300 level or above in any subject
- 3 credit hours at any level in any subject

# Post-Diploma Baccalaureate Nursing Program

The minimum requirement for completion of the Post-Diploma Baccalaureate Nursing Program BScN is 45 credit hours with 24 of these required credit hours in nursing. Admission occurs in September and January. The fulfillment of admission requirements does not guarantee admission to the post-diploma program and is based on available space.

A total of 15 credit hours may be transferred from other recognized institutions into the nursing program. In order to meet the clinical concentration requirement of the nursing program, students may transfer credit from successfully completed studies at the nursing post-diploma level, provided that the certificate or diploma was completed within the five years prior to admission. Normally, the student is currently practicing in that specialty area.

## Admission Requirements

Applicants must:

- meet UNBC admission requirements
- submit official transcript(s) from diploma program
- provide evidence of active and continuing registration as a nurse in British Columbia. Annual documentation of current, practising CRNBC licensure is required while enrolled in the program.

Once accepted to the Post-Diploma Baccalaureate Nursing Program, all students must complete and submit specified immunization forms prior to commencing a course with a clinical component. Failure to do so may result in the student not being allowed to practice in the clinical setting. Current status for the following immunizations is strongly recommended: diphtheria, tetanus, poliomyelitis, measles, mumps, rubella, hepatitis B and varicella. A Mantoux test (PPD) for tuberculosis is also strongly recommended.

In order to meet the graduation requirements for the BScN, the post-RN student must successfully complete the following courses:

## Program Requirements

### Lower-Division Requirement

**200 Level**

STAT 240-3 Basic Statistics, or equivalent

### Upper-Division Requirement

**300 Level**

NURS 304-3 Introduction to Nursing Knowledge
NURS 306-3 Introduction to Epidemiology

**400 Level**

NURS 403-3 Introduction to Nursing Research
NURS 408-3 Nursing Leadership
NURS 415-3 Introduction to Community Health and Nursing
*or NURS 418-7 Introduction to Community Health and Nursing
NURS 451-3 Health Assessment and RN First Call
POLS 403-3 Social and Health Policy and Administration

*Students wishing to take NURS 420-6 or NURS 422-6 as their Clinical Concentration should take NURS 418-7. This course substitutes for NURS 415-3 and 4 credits towards the list below.

A minimum of 9 credit hours selected from the following:

ANTH 201-3 Medical Anthropology
ANTH 213-3 Peoples and Cultures
COMM 230-3 Organizational Behaviour
NURS 301-3 Advanced Pathophysiology
NURS 303-3 Nutrition
or HHSC 311-3 Nutrition
NURS 402-3 Health Promotion
or HHSC 473-3 Health Promotion
NURS 409-3 Pharmacotherapeutics for Nurses
NURS 411-3 Medical Diagnostics for Nurses
NURS 412-3 Women and Health
NURS 452-6 Chronic Disease Management, Palliative Care and Wound Care
NURS 453-3 Nursing Practice with Older Persons
NURS 454-6 Perinatal Care
NURS 455-6 Critical Care, Emergency and Trauma
NURS 456-3 Mental Health and Addictions
NURS 457-3 Living and Working in a Rural Community
NURS 458-6 Remote Nursing Certified Practice

At least one of the following areas of clinical concentration:

NURS 420-6 Community Health Nursing
or
NURS 422-6 First Nations Health and Nursing
or
NURS 426-6 Acute Care Nursing
or
NURS 428-6 Nursing Management
or
NURS 430-6 Community Continuing Care Nursing
or
NURS 432-6 Mental Health Nursing
or
NURS 435-6 Pediatric Nursing
or
NURS 454-6 Perinatal Care
or
NURS 455-6 Critical Care, Emergency and Trauma
or
NURS 497-6 Specialty Focus in Nursing

### Elective Requirement

6 credit hours chosen to ensure completion of a minimum of 45 credit hours and fulfillment of the following requirements:

- 3 credit hours of First Nations Studies at any level.
- 3 credit hours at the 200 level or above and related to area of clinical concentration (with permission of program).

# Rural Nursing Certificate Program

The Rural Nursing Certificate Program provides the opportunity for Registered Nurses to pursue a concentrated program of courses in Rural Nursing. The Certificate provides students with some of the essential knowledge and clinical skills needed to provide nursing care in rural practice.

The Certificate Program has been developed as an academic program that is practice-driven, and is supported by health authorities across British Columbia. It is based upon the principles of primary health care, and provides an orientation to the needs of nurses working in rural and remote communities.

The Certificate requires successful completion of 30 credit hours. Admission occurs in September and January.

A maximum of 15 credit hours from other recognized institutions may be transferred into the Certificate and the BScN completion option.

The Certificate is designed to be completed on a part-time basis through distance education. Students can complete their BScN through the attainment of 15 additional credit hours of prescribed courses.

This Certificate does not replace the UNBC Post-Diploma BScN program as it offers a focus in one specialized area only. Other focus areas provided through the UNBC Post-Diploma BScN, notably community health, community continuing care, First Nations health and nursing, and nursing management are not included in the Certificate program.

Nursing Program policies for Registered Nurse students pursuing a degree apply to Certificate students.

## Admission Requirements

Applicants must:

- meet UNBC admission requirements
- submit official transcript(s) from degree or diploma program
- provide evidence of active and continuing registration as a nurse in British Columbia. Annual documentation of current, practicing CRNBC licensure is required while enrolled in the program.

Once accepted to the Rural Nursing Certificate Program, all students must complete and submit specified immunization forms prior to commencing a course with a clinical component. Failure to do so may result in the student not being allowed to practice in the clinical setting. Current status for the following immunizations is strongly recommended: diphtheria, tetanus, poliomyelitis, measles, mumps, rubella, hepatitis B and varicella. A Mantoux test (PPD) for tuberculosis is also strongly recommended.

## Certificate Requirements

| | |
|---|---|
| NURS 451-3 | Health Assessment and RN First Call |
| NURS 452-6 | Chronic Disease Management, Palliative Care and Wound Care |
| NURS 453-3 | Nursing Practice with Older Persons |
| NURS 454-6 | Perinatal Care |
| NURS 455-6 | Critical Care, Emergency and Trauma |
| NURS 456-3 | Mental Health and Addictions |
| NURS 457-3 | Living and Working in a Rural Community |

## BScN Completion

Students wishing to complete the UNBC Post-Diploma BScN will be required to successfully complete 15 credit hours in addition to the Rural Nursing Certificate to a total of 45 credit hours.

**200 Level**

| | |
|---|---|
| STAT 240-3 | Basic Statistics, or equivalent |

**300 Level**

| | |
|---|---|
| NURS 304-3 | Introduction to Nursing Knowledge |

**400 Level**

| | |
|---|---|
| NURS 403-3 | Introduction to Nursing Research |
| NURS 408-3 | Nursing Leadership |
| POLS 403-3 | Social and Health Policy and Administration |

# Outdoor Recreation and Tourism Management Program

Kathy Lewis, Professor and Acting Chair
John Shultis, Associate Professor
Pam Wright, Associate Professor
Philip Mullins, Assistant Professor
Pat Maher, Adjunct Professor
Ian Picketts, Adjunct Professor

Website: www.unbc.ca/outdoor-recreation-tourism-management

Outdoor recreation and nature-based tourism are pare to BC's lifestyle and are now considered to be part of the world's fastest growing industry. The ORTM program capitalizes on the unique location of UNBC by discussing relevant outdoor recreation and nature-based tourism issues within a northern British Columbia, Canadian and international context.

The ORTM program offers two related academic degrees and an associated minor. Students with an interest in the planning and management of outdoor recreation and conservation areas can take a Bachelor of Science in Natural Resources Management with a Major in Outdoor Recreation and Conservation (see Calendar entry under Natural Resource Management).

Students whose interests are more focused on nature-based tourism, tourism marketing, or indigenous and cultural tourism can take a Bachelor of Arts in Nature-Based Tourism (see Calendar entry under Nature-Based Tourism).

Students who are interested in a minor in outdoor recreation, conservation or nature-based tourism management may take a related minor in Outdoor Recreation and Tourism Management (see Calendar entry under Nature-Based Tourism).

Students in the majors/minor will take courses from the ORTM course listings.

## Outdoor Recreation and Conservation Major

**See Calendar entry under Natural Resources Management-Outdoor Recreation and Conservation.**

## Outdoor Recreation and Tourism Management Minor

**See Calendar entry under Nature-Based Tourism Management.**

## Nature-Based Tourism Management Major

**See Calendar entry under Nature-Based Tourism Management.**

# Philosophy

Boris DeWiel, Associate Professor, and Coordinating Committee Chair
Paul Bowles, Professor (Economics)
Kevin Hutchings, Professor (English)
John Young, Associate Professor
Jacqueline Holler, Assistant Professor (Women's Studies, History)

Philosophy is the oldest academic discipline taught at a university. From a functional point of view, philosophy is synonymous with critical thinking. From a formal point of view, it is a body of knowledge answering three questions: what is it (ontology)?; what good is it (axiology)?; and, how do you know it (epistemology)?

## Minor in Philosophy

A minor in philosophy requires students to take PHIL 205-3 and PHIL 305-3 or POLS 370-3 in addition to 12 credit hours chosen from courses listed below for a total of 18 credit hours. A total of 12 credit hours must be at the 300 or 400 level.

A maximum of two courses (6 credit hours) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in Philosophy.

### Required

PHIL 205-3 Introduction to the History of Philosophy
PHIL 305-3 History of Philosophy: Early Modernity to Post-Modernity
or POLS 370-3 Political Philosophy: Early Modernity to Post-Modernity

One of:
- ECON 202-3 History of Economic Thought
- ENGL 200-3 Gender and Literary Theory
- PHIL 200-3 Critical Thinking
- PHIL 201-3 Philosophy of Science
- PHIL 202-3 Comparative Religion
- PHIL 210-3 Philosophy of Mind
  - or PSYC 202-3 Philosophy of Mind
- POLS 270-3 Political Philosophy: Antiquity to Early Modernity

Three of:
- COMM 332-3 Business and Professional Ethics
- ENGL 300-3 Theory
- FNST 303-3 First Nations Religion and Philosophy
- FNST 304-3 Indigneous Environmental Philosophy
- HIST 300-3 Historiography: The Nature of the Historical Discipline
- PHIL 325-3 Moral Philosophy
  - or POLS 317-3 Moral Philosophy
- WMST 311-3 History of Feminism
- ANTH 401-3 Anthropological Perspectives on Inequality
- ANTH 405-3 Landscapes, Place and Culture
- ANTH 406-3 Feminist Perspectives in Anthropology
- ENGL 400-3 Contemporary Theory
- ENVS 414-3 Environmental and Professional Ethics
- POLS 400-(3-6) Classics in Political Philosophy
- POLS 472-3 Seminar in Political Philosophy
- WMST 411-3 Contemporary Feminist Theories

# Physics (BSc Program)

Ahmed Hussein, Professor Emeritus

Erik Jensen, Professor and Chair
Ian Hartley, Professor
Elie Korkmaz, Professor
Mark Shegelski, Professor
Matthew Reid, Associate Professor
Patrick Mann, Adjunct Professor
Jamie Sanchez-Fortun Stoker, Adjunct Professor
George Jones, Senior Lab Instructor

Website: www.unbc.ca/physics

Physics is the study of nature at its most fundamental level. As such it is the science upon whose principles all other sciences and technologies are based. Because it is so basic, a major in physics is ideal preparation, not only for further study in physics, but also for advanced study in such diverse fields as biophysics, medicine, astrophysics, chemical physics, engineering, meteorology, and computer science.

## Major in Physics

A major in Physics requires students to complete 49 credit hours of Physics; 27 credit hours of these must be at the upper-division level.

PHYS 307-3 (Selected Topics in Environmental Physics) may not be used as Physics credit toward any Physics major, minor, or joint major.

The minimum requirement for completion of a Bachelor of Science degree with a major in Physics is 120 credit hours.

### Program Requirements

#### Lower-Division Requirement

**100 Level**

| | |
|---|---|
| CHEM 100-3 | General Chemistry I |
| MATH 100-3 | Calculus I |
| or MATH 105-3 | Enriched Calculus |
| MATH 101-3 | Calculus II |
| PHYS 110-4 | Introductory Physics I: Mechanics |
| PHYS 111-4 | Introductory Physics II: Waves and Electricity |
| CPSC 100-4 | Computer Programming I |
| or CPSC 110-3 | Introduction to Computer Systems and Programming |

**200 Level**

| | |
|---|---|
| MATH 200-3 | Calculus III |
| MATH 201-3 | Introduction to Complex Analysis |
| MATH 220-3 | Linear Algebra |
| MATH 230-3 | Linear Differential Equations and Boundary Value Problems |
| PHYS 200-3 | Thermal Physics |
| PHYS 202-4 | Electromagnetism and Optics |
| PHYS 205-3 | Modern Physics I |

Four additional credit hours of Physics at the 200 level.

#### Upper-Division Requirement

**300 Level**

| | |
|---|---|
| MATH 336-3 | Intermediate Differential Equations |
| PHYS 300-3 | Classical Mechanics |
| PHYS 302-3 | Quantum Mechanics I |
| PHYS 310-3 | Classic Electromagnetism I |

**400 Level**

| | |
|---|---|
| PHYS 400-3 | Quantum Mechanics II |
| PHYS 401-3 | Seminar on Contemporary Topics in Physics |
| PHYS 407-3 | Statistical Mechanics |

Nine additional credit hours of Physics at the 300 or 400 level.

#### Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

Recommended electives include:

| | |
|---|---|
| CPSC 101-4 | Computer Programming II |
| CHEM 101-3 | General Chemistry II |
| CHEM 200-3 | Physical Chemistry I |
| MATH 335-3 | Numerical Analysis I |
| STAT 371-3 | Probability and Statistics for Scientists and Engineers |

## BSc Honours – Physics

The Honours Program in Physics offers students a higher level of physics education and physics research experience for proceeding to postgraduate studies in physics or related fields. Honours students must complete the program requirements for the BSc degree in Physics (Major in Physics). In addition, they must complete PHYS 402 for a minimum of 3 credit hours and submit for approval an undergraduate thesis or research project report under the supervision of a faculty member.

Students can seek entry to the Honours program after the completion of 60 credit hours with a Cumulative GPA of at least 3.33, and their continuance in the program also requires maintaining a Cumulative GPA of 3.33 or better. Entry to the Honours Program is at the discretion of the Physics Department.

## Chemistry/Physics Joint Major

**See Calendar entry under Chemistry.**

## Computer Science/Physics Joint Major

**See Calendar entry under Computer Science.**

## Mathematics/Physics Joint Major

**See Calendar entry under Mathematics.**

## Minor in Physics

Students interested in obtaining a minor in Physics must complete 27 credit hours of Physics, of which 12 must be at the upper level.

A maximum of four courses (consisting of two 100 level courses plus two courses at the 200 level or beyond to a maximum of 15 credit hours) which are used to fulfill requirements for a major (or another minor) may also be used to fulfill requirements for a minor in Physics. The following courses are required:

| | |
|---|---|
| PHYS 110-4 | Introductory Physics I: Mechanics |
| PHYS 111-4 | Introductory Physics II: Waves and Electricity |
| PHYS 202-4 | Electromagnetism and Optics |
| PHYS 205-3 | Modern Physics I |

Twelve credit hours of 300 or 400 level PHYS.

The upper-division courses are selected in consultation with an advisor from the Physics Department to reflect the student's specific interests. PHYS 307-3 (Selected Topics in Environmental Physics) may not be used as Physics credit toward any Physics major, minor, or joint major.

## Planning Major

**See Calendar entry under Environmental Planning.**

# Political Science (BA Program)

Alex Michalos, Professor Emeritus

Boris DeWiel, Associate Professor and Chair
Natalia Loukacheva, Associate Professor, and Canada Research Chair, Aboriginal Governance and Law
Michael Murphy, Associate Professor, and Canada Research Chair, Comparative Indigenous-State Relations
Tracy Summerville, Associate Professor
Gary Wilson, Associate Professor
John Young, Associate Professor
Jason Lacharite, Assistant Professor
Walter Babicz, Adjunct Professor
Alberto De Feo, Adjunct Professor
Greg Poelzer, Adjunct Professor
Jason Morris, Lecturer

Website: www.unbc.ca/political-science

Besides literacy and numeracy, citizenship and diplomacy are fundamental skills needed to achieve a good quality of life. Citizenship includes both the rights and duties of membership in a political community. Diplomacy is the art and practice of reaching agreements through negotiation. A healthy democracy requires the active and informed participation of its citizens, but this is only possible with a good understanding of its political institutions, processes and issues. Political Science is the discipline devoted to the systematic investigation of citizenship and diplomacy in local, national and international communities.

To achieve its purposes, the Department of Political Science offers the opportunity to study political philosophy, comparative politics, Canadian government, international politics and public administration. The latter field is offered in the Public Administration Certificate, which focuses on municipal and local government administration.

Majors in Political Science must take a minimum of 51 credit hours in Political Science or other designated disciplines.

The minor requires a minimum of six Political Science courses. Students may also choose to complete one or both of the above mentioned certificates in public administration (see below for a description and a listing of requirements for the two certificate programs).

### Political Philosophy

Political philosophy investigates normative questions about political life: What is the best form of government? What is justice? Is there an inherent right to self-government?

### Comparative Politics

Comparative politics examines the relationships between government and society around the world. This includes studies of individual countries such as Russia or the United States, as well as political issues such as the role of government in the economy, transitions to democracy or aboriginal-state relations across sets of countries.

### Canadian Government

The study of Canadian government investigates the conflicts and challenges within Canadian society and the institutions of government at federal, provincial, local and First Nations levels. This includes such topics as Canadian political culture, federalism, political economy and the Charter.

### International Politics

International politics examines politics among nations and will cover a wide variety of topics such as Canadian Foreign Policy, International Organizations as well as a diversity of theoretical approaches.

## Major in Political Science

Political Science majors are required to take 51 credit hours in Political Science and related disciplines.

The Political Science major offers a foundation in four fields of political science: Canadian Government, Comparative Politics, Political Philosophy, and International Politics.

The minimum requirement for completion of a Bachelor of Arts with a major in Political Science is 120 credit hours.

## Program Requirement

### Lower-Division Requirement

**100 Level**

| | |
|---|---|
| POLS 100-3 | Contemporary Political Issues |

**200 Level**

| | |
|---|---|
| INTS 205-3 | Introduction to International Studies |
| POLS 200-3 | Canadian Government and Politics |
| POLS 202-3 | Canada in Comparative Perspective |
| POLS 270-3 | Political Philosophy: Antiquity to Early Modernity |
| POLS 290-3 | Research and Writing in Political Science |

### Upper-Division Requirement

**300 and 400 Level**

| | |
|---|---|
| INTS 310-3 | Origins and Evolution of International Studies |
| POLS 303-3 | Democracy and Dictatorship |
| POLS 320-3 | Canadian Politics and Policy |
| POLS 370-3 | Political Philosophy: Early Modernity to Post-Modernity |

An additional 21 credit hours in POLS or INTS, of which at least 6 credit hours must be at the 400 level.

### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

## Economics/Political Science Joint Major

**See Calendar entry under Economics.**

## English/Political Science Joint Major

**See Calendar entry under English.**

## Environmental Studies/Political Science Joint Major

**See Calendar entry under Environmental Studies.**

## History/Political Science Joint Major

**See Calendar entry under History.**

## International Studies/Political Science Joint Major

**See Calendar entry under International Studies.**

## Joint Major in Political Science/ Women's Studies

The Political Science/Women's Studies Joint Major will equip students to understand the relationship between the study of the literature and its women's studies context. The degree will be particularly attractive to students who intend to pursue a career in teaching or further studies in Political Science or Women's Studies.

The minimum requirement for completion of a Bachelor of Arts with a Joint Major in Political Science and Women's Studies is 120 credit hours.

### Program Requirements

#### Lower-Division Requirement

| | |
|---|---|
| POLS 100-3 | Contemporary Political Issues |
| POLS 200-3 | Canadian Government and Politics |
| WMST 100-3 | Introduction to Women's Studies |
| POLS 202-3 | Comparative Government and Politics |
| ECON 205-3 | Statistics for the Social and Management Sciences |
| or STAT 240-3 | Basic Statistics |
| POLS 270-3 | Political Philosophy: Antiquity to Early Modernity |
| POLS 290-3 | Reading and Writing for Political Science |

Three additional Women's Studies courses at the 100 or 200 level.

#### Upper-Division Requirement

| | |
|---|---|
| INTS 308-3 | Gender and International Studies |
| POLS 320-3 | Canadian Politics and Policy |
| POLS 370-3 | Political Philosophy: Early Modernity to Post-Modernity |
| WMST 302-3 | Women and the Contemporary World |
| WMST 307-3 | Qualitative Research Methods |
| HIST 311-3 | History of Feminism |

#### Additional Requirement

Three additional courses selected from:

| | |
|---|---|
| ANTH 401-3 | Anthropological Perspectives on Inequality |
| ANTH 406-3 | Feminist Perspectives in Anthropology |
| COMM 333-3 | Women in Organizations |
| ECON 301-3 | Women and the Economy |
| ENVS 309-3 | Gender and Environment |
| FNST 407-3 | First Nations Perspectives on Race, Class, Gender and Power |
| HIST 309-3 | Women in Canada |
| HIST 453-3 | Topics in the History of Gender |
| HIST 454-3 | Topics in Women's History |
| NURS 412-3 | Women and Health |
| SOCW 433-3 | Women in the Human Services |
| SOCW 449-3 | Gender Sexuality |
| WMST 303-3 | Lesbian and Bisexual Lives |
| WMST 304-3 | Contemporary Women's Writing in an International Frame |
| WMST 309-3 | Gender and Film |

WMST 312-3 Introduction to the History of Gender
WMST 401-3 Cultural Studies: Gender, Race, and Representation
WMST 410-3 Feminist Political Philosophy
WMST 411-3 Contemporary Feminist Theories
WMST 413-3 Topics in Aboriginal Women's Studies
WMST 420-3/
ENGL 410-3 Contemporary Women's Literature
WMST 498-(3-6) Selected Topics

Three of:

- POLS 303-3 Democracy and Dictatorship
- POLS 305-3 United States Politics
- POLS 311-3 Russian Politics and Society
- POLS 314-3 European Politics and Government
- POLS 405-3 Topics in Society and Democracy
- POLS 415-3 Comparative Northern Development

### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

## Minor in Political Science

This minor provides students with a foundation in each of the fields of Canadian Politics, Comparative Politics, and Political Theory, as well as permits some specialization in upper-division courses.

A minor in Political Science requires students to take at least six Political Science courses (18 credit hours), at least four of which must be upper division.

A maximum of two courses (6 credit hours) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in Political Science.

To fulfill the minor, students must successfully complete the following courses:

POLS 100-3 Contemporary Political Issues

One of:

- POLS 200-3 Canadian Government and Politics
- POLS 202-3 Comparative Government and Politics
- POLS 270-3 Political Philosophy: Antiquity to Early Modernity

and four upper-division courses in Political Science.

Alternative courses may be substituted for the above with the written permission of the Department Chair or Dean of the College.

# Psychology (BSc Program)

Cindy Hardy, Professor and Chair
Steven Cronshaw, Professor
Henry Harder, Professor
Han Li, Professor
Paul Madak, Professor
Kenneth Prkachin, Professor
Robert Tait, Professor
Sherry Beaumont, Associate Professor and Graduate Chair
William Owen, Associate Professor
Glenda Prkachin, Associate Professor
Paul Siakaluk, Associate Professor
Loraine Lavallee, Assistant Professor
William Tippett, Assistant Professor
Kyle Matsuba, Adjunct Professor
Elizabete Rocha, Adjunct Professor
Julie Orlando, Senior Lab Instructor

Website: www.unbc.ca/psychology

Psychology is the study of behaviour, feelings and thinking. Psychologists study the biopsychosocial and developmental mechanisms and processes that regulate the behaviour of individuals. The goal of the Department of Psychology is to provide advanced knowledge in the substantive areas of Psychology. In addition, the Department provides excellent training that enhances students' competitiveness for advanced graduate study in Psychology and related areas.

## Major in Psychology

Undergraduate students are required to take seventeen psychology courses (53 credit hours). Of these, at least twelve (38 credit hours) must be upper-division courses.

The minimum requirement for completion of a Bachelor of Science with a major in Psychology is 122 credit hours.

### Program Requirements

#### Lower-Division Requirement

**100 and 200 Level**

PSYC 101-3 Psychology as a Science
PSYC 102-3 Psychology and Human Problems
PSYC 215-3 Research Design and Methodology in Psychology I

Two additional Psychology 200-level courses

**Note:** It is strongly recommended that students planning to major in Psychology select at least one elective course in Mathematics and one in Biology within the first two years.

#### Upper-Division Requirement

**300 and 400 Level**

PSYC 315-4 Design and Analysis of Psychological Research I
PSYC 316-4 Design and Analysis of Psychological Research II

Two of:

PSYC 307-3 Motivation and Emotion
PSYC 317-3 Psychobiology
PSYC 318-3 Sensation and Perception
PSYC 320-3 The Psychology of Learning
PSYC 330-3 Cognition

Two of:

PSYC 301-3 Social Psychology
PSYC 303-3 Introduction to Abnormal Psychology
PSYC 306-3 Theories of Personality
PSYC 309-3 Introduction to Health Psychology
PSYC 345-3 Lifespan Development

One of:

PSYC 442-3 Methods in Developmental Psychology
PSYC 445-3 Methods in Perception and Psychophysics
PSYC 450-3 Tests and Measures
PSYC 455-3 Methods in Social Psychology
PSYC 460-3 Methods in Cognitive Psychology
PSYC 470-3 Psychophysiology
PSYC 475-3 The Evaluation of Social Programs
PSYC 480-3 Critical Analysis in Psychology and the Health Sciences
PSYC 485-3 Current Topics in Psychological Research

Fifteen credit hours of 300- or 400-level Psychology courses, of which six credit hours must be at the 400 level.

#### Elective and Academic Breadth

Electives at any level in any subject sufficient to ensure completion of a minimum of 122 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

## BSc Honours – Psychology

Honours students are required to complete 122 credit hours. Students must successfully complete the 53 credit hours for the Psychology BSc program, 57 credit hours of electives and 12 credit hours from the courses listed below.

PSYC 490-3 Honours Thesis I
PSYC 495-3 Honours Thesis II
PSYC 497-3 Senior Seminar
and one additional 400-level Psychology course.

Each student must complete a thesis (PSYC 490-3 Honours Thesis and PSYC 495-3 Honours Thesis II) under the supervision of a faculty member. Entry to the Honours Program takes place after the end of the second year (i.e., upon completion of at least 60 credit hours) and requires a minimum GPA of 3.33 calculated on the last 60 credit hours completed at the time of declaration to the Honours Program. Attaining the minimum requirement does not guarantee entry to the Honours Program, which will be at the discretion of the Department. To remain in the Honours Program students must maintain a minimum Semester GPA of 3.33 to be calculated at the end of each semester as well as receive no grade lower than a C+ in any course after entry to the Honours Program.

The minimum requirement for completion of a BSc Honours - Psychology is 122 credit hours.

## Minor in Psychology

The minor in Psychology provides students with a foundation in the natural and social science components of the discipline and exposure to its basic observational and analytic methods. It also allows the student to pursue special interests within the discipline at the upper year levels.

A maximum of two courses (six credit hours) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in Psychology.

To fulfill the minor, students must successfully complete a total of 21 credit hours from the following courses:

PSYC 101-3 Psychology as a Science
PSYC 102-3 Psychology and Human Problems
PSYC 215-3 Research Design and Methodology in Psychology

One of:
- PSYC 301-3 Social Psychology
- PSYC 303-3 Introduction to Abnormal Psychology
- PSYC 306-3 Theories of Personality
- PSYC 309-3 Introduction to Health Psychology
- PSYC 345-3 Lifespan Development

One of:
- PSYC 307-3 Motivation and Emotion
- PSYC 317-3 Psychobiology
- PSYC 318-3 Sensation and Perception
- PSYC 320-3 The Psychology of Learning
- PSYC 330-3 Cognition

Two other 300 or 400 level Psychology courses.

# Public Administration Certificate Program

The Certificate program is intended to enhance public access to a university education with a flexible course of study that allows either a short term exit (upon completion of Certificate requirements) or the option of laddering into other programs, including the Bachelor program.

The Certificate also provides flexibility. All courses in the Certificate are university-credit courses. This means that students can apply credit taken in their Certificate to other programs should they later decide to pursue a Bachelor's degree. Moreover, the requirements for the Certificate could be completed in one year or could be completed on a part-time basis over several years, depending upon course scheduling and the situation of the student.

As soon as a student completed the 10 courses required in the program of study, the student would be eligible to receive his or her Certificate. The completion of the Certificate would give students the equivalent of one full year of university credit. This provides a laddered program of study which could result in the completion of a Bachelor's degree with three more years of study at UNBC or another university. Because the program is based on existing undergraduate courses, Certificate students will take their courses alongside regular, full-time students.

The requirements for admission into a Certificate program are the same as for any student enrolled in a UNBC undergraduate program.

To be eligible for a certificate, students must achieve a minimum GPA of C, based on all courses taken at UNBC that are applied to the Certificate. University transfer credits also can be applied to the program, as appropriate, to a maximum of 15 credit hours.

## Public Administration

The Certificate in Public Administration consists of 10 courses (30 credit hours) drawn primarily from the Political Science program; offerings from Business Administration, Economics and English are also included. The program is generic in nature so that the knowledge acquired from the program of study can be transferred to different government settings, as well as to the variety of situations that students will encounter throughout their lives. At the same time, the courses in the Certificate place special emphasis on local government in the north which sets it apart from similar programs offered by institutions in the southern regions of the province.

The purpose of the certificate is three-fold: first, to provide educational opportunities to assist individuals involved in the administration of municipal governments, health boards, school boards and provincial government departments and agencies in northern British Columbia; second, to deliver the four specialized courses in local government administration for the Municipal Officers' Association Intermediate Certificate in Municipal Administration; and, third, to provide expanded educational opportunities at the university level for students who are not in a position to commit to a four-year program of study.

## Certificate Requirements

**100 Level**

| | |
|---|---|
| ENGL 170-3 | Writing and Communication Skills |
| ECON 101-3 | Macroeconomics |
| POLS 100-3 | Contemporary Political Issues |

**200 Level**

| | |
|---|---|
| COMM 210-3 | Financial Accounting |
| POLS 200-3 | Canadian Government and Politics |

**300 Level**

| | |
|---|---|
| POLS 316-3* | Municipal Government and Politics |
| POLS 350-3* | Law and Municipal Government |
| POLS 351-3* | Local Services and Public Policy |
| POLS 360-3* | Politics of Public Finance |

Three credit hours of electives at any level and in any subject.

*Courses for the MOA Intermediate Certificate in Municipal Administration.

# Public Administration and Community Development Major

**See Calendar entry under Geography.**

# Russian Studies

Michel Bouchard, Associate Professor (Anthropology)
Gail Fondahl, Associate Professor (Geography)
Gary Wilson, Associate Professor (Political Science)
Nicholas Tyrras, Assistant Professor (International Studies)
John Young, Assistant Professor (Political Science)

Website: www.unbc.ca/russian_studies

## Minor in Russian Studies

This minor is designed to provide students with an interdisciplinary course of study of Russia as a complement to their major program. The minor requires students to take a total of 21 credit hours.

To fulfill the minor, students must successfully complete the following courses:

### Language

| | |
|---|---|
| INTS 131-3 | Beginning Russian I |
| INTS 132-3 | Beginning Russian II |

### Area Studies

| | |
|---|---|
| GEOG 302-3 | Geography of Russia |
| HIST 356-3 | Soviet History |
| INTS 200-3 | Contemporary Russia |
| POLS 311-3 | Russian Politics and Society |

### Additional Requirements

One of:

| | |
|---|---|
| ENGL 351-3 | Russian Literature in Translation |
| HIST 355-3 | Russian Imperial History |
| INTS 444-3 | Russian Foreign Policy |
| POLS 405-3 | Topics in Society and Democracy |

**Note:** Students intending to pursue advanced Russian studies are strongly recommended to take the second year level Russian language courses:

| | |
|---|---|
| INTS 231-3 | Intermediate Russian I |
| INTS 232-3 | Intermediate Russian II |

### Transfer Credits

Courses taken in other programs or at other universities (including those in Russia) may be counted as courses towards the minor requirements with permission from the Russian Studies Committee.

# Social Work (BSW Program)

- Child Welfare Specialization
- First Nations Specialization

# Social Work (Post Baccalaureate Certificates)

- Aboriginal Child and Youth Mental Health Certificate (ACYMHC)
- Child Welfare Certificate (CWC)

Dawn Hemingway, Associate Professor and Chair
Glen Schmidt, Professor
Bruce Bidgood, Associate Professor
Nancy Jokinen, Associate Professor
Indrani Margolin, Associate Professor
Heather Peters, Associate Professor
Joanna Pierce, Associate Professor
Si Chava Transken, Associate Professor
Dave Sangha, Assistant Professor
Tammy Stubley, Assistant Professor

Website: www.unbc.ca/social-work

The School of Social Work offers a schedule of studies leading to the degree of Bachelor of Social Work (BSW).

The Bachelor of Social Work at UNBC is designed to prepare students for beginning level generalized social work practice with individuals, families, groups and communities. The program's orientation places emphasis on Social Work in northern and remote areas, First Nations, women and the human services, and community practice and research. Analyses of class, gender and race relations are considered central to the School of Social Work. As mandated by its accrediting body, the Canadian Association for Social Work Education (CASWE), and the relevant Social Work Codes of Ethics, Social Work at UNBC provides a professional program that advocates for justice and equality, and equips graduates with the intellectual, analytical, practical and professional skills needed to promote beneficial change.

## Admission Requirements

Admission to the Bachelor of Social Work program is limited and is based on academic qualifications and available space. Students will normally complete 60 credit hours of study and achieve a minimum grade point average of 2.67 (B-) (calculated on a student's most recent 60 credit hours of study) and meet other selection criteria prior to program entry. More information about these criteria can be found in the BSW Supplementary Application for Admission form.

Students who have completed a social service worker program at a community college may be eligible for discretionary transfer credit.

The School of Social Work will permit up to three Social Work elective courses to be taken prior to formal admission to the BSW program. Successful completion of these courses does not guarantee admission into the program.

Students will be required to undergo a criminal records search prior to being admitted (see Academic Regulation 20).

Undergraduate students are required to take 60 credit hours of Upper-Division Social Work courses. The minimum requirement for a Bachelor of Social Work is 120 credit hours.

Students applying to the School of Social Work will have completed the following four BSW course prerequisites:

| | |
|---|---|
| SOCW 200-3 | Introduction to Social Work Practice |
| SOCW 201-3 | Introduction to Social Welfare |
| FNST 100-3 | The Aboriginal Peoples of Canada |
| WMST 100-3 | Introduction to Women's Studies |

Students applying to the School of Social Work with a Baccalaureate degree in a related discipline do not have to complete the four BSW course prerequisites.

Students admitted to the Bachelor of Social Work program are required to withdraw from the Bachelor of Social Work program if they register a second fail in Social Work Field Education (SOCW 302-6 and/or SOCW 402-15).

The minimum requirement for a Bachelor of Social Work is 120 credit hours.

## Field Placements

Every effort will be made to secure appropriate field placements for students in the School of Social Work. However, the location and type of placement are subject to availability.

## Costs Associated with the School of Social Work

Costs associated with study in the School of Social Work are the responsibility of the individual student, including transportation costs and any expenses involved in academic studies, lab, and field placement. In some circumstances, students may complete field experiences at sites other than their campus of registration. Provision for all travel, accommodation, and living expenses associated with field education is the sole responsibility of the student.

## Standards of Professional Conduct

All students are expected to abide by professional standards as set forth by the Canadian Association for Social Work Education (CASWE) and the relevant Social Work Codes of Ethics. Violation of professional standards may result in suspension or dismissal from the program or the educational institution.

### Academic Performance

Students may repeat a Social Work course once. Students who fail a required Social Work course twice are required to withdraw from the program.

### Qualification for Degree

It is the responsibility of the student to ensure that his/her degree requirements are met. Graduation requirements are found in the Regulations and Policies section of this Calendar. To fulfill the requirements of graduation, the student must also:

- attain a minimum Cumulative GPA of 2.33 (C+) on courses for credit towards the Social Work degree.
- obtain a minimum passing grade of 2.00 (C) in every Social Work course for credit towards the degree (note: Students enrolling in any required course must have completed all prerequisites with a grade of C or better); and
- complete all requirements for the BSW program within eight years of admission into the program or from the first Social Work course used for credit towards the degree.

In addition, BSW students may choose to meet the requirements for one of the Areas of Specialization described in this degree program. The Specialization will be recorded on the student's transcript.

### Transfer Credit

All transfer credit for course work taken prior to admission to the BSW program will be evaluated, and applied at the time of initial registration in the program. After students have been admitted to the School of Social Work, course work taken in other institutions for transfer credit towards the degree requires a letter of permission prior to the registration in the course.

## Program Requirements

**300 Level**

| | |
|---|---|
| SOCW 300-3 | Social Work Communication Skills |
| SOCW 301-3 | Critical Social Work Practice |
| SOCW 302-6 | Social Work Field Education I |
| SOCW 310-3 | First Nations Social Work Issues |
| SOCW 320-3 | Critical Social Policy |
| SOCW 330-3 | Social Work Research/Policy/Practice |
| SOCW 336-3 | Social Work Philosophy and Ethics |

**400 Level**

| | |
|---|---|
| SOCW 401-3 | Northern/Remote Social Work Practice |
| SOCW 402-15 | Social Work Field Education II |
| SOCW 420-3 | Family/Child Welfare Policy |
| SOCW 421-3 | Human Growth and Development |

Students must select an additional 12 credit hours of approved 400-level Social Work courses from the approved list.

| | |
|---|---|
| SOCW 422-3 | Child Welfare Practice |
| SOCW 424-3 | Child Welfare/Sites of Resistance |
| SOCW 426-3 | Current Issues in Child Welfare Practice |
| SOCW 432-3 | Unemployment and Social Work |
| SOCW 433-3 | Women in the Human Services |
| SOCW 435-3 | Community Social Policy |
| SOCW 437-3 | Social Work with Groups and Communities |
| SOCW 438-3 | Comparative Welfare Analysis |
| SOCW 439-3 | Social Work/Law and the Justice System |
| SOCW 440-3 | Social Work in Mental Health |
| SOCW 441-3 | Social Work and Substance Abuse |
| SOCW 442-3 | Social Work with Victims of Abuse |
| SOCW 443-3 | Medical Social Work |
| SOCW 444-3 | Social Work Critical Issues in Aging |
| SOCW 445-3 | Social Work and Cross-Cultural Practice |
| SOCW 448-3 | Inequality and Income Security |
| SOCW 449-3 | Gender and Sexuality |
| SOCW 450-3 | Social Work and Family Practice |
| SOCW 452-3 | Social Work/Crisis Intervention |
| SOCW 453-3 | Social Work Practice and Spirituality |
| SOCW 454-3 | Disability Issues |
| SOCW 455-3 | First Nations Governance and Social Policy |
| SOCW 456-3 | Family Caring Systems |
| SOCW 457-3 | Individual and Community Wellness |
| SOCW 498-(3-6) | Special Topics |
| SOCW 499-3 | Directed Readings |

### Elective Requirement

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours.

# BSW: Child Welfare Specialization

The Child Welfare Specialization provides a program of studies that prepares students for practice in child welfare, while also satisfying the general practice criteria required for BSW accreditation and for designation as a Registered Social Worker (RSW).

Students must meet all prerequisites for entry into the UNBC BSW program and must be accepted into the program. The fourth-year practicum takes place in a child welfare setting or a First Nations child welfare Agency. Completion of the specialization is noted on the student's graduating transcript. Note: This specialization is distinct from "Areas of Specialization" within a major as set out in Academic Regulation 24 (Minor, Areas of Specialization and Areas of Focus).

The Child Welfare Specialization is designed to provide a Social Work degree that prepares students for social work practice in all child and family serving agencies.

## Program Requirement

| | |
|---|---|
| SOCW 300-3 | Communication Skills in Social Work Practice |
| SOCW 301-3 | Critical Social Work Practice |
| SOCW 302-6 | Social Work Field Education I |
| SOCW 310-3 | First Nations Social Work Issues |
| SOCW 320-3 | Critical Social Policy |
| SOCW 330-3 | Social Work Research, Policy and Practice |
| SOCW 336-3 | Social Work Philosophy and Ethics |
| SOCW 401-3 | Northern and Remote Social Work Practice |
| SOCW 402-15 | Social Work Field Education II |
| SOCW 420-3 | Family/Child Welfare Policy |
| SOCW 421-3 | Human Growth and Development |
| SOCW 422-3 | Child Welfare Practice |
| SOCW 426-3 | Current Issues in Child Welfare Practice |
| SOCW 439-3 | Social Work/Law and the Justice System |

Select one (1) Social Work Elective from the Approved List.

### Elective Requirement

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours.

# BSW: First Nations Specialization

The First Nations Specialization provides a program of studies that prepares students for practice with First Nations people, while also satisfying the general practice criteria required for BSW accreditation and for designation as a Registered Social Worker (RSW).

Students must meet all prerequisites for entry into the UNBC BSW program and must be accepted into the program. The fourth-year practicum takes place in a First Nations setting.

Completion of the specialization is noted on the student's transcript. Note: This Specialization is distinct from "Areas of Specialization" within a major as set out in Academic Regulation 24 (Minors, Areas of Specialization and Areas of Focus).

## Program Requirement

| | |
|---|---|
| SOCW 300-3 | Communication Skills in Social Work Practice |
| SOCW 301-3 | Critical Social Work Practice |
| SOCW 302-6 | Social Work Field Education I |
| SOCW 310-3 | First Nations Social Work Issues |
| SOCW 320-3 | Critical Social Policy |
| SOCW 330-3 | Social Work Research, Policy and Practice |
| SOCW 336-3 | Social Work Philosophy and Ethics |
| SOCW 401-3 | Northern and Remote Social Work Practice |
| SOCW 402-15 | Social Work Field Education II |
| SOCW 421-3 | Human Growth and Development |
| SOCW 455-3 | First Nations Governance and Social Policy |
| SOCW 456-3 | Family Caring Systems |
| SOCW 457-3 | Individual and Community Wellness |

Select two Social Work Electives from the Approved List.

### Elective Requirement

Electives at any level in any subject sufficient to ensure completion of a minimum of 120 credit hours.

# Aboriginal Child and Youth Mental Health Certificate

The Aboriginal Child and Youth Mental Health Certificate program is open to Bachelor of Social Work and Bachelor of Child and Youth Care graduates. Those with related Bachelor-level degrees may also be eligible to apply, subject to the approval of the Chair of the School of Social Work. Those with a Master of Social Work or related Masters-level degree are also eligible to apply. The Certificate is designed for students who seek to practice in the area of Aboriginal child and youth mental health with a focus on working in northern and remote communities. In particular, this Certificate will provide the education and skills necessary to work with children and youth who are experiencing significant mental health issues or are at high risk. The certificate consists of 18 credit hours of 500-level course work. Admission into the Certificate program is limited and requires approval of the Chair of the School of Social Work. Students must establish their course of study with approval from the Chair of the School of Social Work.

Students wishing to audit coursework in the Certificate program may do so subject to the approval of the Chair of the School of Social Work and to UNBC admitting and auditing regulations and policies set out in the undergraduate academic calendar. Note: Courses taken for audit only do not earn academic credit.

Students are required to undergo a criminal records search prior to being admitted. (Refer to Academic Regulation 20.)

### Standards of Professional Conduct

All students are expected to abide by professional standards as set forth by the Canadian Association of Schools of Social Work (CASSW) and the relevant Social Work Codes of Ethics. Violation of professional standards may result in suspension or dismissal from the program or the educational institution.

### Qualification for Certificate

To fulfill the requirements of graduation, the student must:

- attain a minimum cumulative GPA of 2.33 (C+) on courses for credit towards the Certificate
- complete all course requirements for the Certificate

### Certificate Requirements

| | |
|---|---|
| SOCW 501-3 | Aboriginal Peoples in Canada: Past/Present/Future |
| SOCW 502-3 | Reflections on Practice: Child/Youth Mental Health |
| SOCW 503-3 | Social Work/Counselling Skills with Children/Youth |
| SOCW 504-3 | Mental Illness and Addictions Among Children/ Youth |
| SOCW 505-3 | Crisis Work With Children/Youth: Restoring Balance |
| SOCW 506-3 | Community-based Prevention: Creating Balance |

# Child Welfare Certificate

The Child Welfare Certificate program is open only to Bachelor of Social Work and Bachelor of Child and Youth Care graduates. The Certificate is designed to prepare students for child welfare work, with a particular focus on practice in the northern and rural regions of British Columbia. However, certificate graduates will be well prepared to work in all agencies and locations that provide child welfare service. The Certificate consists of 18 credit hours. Admission into the Certificate program is limited. Students must establish their course of study with approval from the Chair of the School of Social Work.

Students will be required to undergo a criminal records search prior to being admitted. Refer to Academic Regulation 20.

A maximum of 6 credit hours may be transferred from courses taken in the UNBC Bachelor of Social Work Program, or from other recognized institutions into the Certificate program.

### Standards of Professional Conduct

All students are expected to abide by professional standards as set forth by the Canadian Association for Social Work Education (CASWE) and the relevant Social Work Codes of Ethics. Violation of professional standards may result in suspension or dismissal from the program or the education institution.

Qualification for a Certificate

To fulfill the requirements of graduation, the student must:

- attain a minimum cumulative GPA of 2.33 (C+) on courses for credit towards the Certificate
- complete all course requirements for the Certificate

## Certificate Requirements

| | |
|---|---|
| SOCW 401-3 | Northern and Remote Social Work |
| SOCW 422-3 | Child Welfare Practice |
| SOCW 426-3 | Current Issues on Child Welfare Practice |
| SOCW 439-3 | Social Work/Law and the Justice System |
| SOCW 497-3 | Reflection on Practice |
| SOCW 499-3 | Directed Readings |

# Statistics Major

**See Calendar entry under Mathematics and Statistics.**

# Wildlife and Fisheries Major

**See Calendar entry under Natural Resources Management-Wildlife and Fisheries.**

# Women's Studies (BA Program)

Jacqueline Holler, Associate Professor, and Coordinator
Maryna Romanets, Associate Professor
Stephanie Cousineau, Assistant Professor
Theresa Healy, Adjunct Professor

Website: www.unbc.ca/gender-studies

Women's Studies is an interdisciplinary field dedicated to studying the historical, cultural, literary, and societal role of women and gender. UNBC's program has strengths in areas such as women's and gender history; gender, literature, and literary theory; gender, colonialism, and postcolonialism; gender and globalization; feminism, justice, and ethics; gender and health; and gender and international studies.

The Women's Studies program offers majors and minors in Women's Studies and, in cooperation with other programs, four joint majors. At the graduate level, the program offers a Master's degree in Gender Studies.

## Major in Women's Studies

A major in Women's Studies requires students to take 48 credit hours of Women's Studies (16 courses), at least 36 credit hours of which must be upper-division courses either in Women's Studies or from the gender-and/or women related offerings of other programs.

The minimum requirement for completion of a Bachelor of Arts with a major in Women's Studies is 120 credit hours.

### Program Requirements

#### Lower-Division Requirement

WMST 100-3 Introduction to Women's Studies

Three additional Women's Studies courses at the 100 or 200 Level.

#### Upper-Division Requirement

WMST 302-3 Women and the Contemporary World
WMST 307-3 Qualitative Research Methods

Three of:

| | |
|---|---|
| WMST 306-3/ FNST 306-3 | Indigenous Women: Perspectives |
| WMST 311-3/ HIST 311-3 | History of Feminism |
| WMST 312-3/ HIST 312-3 | Introduction to the History of Gender |
| WMST 413-(3-6)/ FNST 413-(3-6) | Topics in Aboriginal Women's Studies |
| WMST 420-3/ ENGL 410-3 | Contemporary Women's Literature |

#### Additional Requirement

Seven courses (21 credits) selected from the following:

| | |
|---|---|
| WMST 303-3 | Lesbian and Bisexual Lives |
| WMST 304-3 | Contemporary Women's Writing in an International Frame |
| WMST 309-3 | Gender and Film |
| WMST 401-3 | Cultural Studies: Gender, Race, and Representation |
| WMST 410-3 | Feminist Political Philosophy |
| WMST 411-3 | Contemporary Feminist Theories |
| WMST 498-(3-6) | Selected Topics |
| ANTH 401-3 | Anthropological Perspectives on Inequality |
| ANTH 406-3 | Feminist Perspectives in Anthropology |
| COMM 333-3 | Women in Organizations |
| ECON 301-3 | Women and the Economy |
| ENVS 309-3 | Gender and Environment |
| FNST 407-3 | Race, Class, Gender, and Power |
| HIST 309-3 | Women in Canada |
| HIST 453-3 | Topics in the History of Gender |
| HIST 454-3 | Topics in Women's History |
| INTS 308-3 | Gender and International Studies |
| NURS 412-3 | Women and Health |
| POLS 313-3 | Women and Politics |
| SOCW 433-3 | Women in the Human Services |
| SOCW 449-3 | Gender and Sexuality |

Alternative courses related to women and/or gender may be substituted with the written permission of the Program Coordinator.

#### Elective and Academic Breadth

Electives to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

## English/Women's Studies Joint Major

**See Calendar entry under English.**

## First Nations Studies/Women's Studies Joint Major

**See Calendar entry under First Nations Studies.**

## History/Women's Studies Joint Major

**See Calendar entry under History.**

## Political Science/Women's Studies Joint Major

**See Calendar entry under Political Science.**

## Minor in Women's Studies

In conjunction with a major in another program, students may pursue a minor in Women's Studies. A minor in Women's Studies requires 18 credit hours of Women's Studies courses, 12 of which must be upper-division courses. Courses used to fulfill program requirements for a major (or another minor) may not be used toward a minor in Women's Studies.

# Course Descriptions

## Course Prefixes Listed Alphabetically

| Course Code | Courses |
|---|---|
| ANTH | Anthropology |
| ARTS | Arts |
| BIOL | Biology |
| CHEM | Chemistry |
| COMM | Commerce/Business Administration |
| COOP | Cooperative Education |
| CPSC | Computer Science |
| CORE | Core |
| ECON | Economics |
| EDUC | Education |
| ENGL | English |
| ENPL | Environmental Planning |
| ENSC | Environmental Science and Engineering |
| ENVS | Environmental Studies |
| FNDS | Foundation Year Curriculum |
| FNST | First Nations Studies |
| FSTY | Forestry |
| GEOG | Geography |
| HHSC | Health and Human Science |
| HIST | History |
| INTS | International Studies |
| INTX | International Exchange |
| MATH | Mathematics |
| NOLS | National Outdoor Leadership School |
| NORS | Northern Studies |
| NREM | Natural Resources Management |
| NRES | Natural Resources and Environmental Studies |
| NURS | Nursing |
| ORTM | Outdoor Recreation and Tourism Management |
| PHIL | Philosophy |
| PHYS | Physics |
| POLS | Political Science |
| PSYC | Psychology |
| SOCW | Social Work |
| STAT | Statistics |
| WMST | Women's Studies |

## Upper-division and Graduate Level Courses

Credit is not granted for both 400 and 600 level courses having the same title, unless otherwise specified in the course description.

## Prerequisites

A prerequisite course is an academic requirement that must be completed prior to the student taking a course. Unless otherwise stated, a passing grade of "D-" or better is required to satisfy as a prerequisite course.

Prerequisites are used to ensure that a student has the required background to successfully complete the course. Prerequisites may also have prerequisites. These prerequisites must also be fulfilled.

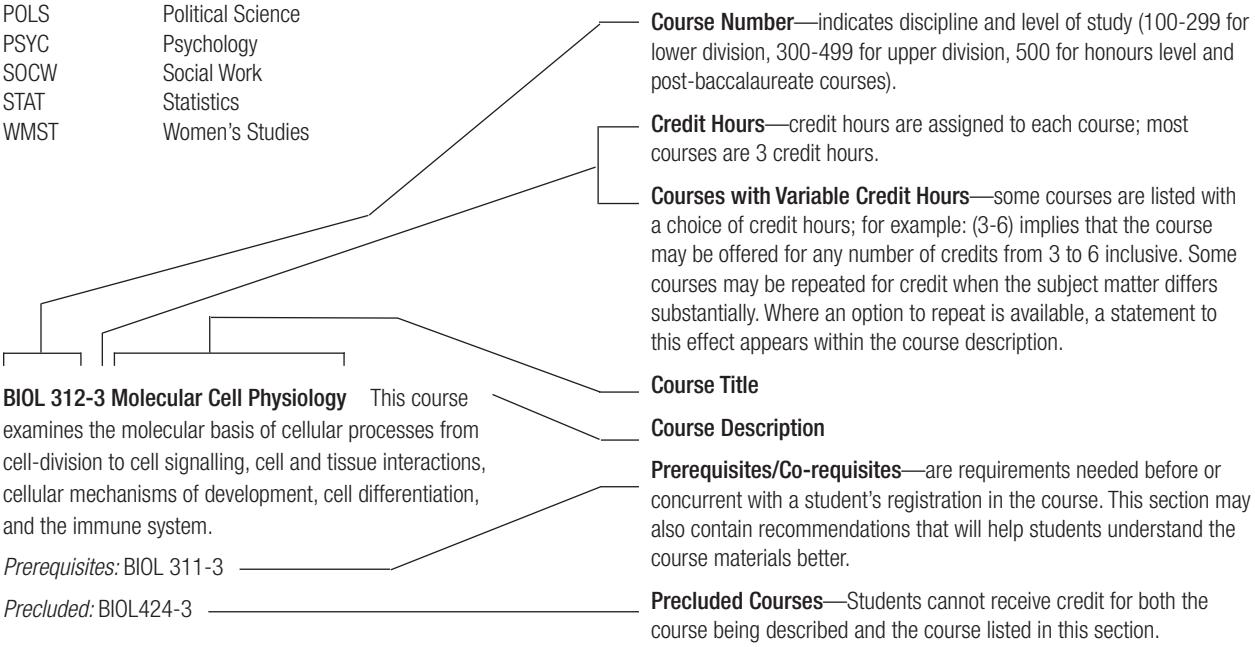
For example: COMM 314-3 has a prerequisite of COMM 313-3, COMM 313-3 has a prerequisite of COMM 210-3, and COMM 210-3 has a pre- or co-requisite of COMM 100-3. In this case, a student must have credit for COMM 313-3, COMM 210-3, and COMM 100-3 before being eligible to enroll in COMM 314-3.

## Course Offerings

Not all courses are offered every year. Check online Course Listings for a list of the courses being offered in each semester.

## Course Descriptions

The following explanation will help clarify the terms found in the course descriptions.



# Anthropology (ANTH)

**ANTH 102-3 Anthropology: A World of Discovery** Using a thematic approach, this course explores what defines the human species. Some of the themes explored may include human evolution and our primate biological kin; archaeology and digging for the past; culture in a global world; communication or the essentials of being a talking and increasingly texting primate; health as a social and biological; production and consumption, from the first stone tools to the Big Mac; and other topics that deal with humanity past and contemporary.

*Prerequisites:* None
*Precluded:* ANTH 100-3, ANTH 101-3

**ANTH 200-3 Biological Anthropology** A survey of the origins and evolution of human population diversity. Topics covered include an introduction to evolutionary and population genetic theory; trends and debates in human evolution; principles of human growth, development and aging; and polymorphism, polytypism and biocultural adaptation in human populations.

*Prerequisites:* None
*Recommended:* ANTH 102-3

**ANTH 201-3 Medical Anthropology** Understanding of wellness in various cultural systems studied through the classification of health and illness categories, and the range of approaches to maintaining and intervening in health processes. Examples relevant to Northern people and issues will be developed.

*Prerequisites:* None
*Recommended:* ANTH 102-3

**ANTH 203-3 Archaeology of the Americas** A survey of the archaeological record of prehistoric human occupation of North, Central and South America. Issues such as peopling of the New World, paleo-Indian adaptations, origins of agriculture, the expansion and contraction of interaction spheres, and the consequences of contact will be considered from a regional and continental perspective.

*Prerequisites:* None
*Recommended:* ANTH 102-3

**ANTH 205-3 Introduction to Archaeology** An introduction to archaeological methods. This course will trace the developmental history of the discipline, and will focus on current methods and techniques used in archaeology. Using case studies drawn from around the globe, the course will highlight the holistic and interdisciplinary nature of archaeology.

*Prerequisites:* None
*Recommended:* ANTH 102-3

**ANTH 206-3 Ethnography in Northern British Columbia** A survey of the ethnographic literature for this region, and an introduction to the methodology and paradigms of ethnographic research.

*Prerequisites:* None
*Recommended:* ANTH 102-3

**ANTH 207-3 Popular Culture** The study of contemporary cultural phenomena with anthropological methods.

*Prerequisites:* None
*Recommended:* ANTH 102-3
*Precluded:* ANTH 412-3

**ANTH 209-3 Pacific Ethnography** A survey of the ethnographic literature of the Pacific with a focus on selected cultures and/or regions. The course will discuss the methodology and paradigms of the area's ethnographic research.

*Prerequisites:* None
*Recommended:* ANTH 102-3

**ANTH 211-3 Anthropology Through Film** This course will introduce the student to the subject matter and theories of social and cultural anthropology through the extensive use of anthropological and documentary film. Topics will cover a spectrum of issues, including: marriage and the family; economics; ritual and religion; conflict and conflict resolution; and culture change, among others.

*Prerequisites:* None
*Recommended:* ANTH 102-3

**ANTH 212-3 Archaeology of the Old World** This survey course focuses on human antiquity outside of the Americas. Temporally the course covers some two and a half million years of prehistory, beginning with the earliest known archaeological evidence in Africa, and ending with the great civilizations of Asia, Europe and Africa.

*Prerequisites:* None
*Recommended:* ANTH 102-3

**ANTH 213-3 Peoples and Cultures** This course examines the diversity of human cultures and languages through the comparison of contemporary societies, and patterns of social organization.

*Recommended:* ANTH 102-3
*Preclusions:* ANTH 101-3

**ANTH 214-3 Anthropology of Europe** A survey of the anthropological literature of Europe, with a focus on selected cultures or regions. The course will discuss the methodology and paradigms of the area's ethnographic research.

*Prerequisites:* None
*Recommended:* ANTH 102-3

**ANTH 215-3 Anthropology of Canada** A survey of the anthropological literature describing Canada, with a focus on selected cultures or regions. Examples relevant to northern peoples and issues will be used. The course will discuss the methodology and paradigms of the area's ethnographic research. This course will allow students to make inferences to analyze what is happening in their own community.

*Prerequisites:* None
*Recommended:* ANTH 102-3

**ANTH 220-3 Introduction to Primatology** A survey of major issues in contemporary primatology, including origins and evolution, taxonomy, socioecology, mating systems, dominance, co-operative and coercive structures, intelligence and conservation.

*Prerequisites:* None
*Recommended:* ANTH 102-3

**ANTH 230-3 Introduction to Forensic Anthropology** This course examines the contribution of anthropology to the recovery, identification and interpretation of recent human skeletal remains. Topics covered include forensic archaeology, methods of biological and personal identification, trauma and taphonomy, crime scene analysis, the anthropologist as an expert witness, war crimes, and mass graves.

*Prerequisites:* None
*Recommended:* ANTH 102-3

**ANTH 240-3 The Neandertals** This course examines conceptions and misconceptions of the most enigmatic of our ancestors, the Neandertals. Since first discovered in 1848 Neandertals have occupied a special place in the story of human evolution - they have been pathologized, idealized, and romanticized. Neandertals have generated more controversy surrounding human evolution than any other ancestor. This course examines aspects of biology, culture, symbolic behaviour, and subsistence, considering Neandertal origins and 'disappearance,' as well as considering how Neandertals have been represented in 'popular culture' over the past 150 years.

*Prerequisites:* None
*Recommended:* ANTH 102-3

**ANTH 250-3 The Ancient Egyptians** This course is a survey of the development and workings of ancient Egyptian state society. The course begins with the pre-Dynastic Period and ends with the Ptolemaic Period, but the major focus is on the Dynastic Period. Using a combination of archaeological and documentary evidence, the course examines ancient Egyptian history, politics, technology, cosmology, and other aspects of everyday life.

*Prerequisites:* None
*Recommended:* ANTH 102-3

**ANTH 298-(3-6) Topics in Anthropology** This course covers particular aspects of anthropology selected by the instructor. This course may be repeated for credit (maximum 6 credit hours) with permission of the Department Chair (permission to be given only when the subject matter differs substantially).

*Prerequisites:* None
*Recommended:* ANTH 102-3

**ANTH 300-3 Methods in Social Anthropology** Research design, data collection, statistics and analysis as used in social anthropology. The seminar will discuss field methods and use of archival materials.

*Prerequisites:* 60 credit hours or permission of the instructor

**ANTH 301-3 Archaeological Lab Methods** This course introduces students to laboratory methods used in archaeological analyses. Topics will include chipped and ground stone tools, fauna, bone tools, basketry, quantitative methods and more. Students will conduct research projects, and may have the opportunity to analyze artifacts from archaeological sites in BC and elsewhere.

*Prerequisites:* ANTH 205-3

**ANTH 303-3 Archives, Texts, Museums, and Contemporary Communities** Students will engage in projects in which they combine the use of archival, textual, museum and interview methodologies.

*Prerequisites:* Upper-division standing or permission of the instructor

**ANTH 304-3 Kinship and Social Organization** A review of the literature on kinship and social organization, and an examination of selected cases from various societies.

*Prerequisites:* Upper-division standing
*Precluded:* ANTH 408-3

**ANTH 305-3 Circumpolar Ethnography** A survey of the archaeological and ethnographic literature on the north, with a focus on selected cultures from Alaska, Northern Canada, Greenland, Northern Scandinavia and Northern Russia. The course will discuss the methodology and paradigms of the area's ethnographic research.

*Prerequisites:* None
*Recommended:* ANTH 102-3 or ANTH 213-3
*Precluded:* ANTH 208-3, NORS 321-3

**ANTH 306-3 Culture and Communication** This course will provide an overview of the ways anthropology analyzes languages and communication. Topics may include: Ethnolinguistics and Ethnoscience; discourse analysis; and language use and language planning in the modern nation-state.

*Prerequisites:* ANTH 315-3 or permission of the instructor
*Precluded:* ANTH 402-3

**ANTH 310-3 Applied Anthropology** Theory in practice as it is understood by those who practice and advocate what many consider to be an entire sub field in anthropology: Applied Anthropology. The course will focus on the practice of anthropology using examples relevant to the northern world, and will consider issues associated with doing anthropology in difficult situations.

*Prerequisites:* Upper-division standing
*Recommended:* One of ANTH 200-3, ANTH 205-3 or ANTH 213-3

**ANTH 311-3 Nutritional Anthropology** This course undertakes a biocultural examination of the relationship between food (e.g., acquisition and avoidance; distribution; preparation), human health, and society in past and present populations. Lab exercises examine aspects of research methodology, including anthropometrics, dietetics and energetics.

*Prerequisites:* ANTH 200-3 or permission of the instructor
*Precluded:* NURS 206-3, NURS 303-3, HHSC 311-3

**ANTH 312-3 Human Adaptability** This course will examine the genetic, epigenetic, and behavioural/cultural avenues used by humankind in adapting to environmental stresses associated with extreme habitats, (e.g., cold, heat, hypoxia). Human (mal-) adaption to post-industrial revolution urban conditions (e.g., crowding, noise, pollution) will also be addressed.

*Prerequisites:* ANTH 200-3 or permission of the instructor

**ANTH 315-3 Anthropological Theory** This course investigates the major theoretical trends in anthropology from the nineteenth century to the present. It will introduce central issues in anthropology theory, key concepts in the discipline, important authors and debates over theoretical perspectives.

*Prerequisites:* 60 credit hours

**ANTH 316-3 The Social Theory and Structure of Contemporary Canadian Society** A consideration of basic themes, theories and concepts in advanced social thought as they relate to modern Canadian industrial society. Theories to be reviewed will include: functionalism, conflict theory, exchange theory and interactionist theory. These will be reviewed in relation to key issues impacting modern Canadian industrial societies, including: social inequality, ethnic and gender relations, the family, political and economic organization, work and occupations, community and region, the environment and utilization of natural resources, and social movements and social change.

*Prerequisites:* 60 credit hours or permission of the instructor
*Recommended:* ANTH 102-3 or ANTH 213-3

**ANTH 320-3 Biology of Circumpolar Peoples** A lecture/seminar course exploring biological variability in contemporary circumpolar peoples, notably growth and development, morphology (size, shape and body composition) and physiology, within a framework of evolutionary ecology. Also addressed will be effects of culture change on, e.g., work capacity, nutritional adaptation, demography, and morbidity.

*Prerequisites:* ANTH 200-3

**ANTH 325-3 Archaeological Theory** Over the last three decades, there has been a tremendous explosion of literature concerning theory in archaeology. In this seminar course, students will learn about the historical contexts and development of the various theoretical schools that have contributed to our current state of knowledge. Weekly readings and seminar discussion will be mandatory.

*Prerequisites:* ANTH 205-3

**ANTH 335-3 Archaeological Heritage Management** In this lab-seminar course, weekly readings focus on topics relevant to archaeological heritage management, also known as Cultural Resource Management (CRM). Discussions will center on issues such as: heritage legislation in British Columbia and elsewhere, First Nations and private sector concerns, and archaeological consulting. Labs will focus on methodological issues such as survey techniques, culturally modified trees and more.

*Prerequisites:* ANTH 205-3

**ANTH 380-(3-6) Topics in Archaeology** This is an occasional course offering to enable existing or visiting faculty to teach courses not normally offered in the program. Each course reflects the geographic and topical interests of the instructor. This course may be repeated for credit (maximum 6 credit hours) with permission of the Department chair (permission to be given only when the subject matter differs substantially).

*Prerequisites:* Permission of the Department Chair

**ANTH 400-3 Anthropological Theory** This course surveys and critiques selected contemporary approaches to cultural and social theory.

*Prerequisites:* 60 credit hours or permission of the instructor

**ANTH 401-3 Anthropological Perspectives on Inequality** An examination of the embedding of inequality in cultural systems, and the intersection of categories such as race, class and gender in systems of hegemony; examples will be selected from a variety of cultural contexts.

*Prerequisites:* Upper-division standing or permission of the instructor
*Precluded:* ANTH 309-3

**ANTH 404-3 Comparative Study of Indigenous Peoples of the World** A project-based seminar in which students will examine the similarities and differences of selected groups, focusing on issues such as relations with state societies, etc.

*Prerequisites:* ANTH 206-3, ANTH 208-3, or ANTH 211-3 or permission of the instructor

**ANTH 405-3 Landscapes, Place and Culture** This course provides an examination and critique of the anthropological approaches to landscape, space and place. Cross-cultural and cross-temporal case studies are used.

*Prerequisites:* Upper-division standing
*Precluded:* ANTH 413-(3-6)

**ANTH 406-3 Feminist Perspectives in Anthropology** This course will survey and critique selected theoretical approaches and ethnographies to examine key area of interest and debate in the field of feminist anthropology. This course will draw from the political ideology in feminism concerned with critical examination of gender relations and cross-cultural anthropological study.

*Prerequisites:* Upper-division standing or permission of the instructor
*Precluded:* ANTH 307-3

**ANTH 407-3 British Columbia Ethnography** This course is a comparative critique of contemporary ethnographic research of selected cultures or regions.

*Prerequisites:* Upper-division standing
*Recommended:* Prior course(s) in sociocultural anthropology

**ANTH 409-3 British Columbia Archaeology** This course is a problem-based seminar in which selected issues are examined from several points of view.

*Prerequisites:* One of ANTH 203-3, ANTH 205-3, ANTH 212-3, ANTH 301-3, ANTH 325-3, ANTH 380-(3-6) or permission of the instructor

**ANTH 410-3 Theory of Nation and State** A critical examination of theories of ethnicity, nationalism and statehood from an anthropological perspective.

*Prerequisites:* Upper-division standing

**ANTH 411-(3-6) Topics in Biological Anthropology** This course is a problem-oriented and project-based seminar in which one or more selected topics in biological anthropology are examined. This course may be repeated for credit (maximum 6 credit hours) with permission of the Department Chair (permission to be given only when the subject matter differs substantially).

*Prerequisites:* ANTH 200-3 or permission of the instructor

**ANTH 413-(3-6) Environmental Anthropology** This course is an examination of the anthropological literature on ecology and environmental practices in which contemporary issues and examples relevant to indigenous practices and northern peoples are developed.

*Prerequisites:* 60 credit hours or permission of the instructor

**ANTH 414-3 Religion, Ideology, and Belief Systems** This course provides a review of anthropological approaches to religion, ideology and belief systems with comparative examples from several cultures.

*Prerequisites:* 60 credit hours or permission of the instructor
*Recommended:* ANTH 102-3 or ANTH 213-3

**ANTH 415-3 Economic Anthropology** This course is an introduction to the field of economic anthropology, looking at social and cultural contexts for processes of production, distribution, and consumption. Contemporary issues such as development will be explored.

*Prerequisites:* 60 credit hours or permission of the instructor
*Recommended:* ANTH 102-3 or ANTH 213-3

**ANTH 416-6 Archaeological Survey and Mapping** Course participants will learn about archaeological survey, from both the academic perspective, and from the perspective of professional consulting archaeology. Students will become proficient at map reading, compassing, sampling strategies in forest and non-forest environments, and recognizing cultural features pertinent to the area. Participants will learn skills necessary for potential employment with professional archaeology firms; this will include observing protocols with First Nation communities and liaising with government and corporate entities. Where possible, students will have an opportunity to work for a few days with professional consultants.

*Prerequisites:* Permission of the instructor
*Co-requisites:* ANTH 417-6 and ANTH 418-3

**ANTH 417-(3-6) Excavation and Field Interpretation in Archaeology** Excavation forms a central aspect of archaeology. As part of this course, students and community members will participate in a 6-8 week excavation of an archaeological locality. This will involve initial set up of the area, excavation and record-keeping, and basic field laboratory procedures. In addition to "hands-on" participation, daily seminar discussion will be mandatory; topics will centre on each day's survey and excavation results. These sessions will be interdisciplinary, reflecting the interests of the instructors, community members, visiting researchers and students. Topics will invariably focus on geomorphology, lithic artifacts, zooarchaeology, paleoethnobotany, paleoecology, oral traditions and traditional use, and the social context of conducting archaeology. The field school will often take place in remote localities in British Columbia and elsewhere, and so students may have to live in a field camp situation. In addition to basic tuition, there may be additional fees to cover camp and transportation costs.

*Prerequisites:* Permission of the instructor
*Co-requisites:* ANTH 416-6 and ANTH 418-3

**ANTH 418-3 Archaeology and First Nations** This course introduces students to the value of ethnographic information (including oral history, place names documentation, traditional technology, subsistence, and traditional use activities),the interpretation of archaeological data, and construction of First Nations (pre)history. ANTH 418-3 is normally taken in conjunction with ANTH 416-6 and ANTH 417-(3-6).

*Prerequisites:* Permission of the instructor
*Co-requisites:* ANTH 416-6 and ANTH 417-(3-6)

**ANTH 419-3 Political and Legal Anthropology** This course provides a comparative study of power; political organization; leadership; non-centralized and centralized political systems social control; and a cross-cultural study of law. Contemporary issues relevant to the north will be addressed, for example self government and sovereignty.

*Prerequisites:* 60 credit hours or permission of the instructor
*Recommended:* ANTH 102-3 or ANTH 213-3

**ANTH 420-3 Races, Racism, and Human Biology** This seminar course investigates the biological basis of human diversity and difference. It deals with the origin and mechanisms of human population variation, the nature of racial and racist studies in both historical and social context, and the question of race as a valid subject of scientific inquiry.

*Prerequisites:* 60 credit hours or permission of the instructor
*Recommended:* ANTH 102-3

**ANTH 421-(3-6) Ethnographic Field Methods** A project-based seminar in which students will actualize field methods in ethnographic research, in addition to closely examining questions of ethical research and community participation in ethnographic research. This course consists of at least three weeks of classroom instruction in a field location and will emphasize the actualization of conventional ethnographic methods and procedures in an actual field setting. Students will be expected to participate in a larger field project and to gain direct experience in field methods while being sensitized to the requirements of ethical research and community involvement in ethnography.

*Prerequisites:* 60 credit hours or permission of the instructor
*Recommended:* ANTH 102-3 or ANTH 213-3

**ANTH 422-(3-6) Ethnographic Research Project** A project-based course in which students shall examine and compare selected aspects of cultures and peoples before integrating this acquired knowledge to design and carry out a major research project arising from the field experience. The ethnographic material covered shall be appropriate to the field school's locality and/or general research topic.

*Prerequisites:* 60 credit hours or permission of the instructor
*Recommended:* ANTH 102-3 or ANTH 213-3

**ANTH 423-3 Urban Anthropology** This course provides a review of the anthropological approaches to and the social theory of contemporary urban society in the local, national and global contexts of the modern world. Contemporary issues relevant to the North will be addressed.

*Prerequisites:* 60 credit hours or permission of the instructor
*Recommended:* ANTH 102-3 or ANTH 213-3

**ANTH 425-3 Introduction to Zooarchaeology** This lab course introduces students to the study of animal bones found in archaeological contexts. The first part of the course focuses on animal bone identification, while the second part centers on theoretical aspects of animal use by pre-Industrial human societies. As part of the course, students may have to prepare animal skeletons.

*Prerequisites:* ANTH 301-3 or permission of the instructor

**ANTH 430-3 Stone Tools in Archaeology** Stone tools are the most ubiquitous type of artifacts found around the world. This lab-seminar course focuses on methods and techniques for analyzing stone tools, and includes a strong theoretical component on stone tool production and use in pre-Industrial societies. Weekly labs will focus on analytical procedures, and in addition students are expected to complete assigned readings and participate in discussions.

*Prerequisites:* ANTH 301-3 or permission of the instructor

**ANTH 440-(3-6) Internship**

*Prerequisites:* Upper-division standing and permission of the Department Chair

**ANTH 450-(3-6) Undergraduate Thesis in Anthropology**

*Prerequisites:* Upper-division standing and permission of the Department Chair

**ANTH 451-3 Traditional Use Studies** An advanced seminar on traditional use studies, their use, application, and development. The seminar will examine the origins and development of this field, review case studies and recent applications, and contemporary policies.

*Prerequisites:* 60 credit hours or permission of instructor
*Recommended:* ANTH 102-3 or ANTH 213-3
*Precluded:* FNST 451-3

**ANTH 460-3 Anthropology Capstone** This course engages students in the contemporary methodological and theoretical debates, and ideological challenges that face anthropologists today. Topics range from ethical considerations over the construction and ownership of knowledge to the practical challenges of how to set up a field/research project. This course prepares students to work within this ever-changing discipline through reinforcing the interlinked nature of sociocultural, biological and archaeological inquiry. Using an integrative approach, this course illustrates how our diverse theory, methods and practice may work together to challenge established rhetoric and create innovative ideas about the past, present and future.

*Prerequisites:* Student must be major, minor or joint major in Anthropology with 90 credit hours

**ANTH 498-(3-6) Special Topics in Anthropology**

*Prerequisites:* Upper-division standing and permission of the Department Chair

**ANTH 499-(3-6) Independent Study**

*Prerequisites:* Upper-division standing and permission of the Department Chair

**ANTH 500-3 Method and Theory Seminar** An examination of current developments within the subdiscipline in which the student is taking the honour's program. Developed in consultation with and supervised by a member of the Anthropology faculty, the aim is as much to explore where linkages do and do not exist across Anthropology's subdisciplines as it is to understand the state-of-the-art of the chosen subdiscipline. The course will conclude with a seminar discussion developed and directed by the student, open to all Anthropology faculty and the student's peers.

*Prerequisites:* Admission to the Honours Program

**ANTH 501-3 Research Prospectus** In consultation with the supervisor, the student will design an original research project which will form the core of the Honour's thesis. The design will be presented as a colloquium open to the university community.

*Prerequisites:* ANTH 500-3 or permission of the Program Chair

**ANTH 502-3 Honours Thesis** In accordance with the program guidelines for thesis projects, the student will present the results of their project in a paper of 12,500 – 15,000 words, to be evaluated by the thesis supervisor and an outside reader. Successful completion of the Honours thesis course will be based on the quality of the written work, as well as an oral defense open to the university community.

*Prerequisites:* ANTH 501-3

# Arts (ARTS)

Northern Advancement program students are required to take these courses and so have priority for registration. Any spaces remaining may be filled by other students.

**ARTS 101-3 Learning Strategies** This course helps students identify their strengths and weaknesses as learners, master essential academic learning strategies, identify appropriate career goals and majors, and make a successful transition to university.

*Prerequisites:* Fewer than 30 credit hours or permission of Program Dean/Regional Chair
*Precluded:* CORE 100-3, NRES 100-3

**ARTS 102-3 Research Writing** This course complements ARTS 101-3 and focuses primarily on skills associated with effective research writing techniques. The course also focuses on the knowledge and skills necessary for the productions of university-level, library-based research papers. Using the library, mastering computers, reviewing grammar, and presenting findings orally are integral components of the process.

*Prerequisites:* Fewer than 30 credit hours or permission of Program Dean/Regional Chair
*Precluded: CORE* 100-3, NRES 100-3

# Biochemistry and Molecular Biology (BCMB)

**BCMB 255-2 Biochemistry Lab I** This is a laboratory-based course in which students explore basic biochemical and molecular biological laboratory techniques. Topics include buffers, calculations in biochemistry, enzyme kinetics, and purification of carbohydrates and proteins. Techniques include centrifugation, chromatography, spectrophotometry, and electrophoresis.

*Prerequisites:* CHEM 201-3
*Co-requisites:* CHEM 204-3
*Precluded:* CHEM 255-1

**BCMB 306-3 Intermediary Metabolism** This lecture-based course that emphasizes the importance of biochemical pathways and macromolecules in physiological systems. The goal of the course is to impart an understanding of metabolism on a cellular scale and the macroscopic implications of impairments in the metabolic pathways. Topics include the metabolism of amino acids, lipids, carbohydrates, nucleotides and how these pathways are interrelated at tissue and organ levels.

*Prerequisites:* CHEM 204-3 with a minimum grade of C
*Precluded:* CHEM 306-3

**BCMB 308-3 Biochemistry Lab II** This laboratory-based course covers modern biochemical and molecular biological techniques. Topics include purification and characterization of proteins, DNA and RNA. Laboratory techniques include centrifugation, chromatography, enzyme spectrophotometry, gel electrophoresis of DNA, RNA and proteins, restriction endonuclease digestion and analysis, Western blotting, IMAC and ELISA.

*Prerequisites:* CHEM 255-1 or BCMB 255-1 and either CHEM 204-3 or CHEM 220-3 with a minimum grade of C

**BCMB 340-3 Physical Biochemistry** This lecture-based course allows students to explore the physical basis of biochemistry through in-depth study of some of the most important biochemical phenomena in nature. The concepts of entropy, enthalpy, and equilibria are discussed in the context of repressor function, photosynthesis, and ATP synthesis. Other topics include the physical basis of biochemical techniques such as centrifugation, electrophoresis, and spectroscopy.

*Prerequisites:* PHYS 101 or PHYS 111, and CHEM 204-3 with a minimum grade of C
*Co-requisites:* CHEM 255-1 or BCMB 255-1
*Precluded:* CHEM 230-3, CHEM 340-3

**BCMB 401-3 Basic Science of Oncology** This is a lecture-based course designed to provide insight into the biological chemistry of cancer. Major topics include chemical carcinogenesis, genomic instability, oncogenes and tumor suppressor genes, cell growth, apoptosis, tumor progression and metastasis, tumor angiogenesis, hormones, viruses, and drug resistance. This course also provides an in-depth look at the advanced technology used in controlling the disease, including immunotherapy and therapeutic approaches for controlling gene expression.

*Prerequisites:* BIOL 311-3 with a minimum grade of C
*Precluded:* CHEM 405-3

**BCMB 402-3 Macromolecular Structure** This is a lecture-based course designed to provide students with an understanding of the theory behind structural techniques used in biochemical laboratories. Topics include X-ray crystallography, nuclear magnetic resonance spectroscopy and electron microscopy; students are expected to develop an understanding of the theory and application of these techniques and technical considerations. Students also learn how to judge the quality of data.

*Prerequisites:* CHEM 204-3 with a minimum grade C
*Precluded:* CHEM 405-3

**BCMB 403-3 Advanced Nucleic Acids** This is a lecture-based course designed to provide in-depth knowledge on advanced topics in nucleic acid biochemistry. Topics include mechanistic analysis of nucleic acid metabolism; the RNA world hypothesis and theories of the origin of life; epigenetics; specificity and role of polymerases and repair pathways; replication and recombination mechanisms; RNA structural motifs and physical processing in gene expression; structure and function of non-coding RNA; silencing and micro RNA; catalytic RNA molecules; and technological applications of RNA.

*Prerequisites:* CHEM 204-3 with a minimum grade C
*Precluded:* CHEM 405-3

**BCMB 404-3 Proteins and Enzymology** This lecture-based course provides knowledge of contemporary protein biochemistry and emphasizes the importance and role of enzymes in biochemistry and molecular biology. Topics include the structure and function of proteins, protein biotechnology, mechanisms of enzyme action, kinetic analysis of enzymes and regulation of protein activity.

*Prerequisites:* CHEM 204-3 with a minimum grade C
*Precluded:* BCMB 409-3

**BCMB 405-3 Topics in Biochemistry and Molecular Biology** This course considers selected advanced topics in biochemistry. Topics depend on instructor and student interest and normally focus on material not dealt with in other courses. Note: Credit may be granted for both 400- and 600-level offerings of Topics in Biochemistry and Molecular Biology courses, and either the 400- or 600-level courses or a combination of both may be repeated to a maximum of 6 credit hours, provided the content of the independent offerings of the courses is sufficiently different (as determined by the Program Chair or College Dean).

*Prerequisites:* BCMB 330-3, BCMB 307-3, BCMB 340-3 with a minimum grade C in all prerequisite courses

**BCMB 430-6 Undergraduate Thesis** This is a laboratory-based undergraduate research thesis, designed for students with serious research interests. This course includes an oral presentation of research results. Students must have completed at least 90 credit hours of study and be BCMB major. The thesis may be taken over one or two semesters.

*Prerequisites:* 90 credit hours, BCMB major, and permission of the instructor

**BCMB 499-(1-6) Independent Study** This course concentrates on a particular topic agreed upon by the student and a member of the BCMB faculty. It may be repeated to a maximum of six credit hours. Credit may be granted for both 400- and 600-level offerings of the course provided the content is sufficiently different (as determined by the Program Chair or Dean).

*Prerequisites:* Permission of the Program Chair

# Biology (BIOL)

**BIOL 103-3 Introductory Biology I** This lecture-based course is an introduction to the biological sciences including the nature of life, cell structure, function, development, metabolism, genetics and evolutionary theory.

*Prerequisites:* Biology 11 or Biology 12
*Precluded:* BIOL 100-4, BIOL 101-4

**BIOL 104-3 Introductory Biology II** This lecture-based course is a survey of living organisms, plant and animal form and function, ecology and population biology.

*Prerequisit*es: Biology 11 or Biology 12 or BIOL 103-3
*Precluded:* BIOL 100-4, BIOL 102-4
*Recommended:* BIOL 103-3

**BIOL 110-3 Introductory Ecology** This course is designed to introduce non-science majors to ecological systems. Principles of ecology, biotic and abiotic conditions, population, community and ecosystem structure, human impacts on these systems, and basic concepts of conservation and preservation of ecosystems.

*Prerequisites:* None
*Precluded:* BIOL 201-3

**BIOL 111-1 Introductory Ecology Laboratory** This laboratory course complements BIOL 110-3 Introductory Ecology and provides field and laboratory experience in introductory ecological sciences.

*Co-requisites:* BIOL 110-3

**BIOL 123-1 Introductory Biology I Laboratory** This laboratory-based course introduces students to techniques in the biological sciences, closely following the lecutre organization in BIOL 103-3. Students normally take this course concurrently with BIOL 103-3 as the lab component complements the lecture, but should check the revlevant program requirements to see if the lab is required. (Note: not all the programs require both the lecture and lab components.)

*Prerequisites or Co-requisites:* BIOL 103-3
*Precluded:* BIOL 100-4, BIOL 101-4

**BIOL 124-1 Introductory Biology II Laboratory** This laboratory-based course introduces students to plant and animal diversity, form and functions and ecologoical relationships among organiisms, closly following the lecture organization in BIOL 104-3. Students normally take this course concurrently with BIOL 104-3 as the lab components complements the lecture, but should check the relevant program requirements to see if the lab is required. (Note: not all programs require both the lecture and lab components.)

*Prerequisiites or Co-requisites:* BIOL 104-3
*Precluded:* BIOL 100-4, BIOL 102-4

**BIOL 201-3 Ecology** This course provides students with an understanding of the relationship of the environment to organisms, principles of animal and plant ecology, populations, communities, ecosystems and human ecology.

*Prerequisite:* BIOL 102-4, or BIOL 104-3 and BIOL 124-1
*Prerequisite or co-requisite*: BIOL 101-4 or BIOL 103-3 and BIOL 123-1

**BIOL 202-3 Invertebrate Zoology** Systematics, development and evolution of the invertebrates.

*Prerequisites:* BIOL 101-4, or BIOL 103-3 and BIOL 123-1; and BIOL 102-4 or BIOL 104-3 and BIOL 124-1

**BIOL 203-3 Microbiology** This course introduces students to the classification and biology of prokaryotic and eukaryotic microorganisms, and applications to forestry, agriculture, environmental science, medicine and industry. In the laboratory, students will learn techniques for culturing and characterizing micro-organisms.

*Prerequisites:* BIOL 101-4 or BIOL 103-3 and BIOL 123-1; and BIOL 102-4, or BIOL 104-3 and BIOL 124-1
*Recommended:* BIOL 210-3 and at least one of CHEM 201-3, CHEM 204-3, or CHEM 220-3 (may be taken concurrently)

**BIOL 204-3 Plant Biology** This course focuses on the interrelationships between form and function of the living plant, including systematics, development, physiology and evolution.

*Prerequisites:* BIOL 101-4 or BIOL 103-3 and BIOL 123-1; and BIOL 102-4 or BIOL 104-3 and BIOL 124-1

**BIOL 210-3 Genetics** This course emphasizes principles of both modern and classical genetics.

*Prerequisites:* BIOL 101-4 or BIOL 103-3 and BIOL 123-1
*Prerequisite or Co-requisite*: BIOL 102-4 or BIOL 104-3 and BIOL 124-1

**BIOL 301-3 Systematic Botany** This course introduces students to plant taxonomy and biodiversity, including principles of systematic botany, nomenclature and classification. Special attention is given to the identification of the native regional flora. Students contemplating registration in this course should consult with the instructor before the end of the previous spring term regarding the making of a summer collection for study during the course. This course includes scheduled field trips as a required course component.

*Prerequisites:* BIOL 101-4 or BIOL 103-3 and BIOL 123-1; and BIOL 102-4 or BIOL 104-3 and BIOL 124-1

**BIOL 302-3 Limnology** Ecology of aquatic systems, their chemical, physical and biological characteristics.

*Prerequisites:* BIOL 201-3

**BIOL 304-3 Plants, Society and the Environment** This course explores the interactions between plants and humans, and how plants and their essential services are altered by human activities and the environment. Lectures and labs permit student-driven exploration of how plants, society and the environment are integrated. Students will investigate the underlying mechanisms of plant function and adaptation to address present-day environmental issues such as rising greenhouse gas concentrations, disturbance events, and biological invasions.

*Prerequisites:* BIOL 204-3 or by permission of the instructor

**BIOL 307-3 Ichthyology and Herpetology** This course focuses on the identification, comparative anatomy and evolution of fishes, amphibians and reptiles. Particular reference is made to species endemic to British Columbia.

*Prerequisites:* BIOL 101-4 or BIOL 103-3 and BIOL 123-1; and BIOL 102-4 or BIOL 104-3 and BIOL 124-1

**BIOL 308-3 Ornithology and Mammalogy** This course focuses on the identification, comparative anatomy and evolution of birds and mammals. Particular reference is made to species endemic to British Columbia.

*Prerequisites:* BIOL 101-4 or BIOL 103-3 and BIOL 123-1; and BIOL 102-4 or BIOL 104-3 and BIOL 124-1

**BIOL 311-3 Cell and Molecular Biology** Cellular structure and function, molecular genetics, genome organization, and gene regulation in eukaryotic and prokaryotic organisms.

*Prerequisites:* BIOL 210-3 and one of CHEM 204-3 or CHEM 220-3

**BIOL 312-3 Molecular Cell Physiology** This course examines the molecular basis of cellular processes from cell-division to cell signalling, cell and tissue interactions, cellular mechanisms of development, cell differentiation, and the immune system.

*Prerequisites:* BIOL 311-3
*Precluded:* BIOL424-3

**BIOL 315-3 Animal Diseases and Parasites** Biological aspects of infectious diseases, parasites and environmental contaminants in wild vertebrate animal populations.

*Prerequisites:* one of BIOL 307-3 or BIOL 308-3

**BIOL 318 Fungi and Lichens** This course uses lectures, field and laboratory exercises to introduce students to the diversity of the Fungal Kingdom, including lichenized fungi. Students learn to recognize fungal and lichen structures and identify taxa. Emphasis is placed upon fungi and lichens in their natural environments, their ecology and physiology, and their importance to ecosystem function. Field trips and labs teach students to collect, isolate and identify fungi and lichens.

*Prerequisites:* BIOL 101-4 or BIOL 103-3 and BIOL 123-1; and BIOL 102-4 or BIOL 104-3 and BIOL 124-1

**BIOL 321-3 Animal Physiology** Basic animal functions and physiology. Operation and integration of major life support and reproductive systems, with emphasis on vertebrates.

*Prerequisites:* one of BIOL 307-3 or BIOL 308-3

**BIOL 322-3 Entomology** Diversity, structure, function, evolution, behaviour and importance of insects. Students intending to take the course should contact the instructor as early as possible for information and materials regarding the required insect collection.

*Prerequisites:* BIOL 202-3 or FSTY 307-4 or permission of the instructor
*Precluded:* BIOL 422-3

**BIOL 323-3 Evolutionary Biology** This course covers the mechanisms and processes of evolution of biological organisms. It discusses the evolutionary principles from Darwinism to molecular evolution.

*Prerequisit*es: BIOL 201-3 and BIOL 210-3
*Precluded:* BIOL 403-3

**BIOL 325-3 Ecological Analyses** This course is an introduction to the application of analytical methods for addressing common ecological problems. Particular emphasis is placed on: sampling design, formulating hypotheses, statistical inference and the writing of abstracts. Students learn to analyze data by applying the scientific method to ecological research.

*Prerequisites:* BIOL 201-3 and STAT 240-3

**BIOL 333-3 Field School** This is an experiential course designed for students to focus on theoretical and practical skills involved in the field. Each field school is designed to incorporate the theories, models and other concepts introduced in the classroom and bring them into greater clarity by examining them in a real world setting. This course may be repeated with the permission of the instructor if the subject matter and course location differ substantially.

*Prerequisites:* Permission of the instructor

**BIOL 350-3 Ethnobotany** Native uses of indigenous plants.

*Prerequisites:* None

**BIOL 402-3 Aquatic Plants** Classification, physiology, ecology, and environmental implications of aquatic plants. Both marine and freshwater systems are covered with emphasis on the aquatic plants of British Columbia.

*Prerequisites:* BIOL 204-3 or permission of the instructor

**BIOL 404-3 Plant Ecology** The ecology of terrestrial plants and ecosystems. Structure, function, classification, and analytical tools for describing the dynamic behaviour of plant communities.

*Prerequisites:* BIOL 201-3 or BIOL 204-3

**BIOL 406-3 Fish Ecology** The general life history, ecology, zoogeography and habitats of freshwater, anadromous and marine fishes.

*Prerequisites:* BIOL 201-3 and BIOL 307-3

**BIOL 410-3 Population and Community Ecology** This course is an advanced treatment of population and community ecology including theoretical and applied aspects of structure and dynamics.

*Prerequisites:* BIOL 325-3

**BIOL 411-3 Conservation Biology** This course provides a broad exposure to the theory and techniques necessary for understanding and preventing threats and declines to biological diversity. The science and application of conservation biology draw from a wide range of disciplines; thus, course and lab materials integrate perspectives from both the natural and social sciences. Students are advised to take this course in their final year of studies.

*Prerequisites:* BIOL 201-3

**BIOL 412-3 Wildlife Ecology** The general ecology and biology of wildlife species, including physiology, behaviour, nutrition and endocrinology.

*Prerequisites:* BIOL 201-3 and BIOL 308-3

**BIOL 413-3 Wildlife Management** Management criteria for reptiles, amphibians, birds and mammals. Emphasis on the socio-economic aspects of management. Communication processes are addressed.

*Prerequisites:* BIOL 410-3 and BIOL 412-3
*Recommended:* NREM 204-3

**BIOL 414-3 Fisheries Management** Management of freshwater and anadromous fishes of British Columbia.

*Prerequisites:* BIOL 406-3
*Recommended:* NREM 204-3

**BIOL 420-3 Animal Behaviour** Adaptive significance and evolutionary basis of behaviour patterns exhibited by the major animal phyla.

*Prerequisites:* One of BIOL 202-3, BIOL 307-3, or BIOL 308-3

**BIOL 421-3 Insects, Fungi and Society** This course focuses on the historical, social and economic importance of insects and fungi to human society, including underlying biological and ecological principles.

*Prerequisites:* 60 credit hours which includes BIOL 101-4 or BIOL 103-3 and BIOL 123-1; and BIOL 102-4, or BIOL 104-3 and BIOL 124-1, or permission of the instructor

**BIOL 423-3 Molecular Evolution and Ecology** This course is lecture and laboratory based and focuses on the evolution of macromolecules, the reconstruction of the evolutionary history of species, populations, or genes, and the use of genetic information to gain insights into the ecology of species.

*Prerequisites:* BIOL 323-3

**BIOL 425-3 Applied Genetics and Biotechnology** Introduction to advanced genetic laboratory techniques and processes. Lectures will cover applications of genetic techniques and biotechnology as well as ethics issues regarding the use of these technologies. Specific topics will include: animal forensics, recombinant and transgenic theory, genomics/bioformatics, biotechnology and molecular ecology.

*Prerequisites:* BIOL 311-3
*Recommended:* CHEM 308-3 and BIOL 423-3

**BIOL 440-(2-6) Internship** May be repeated for credit (maximum six credit hours).

**BIOL 498-(3-6) Special Topics** This course covers selected biological topics and may be repeated for credit (maximum 6 credit hours).

*Prerequisites:* Permission of the instructor and Chair

**BIOL 499-(1-6) Independent Study** May be repeated for credit (maximum six credit hours).

# Chemistry (CHEM)

**CHEM 100-3 General Chemistry I** This is the first course in a two-course lecture-based sequence of chemistry courses emphasizing the basic principles of chemistry. Topics include: classification of matter, periodic properties of elements, atomic and molecular structure, stoichiometry, chemical reactions, thermochemistry, chemical bonding and an introduction to organic chemistry. Students requiring the first year laboratory courses in their program of study are encouraged to enroll in CHEM 120-1 concurrently.

*Prerequisites:* Principles of Math 12 or Pre-calculus 12 or MATH 115-3 (or equivalent). Note: MATH 115-3 may be taken concurrently

**CHEM 101-3 General Chemistry II** This is the second course in a two-course lecture-based sequence of chemistry courses emphasizing the basic principles of chemistry. Topics include: intermolecular forces, properties of solutions, reaction kinetics, chemical equilibrium, acids and bases, applications of aqueous equilibria, entropy and free energy, electrochemistry, and organic chemistry. Students requiring the first-year laboratory courses in their program of study are encouraged to enroll in CHEM 121-1 concurrently.

*Prerequisites:* CHEM 100-3, Principles of Math 12 or Pre-calculus 12 or MATH 115-3 (or equivalent)

**CHEM 110-3 Chemistry of Everyday Life** A lecture-based chemistry course for non-science majors which presents the chemistry of substances of our everyday world and discusses real-world societal issues that have important chemistry components. Environmentally relevant topics including the ozone layer and its depletion, global warming, and acid rain will be studied. The use of energy in our society in its various forms will be looked at from a chemical perspective. The importance and implications of using man made materials and drugs will be discussed. A discussion of these topics will give students a fundamental background in chemistry, and allow them to better understand issues of relevance to our modern industrial society.

*Prerequisites:* None

**CHEM 120-1 General Chemistry Lab I** A laboratory course designed to accompany CHEM 100-3 and introduce basic chemistry laboratory procedures. Experiments will be performed which complement the material presented in CHEM 100-3.

*Prerequisites:* CHEM 100-3 (may be taken concurrently)

**CHEM 121-1 General Chemistry Lab II** A laboratory course designed to accompany CHEM 101-3 and introduce basic chemistry laboratory procedures. Experiments will be performed which complement the material presented in CHEM 101-3.

*Prerequisites:* CHEM 101-3 (may be taken concurrently), CHEM 120-1

**CHEM 200-3 Physical Chemistry I** Fundamental concepts of classical thermodynamics, thermochemistry, chemical and phase equilibria.

*Prerequisites:* CHEM 101-3, CHEM 121-1, MATH 101-3 or permission of instructor

**CHEM 201-3 Organic Chemistry I** A lecture based course providing an introduction to the structure, nomenclature, classification, properties and reactions of the major functional groups of organic compounds. Examples of the syntheses and the reactions of the major functional groups will be given, supported by reaction mechanisms where appropriate. Students requiring the second year Organic Chemistry laboratory courses in their program of study are encouraged to enroll in CHEM 250-1 concurrently.

*Prerequisites:* CHEM 101-3, 121-1 or permission of instructor

**CHEM 202-3 Inorganic Chemistry I** An introductory course in inorganic chemistry, focusing on structure and bonding, crystal field and molecular orbital theory and the chemistry of the main group.

*Prerequisites:* CHEM 101-3, CHEM 121-1 or permission of the instructor

**CHEM 203-3 Organic Chemistry II** A continuation of the topics covered in CHEM 201-3, with emphasis on the mechanistic aspect of organic chemical reactions. Students requiring the second year Organic Chemistry laboratory courses in their program of study are encouraged to enroll in CHEM 251-1 concurrently.

*Prerequisites:* CHEM 201-3

**CHEM 204-3 Introductory Biochemistry** This lecture-based course introduces the basic principles of biological chemistry, focusing on the structure, composition and role of proteins, nucleic acids, carbohydrates and lipids in living systems. Other major topics include the nature and functions of enzymes, principles of bioenergetics and the energy-trapping metabolic pathways and their regulation in animals and plants.

*Prerequisites:* CHEM 201-3; BIOL 101-4, or BIOL 103-3 and BIOL 123-1; and BIOL 102-4, or BIOL 104-3 and BIOL 124-1
*Co-requisites:* CHEM 203-3

**CHEM 210-3 Analytical Chemistry I** This is a laboratory course (two hours of lecture and three hours of laboratory per week) designed to introduce the discipline of analytical chemistry. Topics include data handling (basic statistics, use of spreadsheets, graphing techniques), electronic spectroscopy (UV-Vis, fluorescence, AA, ICP) and separation techniques (column chromatography, TLC, HPLC, GC).

*Prerequisites:* CHEM 101-3 and CHEM 121-1

**CHEM 220-3 Organic and Biochemistry** A lecture based course designed to present an introductory sequence of organic chemistry and biochemistry. An understanding of organic chemistry is required to properly understand biochemistry. This course treats organic chemistry in enough depth to make biochemistry understandable.

*Prerequisites:* CHEM 101-3
*Precluded:* Students may not take 220-3 if they have previously taken CHEM 201-3, CHEM 203-3 or CHEM 204-3

**CHEM 221-1 Organic and Biochemistry Lab** A laboratory based course designed to accompany and complement CHEM 220-3. This course will introduce common laboratory techniques as well as introduce some of the properties and reactions of organic and biochemical compounds.

*Prerequisites:* CHEM 121-1 Co-requisites: CHEM 220-3

**CHEM 250-1 Organic Chemistry Lab I** A laboratory based course providing an introduction to the techniques used in organic chemistry.

*Prerequisites:* CHEM 201-3 (may be taken concurrently)

**CHEM 251-1 Organic Chemistry Lab II** A laboratory based course focusing on the practical aspects of organic chemistry.

*Prerequisites:* CHEM 203-3 (may be taken concurrently, CHEM 250-1)

**CHEM 300-3 Physical Chemistry II** Fundamental concepts in statistical mechanics, reaction theory, chemical kinetics and surface chemistry.

*Prerequisites:* CHEM 200-3 and MATH 101-3

**CHEM 301-3 Advanced Organic Chemistry I** An advanced course emphasizing the structural, physical and mechanistic aspects of organic reactions.

*Prerequisites:* CHEM 203-3

**CHEM 302-4 Environmental Chemistry I** This course examines the chemistry of the environment, including considerations of the physical processes in the air, soil and water and the influence, monitoring, and removal of pollutants from the environment.

*Prerequisites:* At least 3 credit hours of chemistry at the second-year level or beyond. CHEM 200-3 is strongly recommended

**CHEM 303-3 Quantum Chemistry** This course covers techniques of quantum mechanics and their application to problems relevant to chemistry. Methods such as the variation method, perturbation theory, and Hartree-Fock Self-Consistent Field theory, are applied to simple chemical systems. The extension of these to more complex systems is explored.

*Prerequisites:* PHYS 205-3 and CHEM 200-3
*Precluded:* PHYS 302-3

**CHEM 304-3 Advanced Organic Chemistry II** An advanced course studying modern methods in synthetic organic chemistry.

*Prerequisites:* CHEM 203-3

**CHEM 305-3 Physical Chemistry III** Fundamental concepts of quantum mechanics and spectroscopy.

*Prerequisites:* CHEM 200-3 and MATH 101-3

**CHEM 310-3 Analytical Chemistry II** A laboratory course (two hours of lecture and three hours of laboratory per week) designed as a sequel to CHEM 210-3. Topics include functional group identification in organic and inorganic molecules (IR spectroscopy), mass spectrometry and NMR spectroscopy. An emphasis is placed on the structural elucidation of molecules.

*Prerequisites:* CHEM 203-3 and CHEM 210-3

**CHEM 311-3 Analytical Chemistry III** A laboratory course (two hours of lecture and three hours of laboratory per week) designed to augment CHEM 210-3 and CHEM 310-3. Topics include pH and ion specific electrodes, electrochemical methods and crystallography.

*Prerequisites:* CHEM 203-3 and CHEM 210-3

**CHEM 312-3 Organic Chemistry Lab III** A laboratory based course (one hour lecture, six hour lab) teaching the various techniques used in modern organic chemistry, with an emphasis on synthetic methods. This course is designed to complement the material taught in CHEM 301-3 and 304-3.

*Prerequisites:* one of CHEM 301-3 or CHEM 304-3

**CHEM 315-3 Physical Chemistry Lab** This is a laboratory course in physical chemistry consisting of six hours of laboratory work weekly. The course covers the fundamental aspects of physical chemistry such as spectroscopy, thermodynamics, equilibrium, and kinetics.

*Prerequisites:* CHEM 200-3
*Precluded:* CHEM 313-1.5 and CHEM 314-1.5

**CHEM 315-3 Physical Chemistry Lab** This is a laboratory course in physical chemistry consisting of six hours of laboratory work weekly. The course covers the fundamental aspects of physical chemistry such as spectroscopy, thermodynamics, equilibrium, and kinetics.

*Prerequisites:* CHEM 200-3
*Precluded:* CHEM 313-1.5 and CHEM 314-1.5

**CHEM 320-3 Inorganic Chemistry II** This lecture-based course is focused on symmetry and group theory, along with the organometallic chemistry of the transition elements.

*Prerequisites:* CHEM 202-3

**CHEM 321-3 Inorganic Chemistry III** This lecture-based course is focused on the general chemical principles within transition elements, along with their descriptive chemistry. Bio-Inorganic Chemistry is also examined.

*Prerequisites:* CHEM 202-3

**CHEM 322-3 Inorganic Chemistry Lab** A laboratory-based course (one hour lecture, six hour lab) examining the descriptive side of modern inorganic chemistry, including organometallic and bio-inorganic chemistry. This course will provide both general and specific laboratory skills.

*Prerequisites:* CHEM 202-3

**CHEM 400-3 Topics in Environmental Chemistry** This course considers advanced and selected topics in chemistry. Topics depend on instructor and student interest and normally focus on advanced material not dealt with in other courses. Note: Credit may be granted for both 400- and 600-level offerings of Topics in Chemistry courses, and either the 400- or 600-level offerings or a combination of both may be repeated to a maximum of 6 credit hours, provided the content of the independent offerings of the courses is sufficiently different (as determined by the Program Chair or College Dean).

*Prerequisites:* CHEM 302-4

**CHEM 401-3 Chemistry Seminar** A workshop-based course emphasizing oral and written communication in the sciences. Topics include preparation of visuals, lecture and seminar presentation, scientific writing (including grant applications and scientific articles).

*Prerequisites:* Upper-division standing in a science program and permission of the Instructor

**CHEM 402-3 Topics in Organic Chemistry** This course considers advanced and selected topics in organic chemistry. Topics depend on instructor and student interest and normally focus on advanced material not dealt with in other courses. Note: Credit may be granted for both 400 and 600 level offerings of Topics in Chemistry courses, and either the 400 or 600 level or a combination of both may be repeated to a maximum of 6 credit hours, provided the content of the independent offerings of the courses is sufficiently different (as determined by the Program Chair or College Dean).

*Prerequisites:* one of CHEM 301-3 or CHEM 304-3

**CHEM 403-3 Topics in Inorganic Chemistry** This course considers advanced and selected topics in inorganic chemistry. Topics depend on instructor and student interest and normally focus on advanced material not dealt with in other courses. Note: Credit may be granted for both 400 and 600 level offerings of Topics in Chemistry courses, and either the 400 or 600 level or a combination of both may be repeated to a maximum of 6 credit hours, provided the content of the independent offerings of the courses is sufficiently different (as determined by the Program Chair or College Dean).

*Prerequisites:* one of CHEM 320-3 or CHEM 321-3

**CHEM 404-3 Topics in Physical Chemistry** This course considers advanced and selected topics in physical chemistry. Topics depend on instructor and student interest and normally focus on advanced material not dealt with in other courses. Note: Credit may be granted for both 400 and 600 level offerings of Topics in Chemistry courses, and either the 400 or 600 level or a combination of both may be repeated to a maximum of 6 credit hours, provided the content of the independent offerings of the courses is sufficiently different (as determined by the Program Chair or College Dean).

*Prerequisites:* one of CHEM 300-3 or CHEM 305-3

**CHEM 405-3 Topics in Biochemistry** This course considers advanced and selected topics in biochemistry. Topics depend on instructor and student interest and normally focus on advanced material not dealt with in other courses. Note: Credit may be granted for both 400 and 600 level offerings of Topics in Chemistry courses, and either the 400 or 600 level or a combination of both may be repeated to a maximum of 6 credit hours, provided the content of the independent offerings of the courses is sufficiently different (as determined by the Program Chair or College Dean).

*Prerequisites:* CHEM 330-3
*Co-requisites:* CHEM 307-3

**CHEM 406-3 Advanced Laboratory I** The two courses, CHEM 406-3 and 407-3, are intended to act as capstone lab courses, providing experience with a wide variety of advanced synthetic, analytical and physical techniques. The courses are taken separately but a common set of experiments will be available throughout.

*Prerequisites:* Permission of instructor

**CHEM 407-3 Advanced Laboratory II** The two courses, CHEM 406-3 and 407-3, are intended to act as capstone lab courses, providing experience with a wide variety of advanced synthetic, analytical and physical techniques. The courses are taken separately but a common set of experiments will be available throughout.

*Prerequisite*s: CHEM 406-3

**CHEM 408-3 Environmental Chemistry II** An advanced treatment of selected topics in environmental chemistry. Credit may be granted for both 400 and 600 level offerings of the course provided the content is sufficiently different (as determined by the Program Chair or Dean)

*Prerequisites:* CHEM 302-4

**CHEM 410-3 Topics in Analytical Chemistry** This course provides an advanced treatment of selected topics in analytical chemistry such as spectroscopy, separation technology and analytical instrumentation. Credit may be granted for both 400 and 600 level offerings of Topics in Chemistry courses, and either the 400 or 600 level or a combination of both may e repeated to a maximum of 6 credit hours, provided the content of the independent offerings of the courses is sufficiently different (as determined by the Program Chair or College Dean).

*Prerequisites:* CHEM 310-3

**CHEM 430-6 Undergraduate Thesis** In this course students pursue an independent research project under the direct supervision of a faculty member. Students are expected to design and implement a research methodology, analyze data, and present findings in thesis format. The final grade in this course is based in part on a written research proposal, a written thesis, a public presentation of research results, and the evaluation of the thesis by a second reader. The thesis is normally completed over the September and January semesters.

*Prerequisites:* Acceptance into Honours in Chemistry, completion of at least 90 credit hours of study including all lower-division degree requirements, and permission of an Academic Supervisor and the Program Chair

**CHEM 499-(1-6) Independent Study** This course concentrates on particular topics agreed upon by the student and a member of the Chemistry faculty. It may be repeated for a maximum of six credit hours. Credit may be granted for both 400- and 600-level offerings of the course provided the content is sufficiently different (as determined by the Program Chair or Dean).

*Prerequisites:* Permission of the Program Chair

# School of Business (COMM)

*Registration priority in 200, 300 and 400 level Commerce courses may be given to students who require those specific courses for completion of their programs.*

*Students enrolling in any Commerce Course with prerequisites are required to have completed all prerequisite courses for that course with a C- or better, or have permission to enroll from the Program Chair.*

**COMM 100-3 Introduction to Canadian Business** This course is an overview of the Canadian business environment, forms of organizations, the management function, and an introduction to the functional areas of business management.

This course includes the challenges and opportunities facing small business.

*Prerequisites:* None. Note: Students transferring with 30 credit hours of Commerce courses are exempt from COMM 100-3 as a course, and as a prerequisite to other courses

**COMM 210-3 Financial Accounting** Introduction to the construction and interpretation of financial reports prepared primarily for external use. Students need a basic understanding of a spreadsheet application.

*Prerequisites:* COMM 100-3

**COMM 211-3 Managerial Accounting** Introduction to the development and use of accounting information for managerial planning and control and the development of cost information for financial reports. Problems in managerial accounting using spreadsheet tools.

*Prerequisite*s: COMM 210-3

**COMM 220-3 Financial Management I** Deals with functions of the financial manager within the corporate setting. Topics include the Canadian financial environment, forms of business organizations and taxation, financial forecasting and planning, financial statement analysis, time value of money, capital budgeting under certainty, working capital management and short, intermediate and long term financing.

*Prerequisite*s: COMM 100-3, COMM 210-3, and ECON 205-3; STAT 240-3 may substitute for ECON 205-3

**COMM 230-3 Organizational Behaviour** This course provides an introduction to the study of people and groups in organizations. Topics include perceptions, personality, learning, work motivation, job attitudes, group dynamics, and leadership.

*Prerequisites:* COMM 100-3

**COMM 240-3 Introduction to Marketing** This course is an introduction to the study of marketing in the context of social, consumer, and managerial processes. In this course, students study how marketing decisions concerning the choice of target markets, the development of product/services, price, promotion and distribution strategies influence the evolution of the exchange process and the satisfaction of buyer needs.

*Prerequisites:* COMM 100-3

**COMM 251-3 Introduction to Management Science** This course is a study of analytical approaches in management science that assist managerial decision-making under conditions of both certainty and uncertainty. Attention is given to the formulation of quantitative models from a variety of areas. Topics include linear programming, transportation/assignment problems, integer programming, multicriteria decisions, dynamic programming, decision analysis, queuing theory, and simulation.

*Prerequisites:* MATH 150-3 or MATH 220-3, MATH 152-3 or MATH 100-3, and ECON 205-3; MATH 240-3, STAT 240-3 or MATH 242-3 may substitute for ECON 205-3

**COMM 300-3 Introduction to Business Law** This course provides an introduction to the general principles of law relating to contract and tort. Special contracts include: agency, assignment, bailment, employment guarantee, insurance, negotiable instruments, sale of goods, and contracts creating a security interest in goods. Some aspects of the law relating to real property, partnership and corporations will be discussed.

*Prerequisites:* COMM 100-3

**COMM 302-3 Entrepreneurship** This course focuses on the processes and techniques required to convert ideas, inventions and innovations into profitable business undertakings. Students have the opportunity to develop a new venture business plan.

*Prerequisites:* COMM 240-3

**COMM 303-3 Introduction to International Business** Introduces the student to the global setting in which international business decisions are made. Emphasis is placed on the factors which are relevant to decision-making and a wide range of international business functions (e.g., marketing, finance, human resource management) and international business forms (e.g., export-import, foreign manufacturing, joint ventures).

*Prerequisites:* COMM 240-3

**COMM 304-3 Employment Law in Canada** The purpose of this course is to foster an understanding of the legal context of the relationship between employer and employee, and of the duties and responsibilities in that relationship. The laws surrounding human rights, employment standards, health and safety, grievance and arbitration, and dismissal are examined.

*Prerequisites:* COMM 300-3 or POLS 255-3

**COMM 305-3 Case Studies in Business** This cousre develops critical skills in the development and analysis of business cases. The course includes the development of new cases, practical methodology for analysis and presentation of case studies in all areas of business.

*Prerequisites:* 60 credit hours

**COMM 310-3 Intermediate Financial Accounting I** An examination of financial accounting theory from the viewpoint of procedures, principles and professional requirements related to the measurement, recording and reporting of assets and related income and expenses for use by third parties.

*Prerequisites:* COMM 211-3

**COMM 311-3 Intermediate Financial Accounting II** Continuation of COMM 310-3.

*Prerequisites:* COMM 310-3

**COMM 312-3 Intermediate Managerial Accounting** The provisions and analysis of cost accounting information that will assist management in making operating decisions and in evaluating operations and performance. The utilization of statistical analysis and linear models is included.

*Prerequisites:* COMM 211-3

**COMM 313-3 Personal Taxation** Interpretation problems associated with the Income Tax Act and the provisions of the Act concerned with the computation of taxable income and tax payable by an individual are examined.

*Prerequisites:* COMM 210-3

**COMM 314-3 Corporate Taxation** The provisions of the Income Tax Act relating to the taxes payable by various types of corporate entities and trusts are considered. Application of the provisions of the Act to business situations is examined in detail.

*Prerequisites:* COMM 313-3

**COMM 315-3 International Accounting** Examines the underlying causes of international accounting problems in terms of both internal financial control and external financial reporting. Emphasis is placed on understanding the environmental, social, economic and legal influences which have affected accounting evolution in various countries.

*Prerequisites:* COMM 210-3, COMM 211-3

**COMM 316-3 Financial Statement Analysis** Users of financial statemnts must be able to interpret financial reports, construct measures of financial performance and analyse the reporting choices made by companies. Reading and interpreting financial statements is a skill that impacts almost any business decision. This course focuses on application of account knolwedge and reading and interpreting financial statements.

*Prerequisites:* COMM 220-3

**COMM 320-3 Financial Management II** This course deals with analytical techniques and broad issues of financial management. Topics include capital budgeting and uncertainty, risk and return, the capital asset pricing model and market efficiency, determination of discount rates for capital projects including the weighted average cost of capital, leasing options and applications to corporate finance, capital structure and dividend policy, mergers and acquisitions, bankruptcy and reorganization.

*Prerequisites:* COMM 220-3, MATH 150-3 or MATH 220-3, and MATH 152-3 or MATH 100-3

**COMM 321-3 Investments and Security Analysis** The principles and techniques of investing in securities are discussed. Material covered includes sources and analysis of investment information, evaluation of risks and returns associated with various financial instruments including futures and options. Security analysis including fundamental and technical analysis.

*Prerequisites:* COMM 320-3

**COMM 322-3 International Financial Management** An introduction to the various international financial markets and the problems, risks and opportunities involved in the financial management of multinational enterprises. Hedging of foreign exchange risk, international capital budgeting and import/export financing are among the topics covered.

*Prerequisites:* COMM 320-3

**COMM 323-3 Risk, Insurance and Financial Planning** Deals with the concepts of risk and business risk management, the various kinds of insurance including life, health and property and liability. Financial planning for the individual and employees including pension plans, taxation issues and real asset investment decisions including real estate.

*Prerequisites:* COMM 320-3

**COMM 330-3 Human Resource Management** The analysis, design, operation and management of HRM processes, their contribution to employee and organization effectiveness and the influence of organizational and external environment. The principal topics considered are HRM planning and its link to strategic planning, employment equity, staffing, training/development (including performance appraisal) and employee maintenance. The course views the management of human resources as the joint responsibility of line and HRM managers.

*Prerequisites:* COMM 230-3, and ECON 205-3

**COMM 331-3 Organizational Theory** This course focuses on the structure of the organization, examining such determining factors as the organization's size, environment, technology and strategy. It also examines internal politics, conflict, decision-making, and culture from a macro perspective.

*Prerequisites:* COMM 230-3

**COMM 332-3 Business and Professional Ethics** This course focuses on ethical philosophies and their application to specific ethical issues of relevance to work organizations and to the demands of multiple stakeholders.

*Prerequisites:* None

**COMM 333-3 Women in Organizations** This seminar course examines the issues faced by women in the work force. Topics include women in non-traditional occupations and women as entrepreneurs. Individual, organizational and societal approaches to enhancing opportunities and quality of work life for working women are explored.

*Prerequisites:* COMM 230-3, ECON 100-3, and ECON 101-3, or permission of the instructor
*Precluded:* ECON 301-3

**COMM 334-3 Strategic Human Resource Planning** This course examines the leadership role that a human resources professional plays in developing the organization's vision, goals, and strategies and the human resource initiatives that support these strategic directions. Students acquire capabilities in job analysis and human resources planning, which provides the informational foundation for all of human resources management.

*Prerequisites:* COMM 330-3

**COMM 335-3 Organization Effectiveness** Students learn how to develop high performance work programs that support organizational culture and goals. Students acquire an understanding of an organization's relationship to its external environment; the principles of organizational design, structure, and change; and the strategies for employee communication, retention and involvement.

*Prerequisites:* COMM 330-3

**COMM 340-3 Marketing Communication** A study of communication theory and its application to advertising and sales promotion decisions. An examination of the role of advertising in relation to the overall marketing strategy.

*Prerequisites:* COMM 240-3

**COMM 341-3 Sales Management** The study of the management of the personal selling area, including an examination of the selling function, the sales manager, and sales management.

*Prerequisites:* COMM 240-3

**COMM 342-3 Services Marketing** Applies marketing management principles specifically to the service industries, including the financial services and tourism industries.

*Prerequisites:* COMM 240-3

**COMM 343-3 Behavioural Marketing** This course examines the psychological, social, and cultural factors that influence consumer cognition, feelings, attitudes and behaviour by introducing concepts, principles and theories drawn from marketing and related social science disciplines. Students learn from a managerial decision-making perspective and investigate the implications of consumer behaviour for all stages of the marketing process, including product development, marketing communications, and post-sales services.

*Prerequisites:* COMM 240-3

**COMM 346-3 Internet Marketing** This course provides insights into the converging logic of traditional marketing in the information age from managerial and consumers' perspectives. Students learn how to understand consumer internet behaviour, identify appropriate target segments, develop product opportunities, pricing structures, and distribution channels over the Internet, and execute marketing strategy in a computer-mediated environment.

*Prerequisites:* COMM 240-3, CPSC 250-3

**COMM 347-3 Marketing Channels and Retail Management** This course provides insights into marketing distribution systems, retailing and wholesaling as well as relevant legislation. Further, this course emphasizes the structure of retailing in Canada, and the retail management of location, layout, inventory, personnel, sales, promotion, financial control and pricing procedures.

*Prerequisites:* COMM 240-3

**COMM 350-3 Production and Operations Management** An introduction to the production/operations function with emphasis on the use of both qualitative and quantitative analysis to assist decision-making. Topics include forecasting, product design, capacity planning, process selection, facility location and layout, aggregate planning, material requirement planning, JIT, scheduling, inventory management, project planning, statistical quality control and total quality management.

*Prerequisites:* COMM 251-3

**COMM 351-3 Management Information Systems** This course emphasizes the strategic role of information systems in modern business. Topics include the technical foundations of information systems, the impact of information systems on business operations and decision-making, and the processes that are required for successful implementation of business information systems.

*Prerequisites:* COMM 100-3, CPSC 250-3, and ECON 205-3

**COMM 352-3 e-business** The course provides an introduction to electronic business concepts and e-business strategies. The students study various e-business models and applications, their benefits and risks, infrastructure needs, Business-to-Business and Business-to-Customer strategies, and legal and ethical issues. An introduction to business intelligence tools is also provided. Students work in teams to develop an internet business plan and implement a prototype with emphasis on form validation, security, electronic payment systems, and linkage with backend databases.

*Prerequisites:* CPSC 250 or permission of Chair

**COMM 353-3 Business Data Communications and Networking** This course provides an understanding of basic data communications and networking concepts with emphasis on business computing. Topics covered include data transmission and encoding, Internet and Internet2, Network Layer model, network protocols, data privacy and security, and data communication hardware. Students learn about protocols and topologies of Local Area Networks (LANs), Wireless LANs, Wide Area Networks (WANs), Metropolitan Area Networks (MANs), and Backbone Networks (BNs). Students also engage in researching emerging technologies and present a case-study.

*Prerequisites:* CPSC 250-3 or permission of Chair
*Precluded:* CPSC 344-3, CPSC 440-3

**COMM 400-3 Strategic Management** This integrative course focuses on the core concepts and analytical tools of strategic planning and implementation. The materials presented cover the changes in competitive markets and company strategies that are being driven by globalization and technological innovation. The course includes extensive use of case analysis and features a wide range of business types and sizes.

*Recommended:* This course is open to Commerce students in their graduating year

**COMM 410-3 Accounting Theory** A critical examination of problem areas of current interest in financial accounting theory. Consideration of methods by which accounting theory is developed and examination of specific models including historical costs, resale price and price level adjustment models.

*Prerequisites:* COMM 311-3

**COMM 411-3 Advanced Management Accounting** Design of management planning and control systems. Development of depth of understanding in the quantitative techniques relevant to the managerial accountant. Consideration is given to cost analysis, transfer pricing and information for capital expenditure and inventory decisions.

*Prerequisites:* COMM 312-3

**COMM 412-3 Auditing** Principles of external auditing, the nature of evidence, reporting requirements, standards in auditing. The philosophy of auditing, independence and ethics are also considered.

*Prerequisites:* COMM 311-3

**COMM 413-3 Accounting: Advanced Topics** Advanced and selected topics in accounting. The general content tends to focus on material not dealt with on a recurring basis in the regular course sequence.

*Prerequisites:* COMM 311-3, 312-3

**COMM 414-3 Advanced Financial Accounting** An examination of accounting problems encountered in such areas as complex business organizations, intercorporate investments, foreign operations and foreign currency transactions, and not-for-profit operations.

*Prerequisites:* COMM 311-3

**COMM 420-3 Advanced Financial Management** Intensive treatment is given to selected areas of finance, including elements of both theory and practice with an emphasis on the role of financial strategy in the overall corporate business policy. Emphasis is placed on financial policy and strategy issues through discussions, case analysis and presentation covering a variety of topics.

*Prerequisites:* COMM 320-3, 321-3

**COMM 421-3 Portfolio Theory and Management** Fundamentals of multi-asset portfolio construction and management including fixed-income portfolio strategies. The uses of derivative securities in portfolio management. Issues involved in setting investment objectives and performance evaluation. International investment and diversification. Asset allocation and contemporary issues.

*Prerequisites:* COMM 320-3, 321-3

**COMM 422-3 Management of Financial Institutions** The financial management issues of financial institutions such as chartered banks, insurance companies, trust companies, mortgage and loan companies, pension funds and investment companies. The regulatory environment and the asset and liability management techniques employed.

*Prerequisites:* COMM 321-3

**COMM 423-3 Financial Engineering** Study of futures, options, swaps and other complex derivative securities, application of option pricing theory to a broad range of corporate finance and investment decisions.

*Prerequisites:* COMM 320-3, 321-3

**COMM 429-3 Finance: Advanced Topics** The examination and application of selected topics in finance. Topics depend upon instructor and student interest.

*Prerequisites:* COMM 320-3

**COMM 430-3 Organization Studies: Selected Topics** This course focuses on three to five topics related to the material presented in COMM 230-3 Organizational Behaviour. As the course content may vary with each offering, students can consult the instructor/program for information concerning topics.

*Prerequisites:* COMM 230-3

**COMM 431-3 Industrial Relations** Canadian industrial and labour relations with emphasis on the labour-management relationship. Topics include the basic elements of an industrial relations system, the social, economic, legal and political environment in which participants interact, and the process of collective bargaining.

*Prerequisites:* COMM 330-3

**COMM 432-3 Cross-cultural Workplace Practices** Examines cross-cultural differences in management practices, industrial relations systems and human resource practices, including those pertaining to First Nations. It also includes a discussion of the management of diversity within North American organizations.

*Prerequisites:* Upper-division standing and COMM 330-3

**COMM 433-3 Recruitment, Selection, Retention** This course develops the knowledge and skills to recruit and select employees who will contribute to the success of an organization. The concepts and techniques of recruitment, selection, orientation, and deployment are examined from legal, ethical, cultural, and strategic perspectives.

*Prerequisites:* COMM 330-3 and COMM 334-3

**COMM 434-3 Compensation** This course develops the knowledge and skills to design and administer compensation and benefit programs that attract and retain employees and support organizational goals. Labour markets, job evaluation, internal and external equity, and communication and confidentiality are examined from legal, ethical, cultural, and strategic perspectives.

*Prerequisites:* COMM 334-3

**COMM 435-3 Organizational Learning, Development and Training** This course develops the knowledge and skills to design, implement, and evaluate training and development programs that will enable employees to fulfill their potential and contribute to the goals of an organization. Principles of adult learning, coaching and counseling, program design and evaluation, and career planning are examined from legal, ethical, cultural, and strategic perspectives.

*Prerequisites:* COMM 334-3

**COMM 436-3 Workplace Health and Safety** This course develops the knowledge and skills to design, manage and evaluate programs in the areas of health, safety, security, and worker's compensation to ensure the protection and well-being of employees. The joint responsibilities and rights of employers, unions, and employees, the identification of risks and hazards in the environment, the development of training programs and preventative measures, accident investigation, the accommodation of disabled workers, the provision of wellness and employee assistance programs, and information management systems are discussed from legal and ethical perspectives.

*Prerequisites:* COMM 334-3
*Precluded:* HHSC 370-3

**COMM 437-3 Values-based Leadership** This course provides an overview of the literature on leadership throughout history and reviews the main leadership theories developed in the 20th and 21st centuries, with a focus on what makes a good leader, both in sense of administrative or managerial effectiveness as well as in a moral sense. Models of successful leadership in both the public and private sector are explored through case studies.

*Prerequisites:* COMM 230-3
*Precluded:* POLS 417-3

**COMM 439-3 HRM: Selected Topics** The examination and application of selected, current and emerging topics in human resources management. Topics may vary from semester to semester, depending on student and instructor interest.

*Prerequisites:* COMM 230-3, 330-3

**COMM 440-3-6 Internship**

*Prerequisites:* Upper-division standing and permission of the Program Chair

**COMM 441-3 International Marketing** The problems and opportunities of marketing in foreign environments are examined. The course focuses on the cultural, economic and geographic problems encountered in managing the marketing function from a Canadian manager's perspective.

*Prerequisites:* COMM 240-3

**COMM 442-3 Marketing Strategy** Using a marketing simulation, this course is designed to assist students in acquiring skill and experience in strategic marketing decision-making. By understanding how changes in markets, industries, and organizational strengths/weaknesses create marketing opportunities and threats, students are exposed to the role of strategic marketing decision-maker. In that role, they will learn to develop and execute creative target market and positioning strategies in a competitive environment.

*Prerequisites:* COMM 240-3, 343-3

**COMM 443-3 Marketing Research** Assists students in acquiring an understanding of basic marketing research concepts and practice that facilitates the systematic specification, collection, and analysis of information for marketing decision-making. The course is organized around an applied research project in which students will be responsible for conceiving, executing, analyzing and reporting the results of an original marketing research project for a business client.

*Prerequisites:* COMM 240-3, COMM 343-3, and ECON 205-3

**COMM 449-3 Advanced Topics in Marketing** Advanced and selected topics in marketing. Topics depend on instructor and student interest and focus on material not dealt with in the regular course sequence.

*Prerequisites:* COMM 240-3, and permission of instructor

**COMM 450-3 Total Quality Management** This course examines the basic concepts and tools of total quality management, strategy quality planning, management of process (technology) quality, quality value and engineering, loss function and quality level, statistical quality control, quality and operation results, Taguchi methods, Just-In-Time, preventive maintenance, and other aspects of quality management.

*Prerequisites:* ECON 205-3 or MATH 242-3 or equivalent
*Recommended:* COMM 350-3

**COMM 451-3 Project Management** This course considers behavioural and structural aspects of projects, study of project life cycles, project planning, scheduling, budgeting, resource loading, resource levelling, resource planning, and cost estimation and crashing, project monitoring and controlling, project evaluation, auditing and termination. Project management related exercises, case studies and use of project management software are the practical aspects of the course.

*Prerequisites:* COMM 350-3 or with the permission of the instructor

**COMM 452-3 Logistics and Supply Chain Management** This course introduces students to the application of logistics and supply chain management concepts. The course examines the nature and scope of supply chain, logistics framework, purchasing and procurements, porcessing, transportation, warehousing, and distribution logistics, role of information and simulation technology, reverse logistics and contemporary issues.

*Prerequisites:* COMM 350-3

**COMM 498-(3-6) Special Topics in Business Administration**

*Prerequisites:* Upper-division standing and permission of the Program Chair

**COMM 499-(3-6) Independent Study**

*Prerequisites:* Upper-division standing and permission of the Program Chair

# Co-operative Education (COOP)

*Unless otherwise stated, the prerequisites for all Co-op Education courses are: acceptance into Co-operative Education, declaration of academic program major, completion of 30 credit hours or permission of the relevant Co-op Co-ordinators and Program Chair. Minimum GPA 2.50.*

**COOP 395 Co-op Work Semester I** First term co-operative work experience.

*Prerequisites:* None

**COOP 396 Co-op Work Semester II** Second term co-operative work experience.

*Prerequisites:* COOP 395

**COOP 397 Co-op Work Semester III** Third term co-operative work experience.

*Prerequisites:* COOP 396

**COOP 398 Co-op Work Semester IV** Fourth term co-operative work experience.

*Prerequisites:* COOP 397

**COOP 399 Co-op Work Semester V** Fifth term co-operative work experience.

*Prerequisites:* COOP 398

# Computer Science (CPSC)

*Unless otherwise stated, a student may enroll in any Computer Science course with permission of the Program Chair.*

*Note: BC Introductory Mathematics 11, Applications of Mathematics 11 and Applications of Mathematics 12 are not considered as prerequisites for any Computer Science courses as currently taught.*

*Students enrolling in any Computer Science or Mathematics course with prerequisites are required to have completed all prerequisite courses for that course with a C- or better, or have permission to enroll from the Program Chair.*

**CPSC 100-4 Computer Programming I** This course introduces the fundamental concepts of programming from an object-oriented perspective. Topics include fundamentals of programming style, syntax, data types, arithmetic and logical expressions, assignments, control structures, arrays, functions, file i/o, classes, inheritance, and dynamic storage allocation. The course emphasizes the development of problem solving and programming skills, including testing techniques and the use of debugging tools. Students must also register in a lab and in a tutorial section.

*Prerequisites:* Principles of Math 12 or Precalculus 12 or MATH 115-3
*Precluded:* Credit will not be awarded for both CPSC 110-3 and CPSC 100-4. Refer to major for required courses

**CPSC 101-4 Computer Programming II** This course is a continuation of CPSC 100-4. Objects, classes, inheritance and polymorphism are discussed in depth. Other topics include object-oriented program design and development using principles of software engineering; modeling with UML; GUI components and graphics; dynamic storage allocation, exception handling, the heap, and garbage collection; run-time support for program execution; and the use of standard libraries. Students work cooperatively to complete a medium-sized project. This course requires both tutorial and laboratory components.

*Prerequisites:* CPSC 100-4 and CPSC 141-3

**CPSC 110-3 Introduction to Computer Systems and Programming** This course provides an introduction to computer systems and programming, concepts in computer architecture including the central processing unit, buses, memory units, input/output and communication devices. The introduction to operating systems emphasizes the file system and program development utilities. Programming concepts and techniques include problem analysis, program design, coding, and testing, as well as language elements such as data types, variables and assignment statements, expressions, mixed-mode arithmetic, input/output operations, basic data structures and control structures, procedures and abstract data types. Basic database management concepts are also introduced. Students develop small applications programs. CPSC 110-3 is a first course in computer science and computer programming. CPSC 110-3 cannot be counted as a computer science course by computer science majors.

*Prerequisites:* Principles of Math 12 or MATH 115-3 or Precalculus 12 or Math Foundations 12
*Precluded:* Credit will not be awarded for both CPSC 110-3 & CPSC 100-4. Refer to major for required course

**CPSC 126-3 Introduction to Computing** This course is an introduction to computer science. It introduces and exposes the student to the many facets and fields of computer science. Topics discussed include history of computing; algorithms, the hardware and software models of the computer, computer security, problem solving using computers and computer programming; basic and emerging concepts and applications of computer science; and the basics of computer networking, and the Internet.

*Prerequisites:* Math 12 or Principles of Math 12 or Math 115-3 or Precalculus 12 or Math Foundations 12

**CPSC 141-3 Discrete Computational Mathematics** This course provides an introduction to set theory, elements of combinatorics and probability theory, logical and formal reasoning using predicate and propositional calculus, together with narrative proof techniques. Other topics include well ordered sets, recursive definitions and mathematical induction; introductory number theory including the division algorithm, Euclidean algorithm, prime numbers and the fundamental theorem of arithmetic; properties of functions and relations including bijections, projections, inverses, composition, and Cartesian products.

*Prerequisites:* Math 12 or Principles of Math 12 or MATH 115-3
*Precluded:* CPSC 240-3

**CPSC 150-3 Computer Applications** Taught through the use of common applications, beginning with word processing, this course prepares students for future as well as present needs in computing literacy by reaching beyond examples to recognition of principles. Students gain a practical grasp of data formats, program behaviour, using documentation, and the role of hardware. Communications (including the World Wide Web), and cross-platform transference of data, feature prominently, in addition to traditional office applications such as spreadsheets and databases. Students attend lectures and work from web-mounted lab material. Each student undertakes a personal project, which documents independent learning. May not be counted as a computer science course by computer science majors.

*Prerequisites:* None

**CPSC 199-(1-3) Introductory Special Topics I** The intent of this course is to timely offering of courses that either reflect rapid change in Computer Science, provide supplementary material in specific concrete topics or skills, or expose non-majors to advances in Computer Science. Consequently, the topic and availability of this course varies. The course may be retaken any number of times, provided all topics are distinct.

*Prerequisites:* Permission of the instructor

**CPSC 200-3 Algorithm Analysis and Development** This course introduces the development and analysis of algorithms. Topics include asymptotic complexity and notation, algorithm analysis, comparison of sorting algorithms, NP Completeness, assertions, and loop and data type invariants. An introduction to program correctness is given and correctness proofs of simple programs are discussed. Recursion relationships are examined. Applications of algorithms are considered.

*Prerequisites:* CPSC 101-4 and CPSC 141-3

**CPSC 222-3 Introduction to Concurrent and Distributed Programming** This course introduces the core concepts, techniques, and tools for concurrent and distributed programming. Topics include concurrent programming in shared memory systems and distributed programming in message passing systems. After introducing the necessary concepts, various coordination problems are discussed and then solved using different synchronization mechanisms. Relevant programming environments are introduced and students gain hands-on experience through programming assignments in both shared memory systems and message passing systems.

*Prerequisites:* CPSC 101-4
*Precluded:* CPSC 322-3

**CPSC 230-4 Introduction to Logic Design** Topics include principles of digital circuit design, boolean algebra, basic switching functions and gate-level implementation, canonical forms, algebraic simplifications, Karnaugh maps, Quine-McCluskey tables, voltage assignments, logic technologies, combinational logic circuits, decoders, encoders, multiplexers, demultiplexers, comparators, adders, sequential logic circuits, clocked flip-flops, registers, counters, register transfer logic, central processing unit, instruction set, addressing modes, arithmetic and logic units, control unit, bus organization.

*Prerequisites:* CPSC 100-4, CPSC 141-3

**CPSC 231-4 Computer Organization and Architecture** This course introduces computer organization and architecture. Topics include: computer abstractions and technology, characteristics of good computer architecture, instruction set architecture, Reduced Instruction Set Computers (RISC), Complex Instruction Set Computers (CISC), processor datapath and control, pipelining, hyper-threading, memory systems, I/O systems, bus, multiprocessors, parallel computers, and Flynn's Taxonomy. Students gain hands-on experience through a series of assembly level programming lab assignments using a simulator of a simple machine.

*Prerequisites:* CPSC 230-4

**CPSC 242-3 Mathematical Topics for Computer Science** This course introduces topics in graphs and trees: terminology, trails, paths, cycles, and shortest paths. As well, this course discusses counting methods: principles of inclusion and exclusion, combinatorial identities and arguments, and generating functions. Topics in probability theory are introduced.

*Prerequisites:* CPSC 141-3; and either MATH 100-3 or MATH 105-3
*Precluded:* CPSC 142-3

**CPSC 250-3 Applied Business Computing** This course examines core computing knowledge and techniques as they apply to business applications. The course covers database design and information retrieval techniques with emphasis on web-database integration, advanced features of spreadsheets, recording/analyzing basic business transactions using a variety of accounting software, and implementation of selected financial models. Presentational and interface design techniques are also covered. Students complete a term project that solves a typical business problem using the software and procedures of their choice. This course may not be counted as a computer science course by computer science majors.

*Prerequisites:* None. Basic knowledge of computers and experience with browsing the World Wide Web is preferable

**CPSC 260-3 Ethics in Computing Science** This course focuses on codes of ethics of computing professional societies, technology and human values, costs and benefits of technology, the social context of work in computer science and engineering, copyright, patents, access, and other concepts.

**CPSC 270-3 Human Interface Design** The course examines the theory and practice of human-computer interaction and interface design. Human aspects of the interaction: cognition, perception, attention and memory constraints, knowledge representation, interface metaphors, learning, communication. Technological aspects of interface design: input-output devices, interaction styles, windowing systems and tools, client-server models, interfaces for collaborative work, virtual environments. A project with a substantial user interface component, involving interface design, validation, implementation, testing, and evaluation will be completed.

*Prerequisites:* CPSC 200-3

**CPSC 281-3 Data Structures I** Topics include program performance, data representation, arrays and matrices, lists, stacks and queues, skip lists and hashing, binary trees, balanced and B-trees. AVL trees, splay trees, tree traversals using stacks, expression trees, prefix, infix, and postfix expressions and conversions, priority queues and heaps, search trees, Hoffman codes, graphs, graph algorithms, (weighted and unweighted shortest-path, Dijkstra's algorithm, critical paths), minimum-cost spanning trees (Prim's, Kruskal's, and Sollin's algorithms). Implementation of various data structures using object-oriented programming language.

*Prerequisites:* CPSC 200-3

**CPSC 299-(1-3) Introductory Special Topics II** The intent of this course is to timely offering of courses that either reflect rapid change in Computer Science, provide supplementary material in specific concrete topics or skills, or expose non-majors to advances in Computer Science. Consequently, the topic and availability of this course varies. The course may be retaken any number of times, provided all topics are distinct. This course normally supposes some first-year exposure to Computer Science.

*Prerequisites:* Permission of the instructor

**CPSC 300-3 Software Engineering I** Fundamental problem-solving concepts, the software development process, software requirements and specifications, software design and implementation, verification and validation, organization and management of programming teams, and documentation are discussed. Students work on a team project.

*Prerequisites:* CPSC 281-3

**CPSC 320-3 Programming Languages** This course is a general introduction to programming languages. Topics include an overview of programming languages and language design objectives, specification of syntax and semantics, virtual machines and language translation, lambda calculus and theoretical fundamentals, program correctness and reasoning about programs, programming language constructs, declarations and types, abstraction mechanisms, and programming paradigms. An interpreter-based approach is used to describe the semantics of language constructs. Assignments include case studies and laboratory work.

*Prerequisites:* CPSC 242-3 and CPSC 200-3, or permission of the instructor
*Recommended:* CPSC 340-3

**CPSC 321-3 Operating Systems** This course introduces the fundamental concepts of operating systems. Topics include tasking and processes, process co-ordination and synchronization, scheduling and dispatch, physical and virtual memory organization, paging and segmentation, device management, file systems, and security and protection. Students study a simple operating system and have an opportunity to make modifications to it in laboratory exercises.

*Prerequisites:* CPSC 231-4, CPSC 281-3, CPSC 222-3, CPSC 242-3

**CPSC 324-3 Introduction to Database Systems** This course focuses on the relational database model. Topics include storage structure and access methods, data definition and data manipulation language, relational algebra and calculus, and SQL. An introduction to database design using entity-relationship model, functional dependencies, and theory of normalization is provided. A relational DBMS is used for understanding SQL and application development in SQL-like languages and general purpose host languages with application program interfaces.

*Prerequisites:* CPSC 281-3
*Precluded:* CPSC 422-3

**CPSC 325-3 Introduction to Compiler Design** Introduction to programming language translation. Compilers, interpreters, and other language processors. The phases of a compiler. Lexical analysis and scanner design. Syntax analysis and parsing techniques. Semantic analysis and code generation. Compile-time and run-time aspects of semantics. Execution environment and run-time support. Code optimization. Testing. The students will design and implement a compiler for a small Pascal-like language.

*Prerequisites:* CPSC 281-3 and CPSC 340-3

**CPSC 340-3 Theory of Computation** This course examines regular expressions, deterministic and non-deterministic finite automata, context-free and other grammars, pushdown automata, Chomsky and Greibach normal forms, Chomsky hierarchy, pumping lemmas, Turing machines, undecidability, computability, recursive function theory, computational complexity NP-hard and NP-complete problems.

*Prerequisites:* CPSC 142-3 or CPSC 242-3

**CPSC 344-3 Data Communications and Networking** This course provides an understanding of basic concepts underlying data communications and networking. Topics covered include data transmission and encoding, Internet and Internet2, Network Layer model, multiplexing, circuit switching, packet switching, network protocols, and data communication hardware. Students also learn about protocols and topologies of Local Area Networks (LANs), Wireless LANs, Wide Area Networks (WANs), Metropolitan Area Networks (MANs), and Backbone Networks (BNs). The basic concepts of network design and implementation, network management, and network security are also introduced.

*Precluded:* CPSC 440-3, COMM 353-3

**CPSC 346-3 Cryptography and Data Security** This course is an introduction to the basic algorithms for confidentiality and authenticity of data. Topics include cryptographic primitives and specific realizations, transposition and substitution ciphers, modern private and public key encryption systems, digital signature, realization of AES, DES, RSA, and other systems.

*Prerequisites:* CPSC 100-4 and CPSC 141-3

**CPSC 350-3 Introduction to Computer Graphics** This course provides an overview of Computer Graphics and covers topics such as Basic Raster Graphics Algorithms for Drawing 2D Primitives, Transformations, 3D Viewing, Visible-Surface Detection, Illumination and Rendering, Visualization and Animation.

*Prerequisites:* MATH 220-3 and CPSC 281-3

**CPSC 351-3 Management Information Systems** This course emphasizes the strategic role of information systems in modern business. Topics include the technical foundations of information systems, the impact of information systems on business operations and decision-making, and the processes that are required for successful implementation of business information systems.

*Prerequisites:* CPSC 100-3 or permission of the instructor
*Precluded:* COMM 351-3

**CPSC 370-3 Functional and Logic Programming** This course provides an introduction to programming in symbolic languages such as the functional language Scheme and the logic programming language Prolog, with applications to systems programming, symbolic computation, artificial intelligence and other areas.

*Prerequisites:* CPSC 281-3 and CPSC 141-3

**CPSC 371-3 Artificial Intelligence** Productions and matching, knowledge representation, search, logical reasoning and the use of PROLOG in learning, natural-language understanding, computer vision, expert systems.

*Prerequisites:* CPSC 370-3, or permission of the instructor

**CPSC 377-3 Introduction to Robotics** This course is an introduction to hardware architecture and control architecture of robotic and mechatronic devices. Topics include electronics, sensor capabilities, calibration of sensors, control of sensor I/O, motor and motion control through duty cycle and pulse width modulation. Laboratory topics include the development of interfaces between sensors, their control boards and digital circuitry including microprocessors. Microprocessor control of sensors and motors is developed, including the use of reasoning embedded in onboard microprocessor software for control of robotic actions.

*Prerequisites:* PHYS 100-4 or PHYS 110-4, CPSC 231-4 or permission of the instructor

**CPSC 400-3 Software Engineering Project** The course provides students, working in groups, with a significant project experience in which they can integrate much of the material they have learned in CPSC 300 Software Engineering, including matters relating to requirements, design, human factors, professionalism, and project management.

*Prerequisites:* CPSC 300-3
*Precluded:* CPSC 301-3

**CPSC 424-3 Advanced Database Systems** This course is an introduction to advanced concepts in database design and applications. Topics discussed include transaction management, concurrency control, query processing and optimization, recovery and security, data warehousing and data mining, handling of special data types such as multimedia, spatial data, and XML documents. An introduction to object-oriented and object-relational models, parallel and distributed databases, and special purpose databases is also provided. Support for complex applications, information retrieval and data analysis is examined.

*Prerequisites:* CPSC-321 and CPSC-324 or permission of instructor
*Precluded:* CPSC-422-3, CPSC-624-3

**CPSC 425-3 Introduction to Compiler Design** This course is an introduction to programming language translation, compilers, interpreters, and other language processors. Topics include the phases of a compiler, lexical analysis and scanner design, syntax analysis and parsing techniques, semantic analysis, code generation, compiler generation tools, compile time and run time aspects of semantics, execution environment and run time support, code optimization, and testing. Students design and implement a compiler for a small language.

*Prerequisites:* CPSC 281-3, CPSC 340-3
*Precluded:* CPSC 325-3

**CPSC 430-(3, 6) Undergraduate Thesis** This undergraduate thesis allows students to examine and research a topic in a the field of computer science. Students must have completed at least 90 credit hours and be computer science majors. This thesis may be taken in one or two semesters. CPSC 430 is normally taken over two semesters and requires that a student find an Undergraduate Thesis research supervisor. Therefore, students are encouraged to apply to potential supervisors well in advance of completing 90 credit hours. This course may be repeated for a total of 6 credit hours.

*Prerequisites:* 90 credit hours, permission of the Instructor and Department Chair

**CPSC 441-3 Distributed Systems** This course covers the fundamental principles and paradigms underlying the design of distributed computing systems. Coverage includes the definition and types of distributed systems, communication, processes, naming, synchronization, consistency and replication, fault tolerance, and security. Term projects focus on case studies of specific systems representing web-based, peer-to-peer, mobile, grid, and other modern paradigms.

*Prerequisites:* CPSC 321-3, or permission of the instructor

**CPSC 442-3 Parallel Computing** This course introduces students to concepts in high performance computing. Topics include classification of parallel architectures, basic communications operations, interconnection networks, topologies of dynamic and static networks, performance issues and techniques for optimization, and dynamic programming. Parallel algorithm design for high-performance computing such as applications in computational biology, finite-element and finite-difference methods for numerical simulations, dense/sparse matrix algorithms, and multidimensional data structures is also discussed. Message passing (MPI and OpenMP) is used for implementation of algorithms on high performance cluster computers.

*Prerequisites:* CPSC 321-3 or permission of the instructor

**CPSC 444-3 Computer Networks** This course explores essential topics in computer networks including TCP protocol, TCP reliable transport service, Internet protocol IP addresses, IP datagram and datagram forwarding, IPv6, network applications, real time interactive applications protocols (RTP, RTCP, SIP, H.323), security in computer networks, and network management. Network applications discussed include client-server interaction, naming and domain name system DNS, multimedia networking, VoIP, audio and video streaming.

*Prerequisites:* CPSC 321-3

**CPSC 450-3 Bioinformatics** This course introduces computational techniques for solving biological problems and presents an overview of tools and the methods used to analyze large biological data sets. After introducing molecular biology for computer scientists—cells and organelles, chromosome, gene, DNA, RNA, proteins, transcription and translation—the course explores pairwise and multiple sequence alignment, sequence database searches, pattern identification of genes, promoters and transcription factor binding sites, as well as secondary and tertiary structure prediction for RNA and proteins. Markov models for gene prediction are introduced.

*Prerequisites:* CPSC 324-3 or permission of the instructor

**CPSC 451-3 Digital Image Processing and Computer Vision** Digital image processing is central to our digital age. This course explores topics in image representation, transforms, enhancement, restoration, segmentation, retrieval, and indexing.

*Prerequisites:* CPSC 101-4, CPSC 142-3 or CPSC 242-3, MATH 220-3

**CPSC 472-3 Knowledge Based Systems** This course introduces students to Expert Systems. The two major topics addressed are Rule-based systems and Fuzzy Logic systems. Goal driven forward-chaining and backward-chaining paradigms are introduced. Automatic theorem provers, inference engines and problems of knowledge representation and knowledge acquisition are discussed. Approaches to reasoning about uncertainty are covered including Bayesian probabilities, certainty factors, non-monotonic logics and reasoning with beliefs. A Fuzzy Logic system is implemented and an application is developed and tested.

*Prerequisites:* CPSC 370-3 or permission of the instructor

**CPSC 474-3 Natural Language Processing** The course introduces the formal and practical methods of Natural Language processing. Topics include formal grammars and the Chomsky hierarchy, natural languages, models of syntax, augmented lexicons, parsing methods, semantic structures and knowledge representation for natural language processing, linguistic models, discourse models, problems of reference, machine translation, part of speech tagging, ambiguity and information retrieval.

*Prerequisites:* CPSC 370-3 or permission of the instructor

**CPSC 475-3 Multiagent Systems** An introduction to the theoretical and practical aspects of intelligent agents and multiagent systems, this course is open to undergraduate students majoring in different areas and fosters creative multi-disciplinary interaction. Coverage includes the basic concepts, agent architectures, deductive and practical reasoning agents, reactive and hybrid agents, multiagent interactions, human-agent interactions, agreements, communication, and teamwork. Individual or team projects allow students to explore specific topics in their areas of interest through theoretical or laboratory work.

*Prerequisites:* Upper-division standing in Computer Science, or upper-division standing in another area and permission of the instructor

**CPSC 482-3 Data Structures II** External sorting and merging, best case, worst case, and average case estimates, time and space estimates for algorithms studied in CPSC 200-3 and 281-3.

*Prerequisites:* CPSC 281-3, and 340-3, or permission of the instructor

**CPSC 495-3 Undergraduate Research Project I** This course consists of a small research project undertaken by the student or by teams of students. Projects will consist of the definition of a problem in computing and a literature survey of recent work in the field. Students are encouraged to define their own possible solutions and to prototype the solutions where appropriate. Regular review of progress is made in meetings. Students develop skills in the preparation of topic survey notes and in the development of arguments in support of or against published approaches to problems in computing. Students are expected to prepare and present their work. This course may be repeated provided all topics are distinct.

*Prerequisites:* Permission of the instructor

**CPSC 499-3 Special Topics** The topics for this course vary, depending on student interest and faculty availability. This course may be retaken any number of times, provided all topics are distinct.

*Prerequisites:* Permission of the instructor

# Economics (ECON)

*Successful completion of grade 12 Math or equivalent is strongly recommended before taking Economics courses.*

**ECON 100-3 Microeconomics** The interactions of households, firms and government policies. An analysis of how different economic agents interact to determine what is produced, how it is produced and to whom it is distributed.

*Prerequisites:* None

**ECON 101-3 Macroeconomics** The determinants of unemployment, inflation and growth focusing on Canada's macroeconomic performance.

*Prerequisites:* None

**ECON 120-3 Globalization and the World's Economies** This course examines the shifting spatial dynamics of the world economy. Trends in world production, trade, and investment over the past 200 years are analyzed and the reasons for these shifts discussed. Contemporary dimensions of globalization are identified with a focus on examining the rise and re-emergence of new global powers such as Brazil, Russia, India and China.

*Prerequisites:* None

**ECON 202-3 History of Economic Thought** The development of economic analysis from the 18th to 20th century. Selections from the writings of Smith, Ricardo, Mill, Marx and Keynes.

*Prerequisites:* ECON 100-3 and ECON 101-3 or permission of the instructor

**ECON 203-3 Canadian Economic History** Theories of development, regional differences, First Nations in Canadian economic development.

*Prerequisites:* ECON 100-3 and ECON 101-3 or permission of the instructor

**ECON 205-3 Statistics for the Social and Management Sciences** An introduction to the principles and applications of statistics relevant to the social and management sciences, with emphasis on making inferences based on observed data. Topics covered include descriptive statistics, probability, random variables, decision theory, estimation, hypothesis testing, statistical software.

*Prerequisites:* None

**ECON 206-3 Methods of Economic Evaluation** This course provides an introduction to the analysis and evaluation of socio-economic issues, projects, programs and policies. Contemporary techniques of project and program evaluation are examined. Methods of economic evaluation include cost-benefit, cost-effectiveness and impact analyses. These methods and techniques are applied to issues such as health care, deregulation, wildlife, and resource investment.

**ECON 210-3 Introduction to Health Economics and Policy** This course provides a general understanding of health and health care from an economic perspective. It introduces models of health production and discusses the socio-economic determinants of health. Topics consideredmay include the efficient and equitable allocation of scarce resources in health, alternative methods of health care financing and delivery, the effect of health uncertainty on insurance, and the effects of externalities and information asymmetries in the health sector on the behaviour of health care providers and receivers. Issues of health policy in Canada, including those for remote and rural areas, and other countries are examined.

*Prerequisites:* None
*Precluded:* ECON 110-3

**ECON 300-3 Labour Economics** An examination of the Canadian labour market. The course considers labour demand and supply, wages and terms of employment, wage structures and differentials, education and training, unemployment, unions, and selected labour market policies.

*Prerequisites:* ECON 100-3, ECON 101-3, or permission of the instructor

**ECON 301-3 Women and the Economy** This course examines women's economic situations in Canada and other industrialized economies. Labour market topics such as why women earn lower wages than men, occupational segregation, and the international division of labour are considered. Other topics include the unequal distribution of resources within the household, pay equity, and the feminization of poverty; attention is paid to public policies relating to these issues.

*Prerequisites:* ECON 100-3, ECON 101-3, or permission of the instructor or COMM 230-3
*Precluded:* COMM 333-3

**ECON 305-3 Environmental Economics and Environmental Policy** This course is an introduction to environmental economics emphasizing the relationship between economic activities and environmental quality. It introduces students to frameworks for measuring environmental costs and benefits, and evaluating the efficiency and equity of environmental policies. Local and global environmental issues, including ozone depletion and climate change, are analyzed.

*Prerequisites:* ECON 100-3 or permission of the instructor

**ECON 308-3 International Economic Relations** Trade theory, multilateral institutions (such as the World Bank and International Monetary Fund), trading blocs (such as NAFTA), internationalization of finance, world debt, North-South relations.

*Prerequisites:* ECON 100-3, ECON 101-3, or permission of the instructor

**ECON 310-3 Intermediate Microeconomic Theory** This course examines the main principles and techniques of economic analysis in their application to modern theories of price, production, distribution and theory of the firm.

*Prerequisites:* ECON 100-3, ECON 101-3, MATH 152-3 or MATH 100-3, or permission of the instructor

**ECON 311-3 Intermediate Macroeconomic** Theory Concepts and methods of analysis of macroeconomic variables: consumption, investment, government and foreign trade. Classical and Keynesian models compared; analysis of economic statics and dynamics.

*Prerequisites:* ECON 100-3, ECON 101-3, or permission of the instructor

**ECON 312-3 Introduction to Econometrics** In this course, simple linear regression, maximum likelihood estimators, and multiple regression are used in applied economic analysis. Students are introduced to various software programs.

*Prerequisites:* ECON 100-3, ECON 101-3, ECON 205-3, MATH 150-3, MATH152-3 or MATH 100, or permission of the instructor

**ECON 315-3 Economics of Social Policy** Examination of public expenditure with specific reference to health, education and social security. Examples will be drawn from various countries.

*Prerequisites:* ECON 100-3, ECON 101-3, or permission of the instructor

**ECON 317-3 Money, Banking and Financial Institutions** An examination of the operations of the Canadian financial system and the impact of monetary policy and regulation on the performance of the economy.

*Prerequisites:* ECON 100-3, ECON 101-3, or permission of the instructor

**ECON 320-3 Introduction to Mathematical Economics** In this course, the mathematical interpretation of fundamental economic concepts such as demand, supply and competitive equilibrium are examined. Calculus is used in the analysis of production and distribution theory.

*Prerequisites:* ECON 205-3, ECON 310-3, MATH 150-3, MATH 152-3 or MATH 100-3, or permission of the instructor

**ECON 321-3 Economics of Developing Countries** An analysis of the economic problems and policy choices facing developing countries. The course takes a comparative approach analyzing why some developing countries have been more successful than others.

*Prerequisites:* ECON 100-3, ECON 101-3 or permission of the instructor

**ECON 322-3 Public Finance** Examination of selected policy problems from areas of taxation, income security and public expenditures. Examples in Canadian public pension policy, privatization, tax reform and federal-provincial cost sharing programs.

*Prerequisites:* ECON 100-3, ECON 101-3 or permission of the instructor

**ECON 331-3 Forest Economics** Economic analysis of private and public forest management. Topics include the measurement of timber and non-timber values, multiple use management, and the regulation of forest practices.

*Prerequisites:* ECON 100-3, ECON 101-3 or permission of the instructor
*Precluded:* ECON 330-4, FSTY 310-3

**ECON 401-3 Global Economy and Development** This course analyzes the evolution, and assesses competing theories, of the global economy. The prospects for developing countries within the global economy are examined.

*Prerequisites:* ECON 100-3, ECON 101-3, and ECON 311-3 or permission of the instructor

**ECON 404-3 Poverty, Inequality and Development** This course examines the dimensions and causes of poverty and inequality. It analyzes development strategies aimed at reducing poverty and inequality.

*Prerequisites:* ECON 100-3, ECON 101-3, and ECON 310-3 or permission of the instructor

**ECON 407-3 The Economy of Northern BC** A comparison of the economic characteristics of Northern BC with other Canadian regions. An examination of regional development and growth concepts and theories. An evaluation of past and present regional economic development programs and initiatives taken by various levels of government.

*Prerequisites:* ECON 100-3, ECON 101-3, or permission of the instructor
*Precluded:* ECON 307-3

**ECON 410-3 Health Economics** In this class economic analysis applied to health care. Topics covered may include models of physician-induced demand, health insurance (private versus national), cost benefit analysis and the evaluation of health technology.

*Prerequisites:* ECON 100-3 and ECON 101-3, or ECON 210, or permission of the instructor

**ECON 411-3 Cost-Benefit Analysis** Techniques and problems in cost-benefit analysis. Case studies of projects in the areas of natural resources, the environment, human resources, public services and transportation.

*Prerequisites:* ECON 100-3, ECON 101-3 or permission of the instructor

**ECON 423-(3, 6) Economics Field School** This course allows students to learn about the application of economics in specific contexts. Course location varies with instructor and year taken. This course may be repeated to a maximum of 6 credit hours if the course content differs.

*Prerequisites:* Upper-division standing and permission of the Chair

**ECON 425-3 Trade and the Environment** This course considers the relationship between different international trade regimes and environmental issues.

*Prerequisites:* ECON 100-3, ECON 101-3, or permission of the instructor

**ECON 435-3 Financial Economics and Quantitative Methods** This course explores the theoretical and conceptual foundations of financial economics. The course also includes the study of quantitative methods for testing some of the basic financial propositions in finance.

*Prerequisites:* ECON 100-3, ECON 101-3 and ECON 205-3

**ECON 440-(3-6) Internship**

*Prerequisites:* Upper-division standing and permission of Program Chair

**ECON 451-3 Advanced Microeconomic Theory** Selected topics in microeconomics.

*Prerequisites:* ECON 310-3, ECON 311-3, ECON 312-3 or permission of the instructor

**ECON 452-3 Advanced Macroeconomic Theory** Selected topics in macroeconomics.

*Prerequisites:* ECON 310-3, ECON 311-3, ECON 312-3 or permission of the instructor

**ECON 453-3 Advanced Econometrics** Selected topics in econometrics.

*Prerequisites:* ECON 310-3, ECON 311-3, ECON 312-3 or permission of the instructor

**ECON 498-(3-6) Special Topics in Economics**

*Prerequisites:* Upper-division standing

**ECON 499-(3-6) Independent Study**

*Prerequisites:* Upper-division standing and permission of Program Chair

# Education (EDUC)

**EDUC 101-3 Introduction to Education** This course is intended to provide students with an understanding of the basic issues facing elementary and secondary teachers in Canadian schools. The topics to be covered include social, emotional, cognitive and physical development, classroom management, social and economic issues, gender, multiculturalism, teacher characteristics, special needs, and reflective practice. It introduces students to the values, concepts, expectations, and responsibilities of classroom teachers. The course will also acquaint students with the British Columbia Teachers' Federation Guide to Professional Practice.

**EDUC 176-3 Mathematics and Aboriginal Culture** This course explores the use of mathematics within cultural contexts. The focus is primarily on Aboriginal perspectives, and the use of math as it pertains to daily life and traditional practices. Attention is given to classroom applications and hands-on learning.

**EDUC 187-3 Science and Aboriginal Culture** This course is an exploration of how science is used and understood within cultural practice. The focus is primarily on the integration of the scientific method and Aboriginal ways of knowing, combining current scientific theory with cultural knowledge. Attention is given to classroom applications and hands-on learning.

**EDUC 201-3 Education Theory and Practice** In this course, students will extend their understanding of contemporary educational issues. The course introduces theoretical models of curriculum and instruction, as well as provincial curricular guidelines. Students will reflect on practical aspects of teaching and learning, and they will identify their own beliefs and aims with respect to teaching. This course builds on and complements the topics addressed in EDUC 101-3.

*Prerequisites:* EDUC 101-3
Note: This course is a general introductory course and not part of the BEd program, Post-Degree Bachelor of Education Program

**EDUC 313-1 Interpersonal Communication** An introduction to basic interpersonal communication skills applicable to teaching across the grade levels. The course focuses on developmentally appropriate and effective communication in one-to-one, small-group, and whole-class contexts when listening, imparting information, giving instructions, and facilitating discussion. Other topics include: understanding diverse perspectives, establishing equitable discourse opportunities, reflective listening, negotiation, and problem-solving.

**EDUC 315-4 Curriculum & Instruction: II (Business and Career Education)** Curriculum and instruction methods for the senior years, including accessing, selecting, and developing curricular materials; and planning, instructional, and evaluation methods pertaining to the teachable subject areas.

*Prerequisites:* EDUC 360-4

**EDUC 333-2 Learning, Development & Motivation** Human social, emotional, cognitive, linguistic, and physical development and learning across the lifespan. In particular, the emphasis is children's and adolescents' development during the school years and implications for teaching and learning. Topics will include: theories of development; age-related social, behavioural, and academic expectations; developmental diversity; social, cultural, and gender bases of identity; and the teacher's role in creating developmentally appropriate, nurturing environments for learning. Students will complete a term project relevant to their educational stream (Early Years or Senior Years).

**EDUC 340-2 Curriculum Development Models** Practical approaches to the development and evaluation of curricula, placed within a theoretical framework. Topics will include epistemological foundations of curriculum, curricular integration and disciplinarity, sociocultural perspectives and equity, collaborative development, evaluative purposes and approaches, curricular leadership, and the teacher as researcher. This course prepares students for curriculum and instruction pedagogy courses in specific subject areas.

**EDUC 341-2 Principles of Instruction** Theoretical foundations and practical applications of instructional psychology. The course will address: contemporary theories of learning, models of memory and cognition, learning strategies, teaching effectiveness, instructional planning, classroom processes, teaching to accommodate individual differences, and the cultural psychology of education.

**EDUC 342-2 Social Dynamics of Classrooms** This course addresses the social dynamics of classrooms and introduces contemporary approaches to classroom management. Through a combination of lecture, discussion, small group activities, and case analysis, we will address the following central topics: foundations of classroom management, interpersonal relationships in classrooms, effective instruction to promote learning and motivation, classroom organization and management, and approaches to exceptional cases. Students will interrogate their own assumptions about the roles of teachers and students, and will develop practical strategies for classroom management and discipline.

**EDUC 345-4 Language & Literacy Across the Curriculum** In this course, Senior Years students will study the role of language as medium of teaching and learning, and develop approaches to integrating spoken and written language across subject areas to enhance learning. The course includes a substantive focus on English as a Second Language/English as a Second Dialect. Other topics include: the nature of language, classroom discourse, narratives, and journals, construction of meaning, writing and cognition, and diverse oral and literate traditions. The course includes a focus on strategies for integrating language within specific subject areas.

**EDUC 346-2 Introduction to Aboriginal/Indigenous Education** This course introduces the diverse meanings of the term "Aboriginal/Indigenous education." The concepts of power, control, and culture help students to analyze contemporary issues surrounding Aboriginal/Indigenous education and Western education. Topics include historical analysis, current models, defining Aboriginal/Indigenous education, and contemporary issues. Students build their knowledge and understanding of Aboriginal/Indigenous approaches to education.

**EDUC 351-2 Curriculum & Instruction: Second Language (EY)** Curriculum and instruction methods for teaching a second language in the Early Years. The language offered may be French, or another provincially approved second language, such as a local First Nations language.

**EDUC 356-2 Language & Literacy: Development (EY)** An introduction to the nature of language and literacy, and their development prior to and during the early years of schooling. The course will focus on the components of language, how they develop in oral and written forms, and diversity among learners in language and literacy development. Students will learn the curricular expectations for grades K to 5 for listening, speaking, reading, writing, and spelling, and will be introduced to instructional strategies for oral language and emergent/early literacy.

**EDUC 357-3 Language & Literacy: Reading & Writing (EY)** Theoretical models of reading, spelling, and writing processes during the early years. It will also include practical skills and experience in assessing reading, writing, and spelling, planning instruction in these areas, using curricular and other resources for teaching, and adapting reading, spelling, and writing instruction for diverse learners.

*Prerequisites:* EDUC 356-2

**EDUC 360-4 Curriculum & Instruction: Introduction (SY)** Curriculum and instruction methods for the Senior Years, including accessing, selecting, and developing curricular materials; and planning, instruction, and evaluation methods pertaining to the teachable subject areas.

*Pre- or Co-requisite:* EDUC 340-2

**EDUC 361-4 Curriculum & Instruction: II (Humanities and Social Sciences)** Curriculum and instruction methods for the Senior Years, including accessing, selecting, and developing curricular materials; and planning, instruction, and evaluation methods pertaining to the teachable subject areas.

*Prerequisites:* EDUC 360-4

**EDUC 366-2 Curriculum & Instruction: Social Studies (EY)** The theory and practice of social studies education in the early years, including objectives, teaching and assessment approaches, curricular models, and resources/materials. Students will examine the nature and purposes of social studies, and will become familiarized with the BC social studies curriculum for the early years, as well as with accessing, selecting, and developing curricular materials. The course will emphasize strategies for thematic instruction, and integration of social studies themes across the curriculum.

**EDUC 370-3 Numeracy Across the Curriculum (SY)** An exploration of the role of numeracy in society and across disciplines. This course includes strategies for fostering quantitative literacy across Senior Years subject areas.

**EDUC 372-4 Curriculum & Instruction: II (Math, Computers, and Sciences)** Curriculum and instruction methods for the Senior Years, including accessing, selecting, and developing curricular materials; and planning, instruction, and evaluation methods pertaining to the teachable subject areas.

*Prerequisites:* EDUC 360-4

**EDUC 376-2 Numeracy: Math Concepts (EY)** This course prepares prospective teachers to teach early years mathematics by 1) improving their knowledge of mathematics, 2) introducing them to the development of numeracy in young children, 3) familiarizing them with the BC mathematics curriculum for the early years; and 4) building connections between mathematical knowledge, development, curricular guidelines, and instructional strategies.

**EDUC 377-2 Numeracy: Instructional Strategies (EY)** Topics include accessing, selecting, and developing curricular materials; and planning, instruction, and evaluation methods pertaining to early years mathematics. Instructional strategies will emphasize problem solving, learning with manipulatives, mathematical language, group work, and other process-oriented approaches, as well as choosing and using resources such as math manipulatives and Montessori materials, print materials, computer software, videos, and calculators. Students also will explore ways to integrate numeracy across the curriculum, such as through thematic instruction.

*Prerequisites:* EDUC 376-2

**EDUC 380-3 Foundations of Education** Introduction to the historical, philosophical, psychological, and sociological foundations of education. Students will reflect on their beliefs about education and teaching, including their assumptions about gender, culture, race, and social class. This course will include an emphasis on the historical roots of present educational institutions and approaches, and change processes in education as applied to contemporary Canadian social and educational contexts.

**EDUC 387-2 Curriculum & Instruction: Science (EY)** Students will be introduced to the theory and practice of teaching children science, and the BC curriculum. The course addresses curriculum and instruction methods for the early years, including accessing, selecting, and developing curricular materials and activities; and planning, instruction, and evaluation methods pertaining to early years science. Students also will explore ways to integrate science across the curriculum, such as through thematic instruction.

**EDUC 390-3 Classroom Practice and Seminar I** Three-week-equivalent practicum, comprising observations and supervised practical experience in a school, along with weekly seminars with team members addressing ongoing practice issues such as: practical skills, case management, reflection, problem-solving, accessing resources, professional issues, teacher research, and portfolio development. Graded on a Pass/Fail basis.

*Pre- or Co-requisite:* Secondary Years: EDUC 360-4; Elementary Years: EDUC 356-2 and 376-2

**EDUC 391-3 Classroom Practice and Seminar II** Three-week-equivalent supervised practical experience in a school, along with weekly seminars with team members addressing ongoing practice issues such as: practical skills, case management, reflection, problem-solving, accessing resources, professional issues, teacher research, and portfolio development. Graded on a Pass/Fail basis.

*Prerequisites:* EDUC 390-3
*Pre- or Co-requisite:* Secondary Years: EDUC 345-4, 370-3, and one of EDUC 315-4, 361-4, or 372-4; Elementary Years: EDUC 351-2, 357-3, 366-2, 377-2, and 387-2

**EDUC 392-3 Classroom Practice and Seminar: First Nations Language and Culture** This three-week equivalent practicum provides teacher candidates enrolled in the Education Diploma in a First Nations Language and Culture program (Elementary Years) with supervised practical experience in a school classroom setting that offers, as part of its mandate, instruction in a First Nations Language and Culture. As part of the practicum experience, weekly seminars address ongoing practical issues confronting teachers of First Nations languages and cultures including pedagogy, classroom management, reflection, learning resources, and professional concerns. The course is graded on a Pass/Fail basis.

*Prerequisites:* EDUC 390-3
*Pre- or Co-requisites:* EDUC 333-2, EDUC 341-2, EDUC 342-2, EDUC 351-2, EDUC 356-2, EDUC 380-3, EDUC 435-2, EDUC 446-2

**EDUC 395-1 Professional Issues: Legal & Ethical** This seminar will build on the professional guidelines introduced throughout the program, and explored in the Classroom Practice seminars. The course will examine legal and ethical issues pertinent to the professional practice of teachers in the BC public school system, including obligations, policies, and abilities related to contemporary social issues. Students also will be introduced to the expectations and processes for building their professional portfolio over the two years of the program.

**EDUC 396-2 Reflective Seminar** In this course, students reflect on their experiences in Aboriginal Language and Culture classrooms and compare those teaching contexts with curriculum and instruction expectations in cross-curricular classrooms. The course reviews theoretical models of curriculum and instruction and provincial curricular guidelines across the elementary curriculum.

*Prerequisites:* An Education Diploma in a First Nations Language and Culture, or equivalent
*Precluded:* EDUC 346-2

**EDUC 406-3 Curriculum & Instruction: Fine Arts (EY)** Introduction to the role of music, visual arts, dance, and drama in teaching and learning during the early years. The course includes a focus on appreciating the arts of our diverse communities and understanding children's expressive development, as well as practical approaches to teaching these arts, using tools for art-making, and providing contexts for the performance arts. Strategies for incorporating music, imagery and performance across the curriculum will be emphasized.

**EDUC 413-1 Counselling Skills (EY)** An introduction to the role of the classroom teacher related to collegial work with counsellors, support personnel, school-based teams, and families. Topics include: working with parents, working with the school-based team, understanding the role of the school counsellor, communicating with teaching assistants, and accessing resources; as well as teaching career and personal planning from K-8.

**EDUC 414-5 Curriculum & Instruction: III (Business and Career Education)** Curriculum and instruction methods for the senior years, including accessing, selecting, and developing curricular materials; and planning, instructional, and evaluation methods pertaining to the teachable subject areas.

*Prerequisites:* EDUC 315-4

**EDUC 415-3 Curriculum & Instruction: IV (Business and Career Education)** Curriculum and instruction methods for the senior years, including accessing, selecting, and developing curricular materials; and planning, instructional, and evaluation methods pertaining to the teachable subject areas.

*Prerequisites:* EDUC 414-5

**EDUC 421-3 Classroom Assessment Practices** A critical examination of the purposes, utility, and limitations of classroom assessment and evaluation. Students will learn to select appropriate assessment processes and instruments to evaluate the academic, social, and emotional abilities/needs of the children/adolescents in their classrooms and to plan to evaluate instruction. They will learn to design and interpret assessment processes and instruments, and to implement a fair grading system. The course will include a focus on authentic assessment, portfolios, standardized testing, curriculum-based assessment, conferencing, and reporting.

**EDUC 431-3 Educational Technology** This course is intended to provide students with the understanding and skills needed to effectively integrate computer based technology in an educational setting. The topics to be covered focus on the use of technology in a school setting and include operations and concepts, curriculum plans, assessment and evaluation, productivity and professional practice, and technology issues (OS and DOC Platforms). It introduces students to the values, concepts, expectations, and responsibilities of classroom teachers with respect to technology and issues arising from its use.

**EDUC 434-3 Counselling Skills (SY)** An introduction to the role of the classroom teacher related to CAPP, collegial work with counsellors, support personnel, school-based teams, and families. Topics include: working with parents, working with the school-based team, understanding the role of the school counsellor, communicating with teaching assistants, and accessing resources; as well as teaching career and personal planning from grades 9–12. The course will also introduce teaching approaches and support systems that help students develop and maintain positive achievement-oriented beliefs, that foster their motivation for school learning, and that help them stay in school and experience success in school contexts.

**EDUC 435-2 Learning & Diversity: Inclusive Classrooms**
This course addresses individual differences and inclusion based on the premises that all students have individual differences in their experiences, skills, knowledge, perspectives, and cultural beliefs; and that curricular materials and instruction must be selected, designed, and adapted to include all learners. Within this wider philosophical framework, particular focuses of the course will include: history of special education and contemporary approaches; working with students with physical, intellectual, or emotional/behavioural challenges or talents; individualized education plans; assessment; the team approach; and accommodating social, cultural, and linguistic diversity.

**EDUC 436-2 Learning & Diversity: Learning Disabilities**
This course explores the theoretical bases of learning disabilities; and strategies for assessment, instruction, and coordination of resources to support learners with LD across the developmental levels. Characteristics and educational implications of Fetal Alcohol Syndrome/Effects also will be introduced, and practical instructional approaches explored.

**EDUC 446-2 Aboriginal/Indigenous Education: Epistemology** This course is an introduction to Aboriginal/Indigenous epistemology. Central to this study are the thinking and listening processes of orality. Oral history stories provide a unique way to know and to understand the world. Topics include Aboriginal/Indigenous epistemology, Aboriginal/Indigenous education meta-theory, orality, Aboriginal/Indigneous spirituality and education, and Aboriginal/Indigenous curricula, and phenomenology.

**EDUC 456-2 Language & Literacy: Across the Curriculum (EY)**
In this course, students will study the role of language as a medium for teaching and learning in the early years, and develop approaches to integrating spoken and written language across subject areas such as language arts, math, music, science, and social studies. The course includes a substantive focus on English as a Second Language/English as a Second Dialect. Other topics include: classroom discourse, construction of meaning, narratives and journals, writing and cognition, and diverse oral traditions. The course includes a practical focus on learning to use effective instructional language, designing thematic instruction, creating literacy-rich classroom environments, providing diverse routes to learning, and managing student discussion in whole-class and small-group contexts.

*Prerequisites:* EDUC 357-3

**EDUC 457-2 Language & Literacy: Oral & Written Genres (EY)**
An introduction to children's literature in the early years, including the various fiction and nonfiction written genres, and oral storytelling. Practical emphases of this course include learning to select and use children's literature, as well as language arts resources and materials, to plan instruction that fits with curricular aims and individual learners' needs. Students will become familiar with the role and resources of the school library and teacher-librarian.

*Prerequisites:* EDUC 456-2

**EDUC 460-5 Curriculum & Instruction: III (Humanities Social Sciences)** Curriculum and instruction methods for the senior years, including accessing, selecting, and developing curricular materials; and planning, instruction, and evaluation methods pertaining to the teachable subject areas.

*Prerequisites:* EDUC 361-4

**EDUC 461-2 Curriculum and Instruction: IV (Humanities Social Sciences)** Curriculum and instruction methods for the senior years, including accessing, selecting, and developing curricular materials; and planning, instruction, and evaluation methods pertaining to the teachable subject areas.

*Prerequisites:* EDUC 460-5

**EDUC 471-5 Curriculum & Instruction: III (Math, Computers, and Sciences)** Curriculum and instruction methods for the senior years, including accessing, selecting, and developing curricular materials; and planning, instruction, and evaluation methods pertaining to the teachable subject areas.

*Prerequisites:* EDUC 372-4

**EDUC 472-2 Curriculum & Instruction: IV (Math, Computers, and Sciences)** Curriculum and instruction methods for the senior years, including accessing, selecting, and developing curricular materials; and planning, instruction, and evaluation methods pertaining to the teachable subject areas.

*Prerequisites:* EDUC 471-5

**EDUC 489-2 Curriculum & Instruction: Physical Education (EY)** Foundational and instructional basis for planning and implementing physical education programs in the early years.

**EDUC 490-4 Classroom Practice and Seminar III** Four week supervised practicum in a school, along with weekly seminars with team members addressing ongoing practice issues such as: practical skills, case management, reflection, problem-solving, accessing resources, professional issues, teacher research, and portfolio development. Graded on a Pass/Fail basis.

*Prerequisites:* EDUC 391-3
*Pre- or Co-requisite:* Secondary Years: One of EDUC 414-5, 460-5, or 471-5; Elementary Years: EDUC 456-2 and 406-3

**EDUC 491-10 Classroom Practice and Seminar IV** Full-time ten week supervised practicum in a school, along with weekly seminars with team members addressing ongoing practice issues such as: practical skills, case management, reflection, problem-solving, accessing resources, professional issues, teacher research, and portfolio development. Graded on a Pass/Fail basis.

*Prerequisites:* EDUC 490-4
*Pre- or Co-requisite*: Secondary Years: One of EDUC 415-2, 461-2, or 472-2; Elementary Years: EDUC 457-2 and 489-2

**EDUC 495-1 Professional Issues: Portfolios** This seminar will focus on presentation and evaluation of teacher candidates' professional portfolios developed over their past two years of study and practical experience. Other topics will include the transition to work, and developing a personal plan for ongoing professional development.

*Pre- or Co-requisite:* EDUC 395-1

**EDUC 500-3 Teacher Leadership** This course is based on the premise that all teachers can engage in teacher leadership through formal or informal roles to influence social conditions and instructional effectiveness within and beyond their classrooms. Students prepare for leadership opportunities by exploring strategies for goal setting, enhancing communication and trust, motivating and energizing colleagues, and implementing change for improved teacher and student achievement. There is an emphasis on how to build communities of practice or professional learning communities in school contexts.

**EDUC 501-3 Action Research in Schools and Classrooms** This course introduces action research as a strategy for learning about teaching and learning processes and improving classroom practice, often in collaboration with other educators. Course topics include the value of action research, action research processes, examples of action research projects from a variety of schools and classrooms, and keys to planning and reporting successful action research projects. An outcome of the course is that teachers will acquire the skills and tools of action research to implement and adapt innovations in specific educational contexts.

**EDUC 502-3 Interpretation and Application of Educational Research** This course exposes teachers to both quantitative and qualitative educational research. Students are expected to read and interpret research in the literature. Successful students may plan to apply existing research knowledge in classrooms and schools or to develop new knowledge related to implementation of innovations in their own settings.

**EDUC 504-3 Instructional Leadership for Cooperating Teachers** This course is open to classroom teachers who have sponsored an extended practicum for a UNBC B.Ed student. The course consists of an orientation workshop, the practicum itself, and a final weekend seminar to reflect on mentorship experiences in light of the instructional leadership literature.

**EDUC 521-3 Classroom Assessment Practices** This course examines the relationships between the purposes and practices of classroom-based assessment and evaluation. Teachers will consider the roles of formative and summative assessment, including dynamic assessment, curriculum-based assessment, portfolios, conferencing, and standardized testing; and the implications of such practices for grading, instructional approaches, school achievement, and planning for diverse students. Emphasis on the practical component allows exploration of effective assessment practices and interpretation of assessment results, as well as responses to current trends in educational evaluation.

**EDUC 523-3 Teaching for Social Responsibility** This course explores the implications of improved social responsibility as a school or district improvement goal, and assists teachers in developing classroom and school wide strategies to achieve that goal. Course topics include personal planning curricula, social dynamics, and strategies for improving communication, relationships, and community identity in classrooms and schools.

**EDUC 528-3 Numeracy Strategies for Struggling Learners** This course is an overview of diagnostic and remedial strategies for mathematics. Students will be provided with an overview of individualised assessment, including formal standardised instruments, informal tests, and classroom-based tools and instruction on remedial strategies specific to math errors and deficiencies. There will also be a field application in the form of a brief math clinic in which the students will work in a semi-supervised setting with one remedial math child out of which a final report will be produced.

**EDUC 531-3 Applications of Educational Technology** This course introduces students to the various computer programs available to practising teachers with a particular emphasis on construction of web-based resources. As well, it examines the role of computer technology as a teaching and learning resource in contemporary educational environments.

**EDUC 533-3 Human Development: Implications for Education** Contemporary theories of human development are examined along with their implications for teaching and counseling children, adolescents, and adults. The course invites teachers to identify the theories that guide their own practice and make plans to implement espoused theories more consistently.

**EDUC 534-3 Achievement Motivation** This course addresses current literature on achievement motivation, grounded in practical classroom and school-based examples. The examination is practice oriented and teachers focus on shaping inferences from the literature for local application. A central issue is how teachers can understand and foster students' motivation for school learning.

**EDUC 535-3 Learning & Diversity: Inclusive Classrooms** This course addresses individual differences and inclusion based on the premises that all students have individual differences in their experiences, skills, knowledge, perspectives, and cultural beliefs: and that the curricular materials and instruction must be selected, designed, and adapted to include all learners. Within this wider philosophical framework, particular focuses of the course will include: history of special education and contemporary approaches; working with students with physical, intellectual, emotional/behavioural challenges or talents; individualized education plans; assessment; the team approach; and accommodating social, cultural, and linguistic diversity.

**EDUC 541-3 Principles of Instruction** This course provides an examination of current instructional trends and strategies and the opportunities and challenges in their implementation. Teachers will be encouraged to identify, reflect on, and expand their curriculum planning tools and instructional repertoires.

**EDUC 546-3 First Nations Education** This course reviews the diverse meanings of First Nations or Aboriginal education. The concepts of power, control, and culture will help teachers analyze current practice. Topics include: historical analysis, contemporary issues, and promising practices for increasing Aboriginal school success. Teachers will build their knowledge and understanding of Aboriginal approaches to education.

**EDUC 551-3 Mathematics Education** This course provides a critical examination of current practices and emerging trends in K-12 mathematics curriculum planning and instruction. Teachers may elect to focus on either the elementary or secondary level of the curriculum.

**EDUC 552-3 Course Title: Science Education** This course provides a critical examination of current practices and emerging trends in K-12 science curriculum planning and instruction. Teachers may elect to focus on either the elementary or secondary level of the curriculum.

**EDUC 553-3 Social Studies Education** This course provides a critical examination of current practices and emerging trends in K-12 social studies curriculum planning and instruction. Teachers may elect to focus on either the elementary or secondary level of the curriculum.

**EDUC 554-3 Literacy Strategies for Struggling Learners** This course introduces participants to the diagnostic assessment of reading problems and the planning, development and use of instructional strategies that address struggling readers' identified needs. The course will involve a practicum component that includes the diagnostic assessment of struggling readers and the subsequent planning, instruction, and reporting of the assessment and intervention. The course is intended for teachers wishing to further develop their diagnostic literacy assessments, planning, and instructional repertoires in classroom settings.

**EDUC 558-3 Language Arts Education** This course provides a critical examination of current practices and emerging trends in K-12 language arts curriculum planning and instruction, including aspects of language, literacy, and literature. Topics will include the writing process, reader response, and children's or young adult literature as well as current approaches to teaching reading. Teachers may elect to focus on either the elementary or secondary level of the curriculum.

**EDUC 559-3 Second Language Instruction** This course provides a critical examination of current practices and emerging trends in K-12 second language curriculum planning and instruction. The language offered may be French or another provincially approved second language, such as a local First Nations language. Teachers may elect to focus on either the elementary or secondary level of the curriculum.

**EDUC 570-3 Montessori Theory** This course is designed to provide a comprehensive overview of the Montessori preschool years (ages 3-6). It includes lectures and seminars on Montessori educational theory, philosophy, and preschool curriculum. The course is required of students who are not Montessori 3-6 certified.

**EDUC 571-3 Montessori Curriculum and Instruction** This course prepares the student to implement an integrated approach to language literacy and cultural studies consistent with Montessori pedagogy. Demonstration, lecture presentations, small group discussion, and supervised practice with materials are utilized.

**EDUC 572-3 Montessori in Context (Child Development)** Students examine Maria Montessori's philosophical beliefs. The integration of philosophy, current research in the area of child development, and content pedagogy is the focus of this component of the program. Lecture presentations, small group discussion, and independent and small group research projects are utilized.

**EDUC 573-3 Montessori Curriculum and Instruction – Scientific Literacy** This course focuses on the development and refinement of knowledge and skills necessary for full implementation of the Montessori approach to Cosmic Education and the elementary cultural studies curriculum. The course provides a constructivist approach to the integration of Cosmic Education, Science and Practical Life/ Technology. Through hands on experience, research, small group projects, lecture, and demonstration students develop and refine competency in scientific literacy.

**EDUC 574-3 Montessori Curriculum and Instruction – Mathematics Education** This course is designed to prepare the student to present the Montessori mathematics curriculum and facilitate the development of mathematics in a Montessori Elementary class (ages 6-12). Demonstration, lecture presentations, and supervised practice with didactic materials provide links between Montessori pedagogy and mathematical concepts.

**EDUC 575-3 Montessori Integrated Cultural Studies and Field Study Planning** In this course, students research, design, and demonstrate appropriate materials and activities that reflect an integration of history, geography, the sciences, and creative arts. Topics include the scope and importance of movement, nutrition and physical exercise for the development of the whole child and an understanding of an integrated and interdisciplinary approach to education and an ability to apply Montessori principles in preparation for a field study and portfolio. Lecture, demonstration, field trips, discussion, participation in physical activities, and individual research projects are utilized.

**EDUC 576-3 Montessori Integrated Cultural Studies Field Study** The function of the Field Study/Practicum Phase is to provide for the student a supervised teaching/learning experience and a period of observation, internalization, and further study, to bring together the theory and practice of Montessori Education.

**EDUC 577-3 Montessori Portfolio** This course is the culmination of the Montessori Education Program and results in the production of a print-based or electronic portfolio. Students provide artifacts from their coursework and professional experience that demonstrate a definite understanding of the Montessori theory and practice. The media include video, audio, student assessment, and any related evidence.

**EDUC 580-3 Visual Arts Across the Curriculum** This course provides an exploration of the role of the visual arts (drawing, painting, sculpture, mixed media) for teaching and learning in the K-12 curriculum. Strategies for incorporating the visual arts as means of expressing learning in subject areas across the curriculum will be emphasized. Teachers may elect to focus on either the elementary or secondary level of the curriculum.

**EDUC 581-3 Performing Arts Across the Curriculum** This course provides an exploration of the role of the performing arts (music, dance, and drama) for teaching and learning in the K-12 curriculum. Strategies for incorporating the performing arts as means of expressing learning in subject areas across the curriculum will be emphasized. Teachers may elect to focus on either the elementary or secondary level of the curriculum.

**EDUC 592-3 Special Topics** Topics to be determined by the special interests of students and the availability of faculty members to teach those topics. Special topics courses at this level will emphasize the analysis and improvement of classroom practice in light of current literature. There is no limit to the number of special topics courses that can be taken as credit toward a Post-Baccalaureate Diploma.

**EDUC 593-3 Directed Readings** This course provides an opportunity for students to study an educational topic relevant to their program. Directed readings courses at this level will emphasize the analysis and improvement of classroom practice in light of current literature. The delivery of directed readings courses is subject to the availability of instructors.

**EDUC 594-3 Self-Directed Professional Development** This course provides practicing teachers with current views of effective professional development in light of movements toward standards and accountability. Students will engage in a comprehensive analysis of their practice to date and build a professional portfolio to reflect their achievements. An outcome of the course will be the construction of a portfolio and professional growth plan that builds on past successes and strengths and addresses areas identified as underdeveloped.

# English (ENGL)

**ENGL 100-3 Introduction to Literary Structures** This course provides an introduction to the reading of the three major genres: poetry, fiction, and drama. The course introduces the students to the basic structural principles and rhetorical strategies of literary texts by observing structural and rhetorical theory applied to specific poems, fictions, and plays.

*Prerequisites:* None

**ENGL 102-3 Introduction to Poetry** This course provides an introduction through a detailed examination of a range of poetic texts. Students are taught how to construct an argument, and how to assemble and present an academic essay. There is regular practice in writing well. The course includes library research and an oral presentation, and may also include computer skills.

*Prerequisites:* None

**ENGL 103-3 Introduction to Fiction** This course provides an introduction to the reading of fiction through a detailed examination of a range of narrative texts (e.g., the novel, short fiction).

*Prerequisites:* None

**ENGL 104-3 Introduction to Film** This course provides an introduction to the study of film through a detailed examination of a range of films

*Prerequisites:* None

**ENGL 120-3 Introduction to Canadian Native Literatures** This course offers an introduction to the study of Canada's Native literatures, including traditional oral narratives, drama, poetry, and fiction.

**ENGL 170-3 Writing and Communication Skills** Students will be taught how to construct an argument, and how to assemble and present an academic essay. There will be regular practice in writing well. The course includes library research and an oral presentation, and may also include computer skills.

*Prerequisites:* None

**ENGL 200-3 Gender and Literary Theory** This course provides an introduction to critical analyses of gender and their implications for literature. Students have the opportunity to gain an overview of some current topics in gender theory.

*Prerequisites:* None
*Precluded:* WMST 220-3

**ENGL 201-3 Computing in the Humanities** This course provides an introduction to the growing use of computer technology in the humanities, including word processing/desktop publishing, research using databases, electronic concordances and bibliographies, and electronic publishing on the World Wide Web. Instead of a research paper, students create a personal home page which reflects the material learned in the class. Classes incorporate work on the computing platforms available to students at UNBC.

*Prerequisites:* None

**ENGL 204-3 Introduction to Television and Film Production** This course offers an introduction to the theory and practice of television and film production.

*Prerequisites:* ENGL 104-3

**ENGL 205-3 Fiction** This course examines selected trends in the development of the novel or short story, or of a particular mode or genre of representation. See the English Department handbook for details. (Students may have already received credit for ENGL 203-3 or ENGL 204-3, but not both).

*Prerequisites:* None
*Precluded:* one of ENGL 203-3 or ENGL 204-3

**ENGL 209-3 Introduction to Television Studies** This course introduces students to the academic study of television. Individual instructors may choose to focus on fiction or non-fiction or include both.

**ENGL 210-3 Women and Literature: A Survey** This course is a survey of works of poetry and fiction written by women in English from the Renaissance to the present. The course considers feminist theory and criticism in relation to these works.

*Prerequisites:* None
*Precluded:* WMST 221-3

**ENGL 211-3 Survey of English Literature I** This course provides a survey of literature in English from the medieval period (c. 10th century) to the late 18th century.

*Prerequisites:* One of ENGL 100-3, ENGL 102-3, ENGL 103-3, ENGL 104-3
*or Co-requisites:* One of ENGL 100-3, ENGL 102-3, ENGL 103-3, ENGL 104-3

**ENGL 212-3 Survey of English Literature II** This course provides a survey of literature in English from the late 18th century to the present.

*Prerequisites:* ENGL 211-3

**ENGL 231-3 An Introduction to Canadian Literature** This course provides a survey of Canadian literature.

*Precluded:* ENGL 330-3

**ENGL 260-3 A Survey of Children's Literature** This course provides an historical survey tracing literature written for children in texts as varied as *The Arabian Nights,* and Salman Rushdie's *Haroun and The Sea of Stories*.

*Prerequisites:* None

**ENGL 270-3 Expository Writing** This course offers lectures and workshops in the study and craft of non-fictional prose.

*Prerequisites:* None

**ENGL 271-3 Introduction to Creative Writing** This course offers introductory lectures and workshops in the craft of writing fiction, poetry, and/or drama.

*Prerequisites:* None

**ENGL 280-3 Shakespeare** This course examines selected Shakespearean plays. Some of Shakespeare's non-dramatic poetry may be included. One play by a contemporary of Shakespeare (e.g., Webster, Jonson) may also be considered.

*Prerequisites:* None

**ENGL 281-3 Introduction to Renaissance Literature** This course descriptions an introduction to the literature of the English Renaissance in the major genres (poetry, prose and drama).

*Prerequisites:* None

**ENGL 282-3 Introduction to Restoration and 18th Century Literature** This course examines selected works of poetry, prose and drama of the Restoration and 18th century, including authors such as Congreve, Dryden, Pope, Swift, Johnson, Behn and early Jane Austen.

*Prerequisites:* None

**ENGL 283-3 Introduction to Romantic Literature** This course examines the English Romantic poets: Blake, Wordsworth, Coleridge, Byron, Shelley and Keats. Attention will be paid to women Romantic writers such as Mary Shelley, and the later work of Jane Austen.

*Prerequisites:* None

**ENGL 284-3 Introduction to Victorian Literature** This course examines selected texts of poetry, fiction and non-fiction by authors such as Thackeray, George Eliot, Dickens, Charlotte Brontë, Robert Browning, Tennyson, and Christina Rossetti.

*Prerequisites:* None

**ENGL 285-3 Modern British Literature** This course examines Modernism in Britain, focusing on the period around the First World War (1900-1930) and concentrating on the following prose writers: Joyce, Lawrence, Woolf and Forster.

*Prerequisites:* None

**ENGL 300-3 Theory** This course examines the development of critical theory from Aristotle to the present. Students are introduced to influential literary theories in an historical context, from the classical to the modern.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 304-3 Digital Art** This course provides instruction in the theory and practice of digital art

*Prerequisites:* ENGL 204-3, or permission of the instructor

**ENGL 309-3 Intermediate Studies in Film or Television** This course undertakes an extensive examination of a range of film or television genres. Individual instructors may choose to focus on film or television or include both.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 320-3 First Nations Literature** This course focuses on the contemporary writing of First Nations people in English in Canada and the United States. It examines the implications of colonialism and the strategies that writers use to decolonize, redefine and affirm their identity, history and culture.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 331-3 Genres in Canadian Literature** This course focuses on a single genre in Canadian literature such as the short story, the novel, drama, poetry, or non-fiction prose. See the English Department handbook for details.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 340-3 Postcolonial Literature** This course examines literature in English written in one or more of the following regions: Africa, the Caribbean, India, Australia, New Zealand. The course offers an introduction to postcolonial literatures, their definitions of culture, and their relation to the British Empire.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 350-3 Comparative Literature** This course provides an examination of works in world literature, written in English and other languages, in the context of various literary periods and genres.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 381-3 Renaissance Literature** This is an advanced version of the 200-level course, with a particular emphasis on the interaction between the visual and written art forms.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 382-3 Restoration and 18th Century Literature** This course provides an intensive study of two or three authors or of a major genre, form or theme of the period.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 383-3 Romantic Literature** This course provides an intensive study of two or three authors or of a major genre, form or theme of the period.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 384-3 Victorian Literature** This course provides an intensive study of two or three authors or of a major genre, form or theme of the period.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 386-3 19th Century Literature in the United States** This course provides a study of American writing in its historical contexts. The course may include Colonial literature, Contact literature, literature of the American Renaissance, African-American slave narratives, and transcriptions of Native oral literatures.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 390-3 Language** This course examines the structure and development of the English language from its beginnings to the present, with close reference to literary texts.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 400-3 Contemporary Theory** This course provides an advanced study of current theoretical modes, including feminism and gender theory, deconstruction, postcolonial theory, discourse analysis, new historicism and Marxist theory, psychoanalytic theory, and cultural studies. The course includes an investigation of the critical positions of contemporary theorists.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 404-3 Advanced Television and Film Production** This course offers advanced instruction in the theory and practice of television and film production.

*Prerequisites:* ENGL 104-3, ENGL 204-3, or permission of the instructor

**ENGL 409-3 Special Topics in Film or Television Studies** This course offers an intensive examination of an area or genre of film or television. Individual instructors may choose to focus on film or television or include both. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and Department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or ENGL 309-3, or permission of the instructor

**ENGL 410-3 Contemporary Women's Literature** This course considers contemporary women writers and their work, emphasizing their cultural diversity and considering them in the context of feminist theory. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and Department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor
*Precluded:* WMST 420-3

**ENGL 420-3 Special Topics in First Nations Literature** This course looks at contemporary First Nations writers and their work. Writers may include Thomas King, Gerald Vizenor, Leslie Silko, Louise Erdrich and others. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and Department Chair if the material is substantially different.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 430-3 Special Topics in Canadian Literature** This is an advanced course in contemporary, multicultural Canadian literature. Authors may include Rohinton Mistry, Rudy Wiebe, Aritha van Herk, or Joy Kogawa, Marlene Nourbese Philip. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and Department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 431-3 Northern BC Literature** This advanced course in Northern BC Literature focuses on authors such as Barry McKinnon, Eden Robinson, Brian Fawcett, George Stanley, Jacqueline Baldwin, and Ken Belford. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and Department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 440-3 Special Topics in Postcolonial Literature** This is an advanced course on the main issues of postcolonial literature, such as postcolonial nationalism and English versus native languages. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and Department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 444-(2-6) Internship** This course may be repeated for credit to a maximum of six credit hours.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 450-3 Special Topics in Comparative Literature** This is an advanced version of the 300 level course, focusing on a specific genre, theme or period. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and Department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 460-3 Special Topics in Children's Literature** This is a special topics course in children's literature and culture. See the English Department handbook for details. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and Department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 470-3 Creative Writing - Poetry** This course includes lectures and workshops in the craft of writing poetry. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Permission of the instructor

**ENGL 471-3 Creative Writing - Fiction and Creative Non-Fiction** This course includes lectures and workshops in the craft of writing fiction and/or creative non-fiction. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Permission of the instructor

**ENGL 472-3 Creative Writing: Drama or Scriptwriting** This course includes lectures and workshops in the craft of writing drama and scriptwriting. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and Department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Permission of the instructor

**ENGL 480-3 Science Fiction** This course studies the structures and motifs of science fiction and fantasy. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and Department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 483-3 Special Topics in Romantic Literature** This course investigates a particular aspect of Romantic Literature. The focus may be on the works of a specific author or school of authors, a literary genre, or a particular social or theoretical concern. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and Department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 484-3 Special Topics in Victorian Literature** This course investigates a particular aspect of Victorian Literature. See the English Department handbook for details. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and Department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 485-3 Special Topics in Modern and Contemporary Literature in the United States** This course provides a study of American writing since 1900, with an emphasis on American cultural contents. The course may focus on a specific author or authors, on a particular genre, theme or region, or on ethnic and minority literature. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and Department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 486-3 Literature of the Fantastic** The course examines various periods and aspects of fantastic literature. When appropriate, the course will include film and graphic arts as well as literary texts. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and Department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 491-3 Special Topics in Renaissance Literature** This course examines various aspects of Renaissance literature and art. The focus could be on the works of a specific author, a genre, or theoretical considerations. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and Department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 493-(3-6) Cultural Studies** This is a special topics course in cultural studies with a focus on interdisciplinary approaches. See the English Department handbook for details. This course may be repeated to a maximum of 6 credit hours with permission of the instructor and Department Chair if the subject matter of the course differs substantially.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 498-(3-6) Special Topics in Literature** Consult the Department Chair for details.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) or permission of the instructor

**ENGL 499-3 Independent Study in Literature** Consult the Department Chair for details.

*Prerequisites:* Two lower-division English courses (excluding ENGL 170-3) and permission of the instructor

# Environmental Planning (ENPL)

**ENPL 104-3 Introduction to Planning** This course introduces students to the practice of planning and an overview of the history, techniques and applications in planning. The course emphasizes the role of the public, politicians, and planners in the field of planning.

*Prerequisites:* None
*Precluded:* ENVS 104-3

**ENPL 204-3 Principles and Practices of Planning** This course provides an introduction to, and understanding of, land use planning systems. Land use planning practice is heavily influenced by the legal and institutional structures in place, the values of the society it serves, and the local dynamics that exist. To gain an increased understanding of the importance of the context of planning, this course examines the structure of various land use planning systems, with a detailed focus on the structure and operation of the Canadian system. The course draws heavily upon examples of planning at the provincial and local levels in British Columbia.

*Prerequisites:* ENPL 104-3 or ENVS 104-3 or permission of instructor
*Precluded:* ENVS 204-3

**ENPL 205-3 Environment and Society** Interactions between humans and their environments; societal responses to environmental change, both naturally and anthropogenically induced.

*Prerequisites:* None
*Precluded:* ENVS 205-3

**ENPL 206-3 Planning Analysis and Techniques** This course provides background knowledge and skills needed for futures studies. The course covers qualitative and quantitative techniques used in the field of planning. Specific areas covered include: scenario and future studies; forecasting, backcasting and other prediction techniques; and policy analysis.

*Prerequisites:* ECON 205-3 or MATH 242-3 or permission of the instructor

**ENPL 207-3 Introduction to Computer Aided Design (CAD) for Planners** This course teaches students the basic functions and application of CAD to the field of community and environmental design. Students apply design theory within the CAD environment producing 2D and 3D models of proposed infrastructure plans.

*Prerequisites:* Principles of Math 12 or MATH 115-3

**ENPL 208-3 First Nations Community and Environmental Planning** First Nations are involved in a broad array of environmental and community planning processes. Some of these processes originate in First Nations communities. Others are established as federal and provincial government or business initiatives. This course lays a foundation for student understanding of these planning processes and their future development.

*Prerequisites:* None
*Precluded:* FNST 249

**ENPL 301-3 Sustainable Communities: Structure and Sociology** This course focuses on the social dimension of planning, including the organization, function, development, and decline of human settlements. Students learn about the sociology of community and the relations between social interaction and physical structures. Topics include social impact assessments, indicators of sustainable communities, and current planning programs (e.g., healthy communities, new urbanism, and Smart Growth).

*Prerequisites:* None
*Precluded:* ENVS 301-3

**ENPL 303-3 Spatial Planning with Geographical Information Systems (GIS)** Methods from geographical information science can be used in various ways in spatial planning. The course provides knowledge about the methods from GIS and decision support systems that are most important to planners. The laboratories demonstrate how decision support systems are used within various fields of spatial planning. Emphasis is placed upon urban and rural planning issues and location analysis techniques.

*Prerequisites:* GEOG 204-3 or GEOG 300-3 or permission of instructor

**ENPL 304-3 Mediation, Negotiation and Public Participation** This course is an introduction to the art and practice of mediation, negotiation and public participation processes. The course focuses on basic principles and best practices, and allows students the opportunity to develop their own skills in the subject areas through simulations and observations.

*Prerequisites:* 60 credit hours

**ENPL 305-3 Environmental Impact Assessment** This course introduces students to the theory and practice of environmental impact assessment, including the history of environmental impact assessment in Canada and abroad, the methods used in environmental assessments, and the legal framework for the environmental impact assessment process in Canada and in other selected jurisdictions. The course emphasizes how the environmental assessment process accounts for the biophysical, socio-economic and health issues.

*Prerequisites:* 60 credit hours or permission of the instructor
*Precluded:* ENVS 305-3

**ENPL 313-3 Rural Community Economic Development** This course offers an introduction to the various theories and concepts of community economic development with specific application to northern, rural, remote and First Nations communities.

*Prerequisites:* 60 credit hours

**ENPL 318-3 Professional Planning Practice** This course is an overview of the professional skills required in the practice of planning. The course examines the ethical role of the planner and provides an in-depth assessment of the municipal and sectoral planning environment.

*Prerequisites:* ENPL 204-3 or ENVS 204-3 and 60 credit hours

**ENPL 319-3 Social Research Methods** This course provides an overview of social research methods used in environmental planning, social sciences, and humanities. Topics covered include research design, data collection techniques (e.g., surveys, interviews), quantitative and qualitative data analysis, and project management.

*Prerequisites:* 60 credit hours or permission of the instructor
*Precluded:* ENVS 419-3 and ENPL 419-3

**ENPL 401-3 Environmental Law** This course covers the interpretation and application of international, national, provincial, and aboriginal environmental law (This course is recommended for students who intend to pursue the study of law.)

*Prerequisites:* 60 credit hours
*Precluded:* ENVS 401-3

**ENPL 402-3 Terrain Assessment** An evaluation of different techniques used to classify terrain, including an understanding of the dynamics of land surface processes, the impacts of development, applied remediation methods, and the use of terrain information for site and land use planning.

*Prerequisites:* GEOG 210-3 and 60 credit hours
*Precluded:* ENVS 402-3

**ENPL 409-4 Advanced First Nations Community and Environmental Planning** This is a workshop style, field-based course that allows students to work on a real world planning project in collaboration with a First Nations community. Students will be expected to be able to work in the field.

*Prerequisites:* 90 credit hours and ENPL 208-3

**ENPL 410-3 Land Use Planning** An evaluation of land use planning at the federal, provincial, and municipal levels. The course will familiarize students with theories of property rights and their applications to land use planning and tenure systems.

*Prerequisites:* 60 credit hours and ENPL 204-3 or ENVS 204-3 or permission of instructor
*Precluded:* ENVS 410-3

**ENPL 411-3 Planning Theory, Process and Implementation** Theories of planning and how theory informs planning practice. How planners manage planning processes, how plans are implemented. Use of communicative skills important in expediting implementation within the political environment of planning practice.

*Prerequisites:* 60 credit hours and ENPL 204-3 or ENVS 204-3 or permission of the instructor
*Precluded:* ENVS 411-3

**ENPL 415-3 Ecological Design** This course is an overview of the unique planning and development dimensions of small communities and rural regions. Current planning practice and new ecological planning principles will be examined. Design and planning technologies will be utilized in the development of a landscape plan for a small community/rural region.

*Prerequisites:* ENPL 204-3 or ENVS 204-3 and 90 credit hours
*Precluded:* ENVS 415-3

**ENPL 420-1 Research Methodology** An opportunity to examine major methodologies and to prepare a research proposal.

*Co-requisites:* ENPL 430-3
*Precluded:* ENVS 420-3

**ENPL 430-3 Undergraduate Thesis** This is an optional course, allowing students to devote time to a concentrated piece of research.

*Co-requisites:* ENPL 420-1
*Precluded:* ENVS 430-3

**ENPL 431-3 Professional Report** This course allows the development of a professional report relevant to the student's theme of interest.

*Prerequisites:* 90 credit hours and permission of an approved Academic Supervisor

**ENPL 440-(2-6) Internship** This course allows students to gain applied knowledge in the field of planning outside the university setting. A student can take one or several internship(s) for a maximum of 6 credit hours toward the Bachelor of Planning degree.

*Prerequisites:* Permission of the instructor and Program Chair

**ENPL 498-(1-6) Special Topics** Selected environmental topics. May be repeated for credit (maximum six credit hours).

*Prerequisites:* Permission of the instructor and Program Chair

**ENPL 499-(1-6) Independent Study** May be repeated for credit (maximum six credit hours).

*Prerequisites:* Permission of the instructor and Program Chair

# Environmental Science and Engineering (ENSC)

**ENSC 100-1 Introduction to Engineering Seminar** This course will introduce Engineering students to Engineering practice, particularly in Northern BC, through seminars and invited presentations involving professional Engineers in the region and province.

*Prerequisites:* enrolment in an Engineering Program

**ENSC 111-1 Introduction to Environmental Science** This course introduces students to the discipline of environmental science. Students are exposed to a variety of environmental science topics through seminars, lectures, assignments and invited presentations. Some field trips may be required.

*Prerequisites:* None

**ENSC 150-3 Fundamentals of Environmental Engineering** Environmental Engineering is introduced through the application of engineering problem-solving methods, and design concepts to contemporary environmental concerns. Topics include physical, chemical, and biological fundamentals; water, soil and air pollution; water and waste water treatment; solid and hazardous waste management; and air pollution control. A tour of a wastewater treatment plant or another similar facility provides context for the lecture material.

*Co-requisites:* MATH 100-3 and MATH 101-3 or MATH 152-3, and CHEM 101-3
*Precluded:* ENSC 200-3

**ENSC 151-1 Engineering Tools** This course provides an introduction to engineering problem solving using common software tools, including spreadsheets, CAD and GIS software. Case studies provide relevance and serve to bind together many of the topics covered in the course.

*Precluded:* ENSC 200-3

**ENSC 201-3 Weather and Climate** This course will explain the fundamental processes of weather and climate, and leads the student toward an understanding of how the atmosphere works and how to interpret the weather. Topics introduced include: atmospheric energy, solar and terrestrial radiation, the "Greenhouse Effect" and climate change, air quality and stratospheric ozone, humidity, clouds, precipitation, storms and weather systems, hurricanes and tornadoes, stability and thunderstorms, wind and atmospheric dynamics, and weather forecasting.

*Precluded:* ENVS 201-3

**ENSC 202-3 Introduction to Aquatic Systems** Aquatic systems are central to all areas of life, as well as human endeavours. In addition to being the site of our earliest evolution, aquatic systems are now recognized as fundamental to the regulation of atmospheric gases and so our climate. This course provided a broad overview of the physical, chemical, geological, and biological aspects of freshwater and marine systems. Human perspectives focus on the conservation and exploitation of the resources found within and below lakes, rivers and oceans. Introduction to Aquatic Systems will provide a foundation for students wishing to pursue advanced courses in any area of aquatic study.

*Prerequisites:* BIOL 101-4, or BIOL 103-3 and BIOL 123-1; BIOL 102-4, or BIOL 104-3 and BIOL 124-1; CHEM 101-3
*Recommended:* PHYS 100-4 and MATH 100-3 or MATH 152-3 or permission of the instructor
*Precluded:* ENVS 202-3

**ENSC 210-3 Material and Energy Balances** This course provides an introduction to the analysis of environmental engineering processes using the laws of conservation of mass and energy. Material and energy balances are applied to open and closed systems, non-reacting and reacting systems, and non-steady state systems

*Prerequisites:* Admission to the Environmental Engineering Program
*Co-requisites:* CHEM 200, MATH 200

**ENSC 302-3 Low Carbon Energy Development** This course provides an overview of low carbon energy sources. The course covers global resources, with a focus on energy development in British Columbia. Topics include environmental, economic and social aspects of nuclear, bioenergy, solar, geothermal, wind, hydro, and ocean energy.

*Prerequisites:* 30 credit hours
*Precluded:* ENPL 302-3

**ENSC 303-3 Energy Systems and Sustainability** This course provides an overview of where our energy comes from, the services we derive from energy use, such as heat, motion, and light, and the environmental implications of increasing energy demand.Topics include electricity and fuel production, energy demand for buildings, transportation and industry, and the potential of electrification and energy efficency to reduce energy demand. The course examines future energy scenarios that limit greenhouse gas emissions through both changes in how energy is used and the integration of low-carbon energy sources.

*Prerequisites:* 30 credit hours

**ENSC 307-3 Introduction to Geochemistry** This course introduces the fundamental principles of modern geochemistry and biogeochemistry, from the origin of elements to the functions of earth systems. Chemical reactions, the energetics and the physics that control the elemental distributions are explained in the essential reservoirs of earth: rock, water, soils and the atmosphere. Geochemical principles are applied to topics such as climate change, mineral prospecting and environmental geochemistry. The course is taught in alternate years.

*Prerequisites:* CHEM 100-3, CHEM 101-3, CHEM 120-1, CHEM 121-3

**ENSC 308-3 Northern Contaminated Environments** This course provides students with a broad knowledge base and a sound understanding of various environmental problems in the north, with particular emphasis on practical skills to address such problems. Topics include physical settings of the north, Arctic ecology and environmental pollution, pollutant transport pathways in the Arctic, petroleum hydrocarbon pollution in marine and terrestrial environments, air pollution and climate change, industrial waste management, and environmental and human health risk assessment.

*Prerequisites:* 60 credit hours
*Precluded:* ENVS 308-3

**ENSC 312-3 Biometeorology** This course develops an understanding of the principles of weather and climate at micro-, local and meso-scales. It discusses the processes associated with transfers of heat, mass, and momentum and resulting climates near the surface. Other topics include fog, urban and forest climates, bioclimatology, local winds, as well as transport and dispersion of air pollution.

*Prerequisites:* ENSC 201-3 or ENVS 201-3 and 100 level Math or PHYS or permission of instructor
*Precluded:* ENVS 312-3

**ENSC 325-3 Soil Physical Processes and the Environment** This course focuses on physical principles and processes of soils that influence organisms and the environment, including retention and movement of water, heat transfer, soil strength, gas exchange, transport of solutes, and soil erosion. Examples from areas of land resource management, environmental quality, agriculture and forestry are used to illustrate principles.

*Prerequisites:* FSTY 205 or permission from instructor

**ENSC 350-3 Fluid Mechanics** This course is an introduction to fluid mechanics for environmental science, engineering, physical geography, forestry and wildlife and fisheries students. The course covers the following topics: definition of fluid, fluid properties, variation of pressure in a fluid, hydrostatics forces, buoyancy, dimensional analysis, similarities, kinematics of flow, control volumes, continuity equation, momentum equation, energy equation, and flow in closed conduits.

*Prerequisites:* MATH 152-3 or both of (MATH 100-3 and MATH 101-3), and PHYS 100-4 or PHYS 110-4

**ENSC 404-3 Waste Management** This course introduces environmental, technical and political aspects of non-hazardous and hazardous wastes. Topics include sources, evaluative methods, risk assessment, treatment, disposal, and current legal and management requirements.

*Prerequisites:* 100 level 3 credit hours Chemistry, 100 level 3 credit hours Biology, and 60 credit hours
*Precluded:* ENVS 404-3

**ENSC 406-3 Environmental Modelling** This course provides an understanding of the physical, chemical and biological processes that govern contaminant transport and fate in environmental media. Topics include modelling fundamentals, mass transport in aquatic ecosystems, and mathematical modelling of a wide variety of contamination issues, such as lake eutrophication, river water quality, groundwater contamination, atmospheric deposition, and climate change. Laboratory exercises will complement lecture topics and focus on the development of computer-based modelling skills.

*Prerequisites:* 60 credit hours. MATH 152-3 or both of MATH 100-3 and MATH 101-3 or permission of the instructor
*Precluded:* ENVS 406-3

**ENSC 408-3 Storms** This course covers the analysis and dynamics of synoptic weather systems; cyclones and cyclogenesis; fronts, thunderstorms, jet streams and stability; thermodynamic charts, satellite imagery and weather forecasting. May be taught alternate years.

*Prerequisites:* ENSC 201-3 or ENVS 201-3 or 200 level Math or PHYS or permission of the instructor
*Precluded:* ENVS 408-3

**ENSC 412-3 Air Pollution** This is a multidisciplinary course focusing on air pollution: emissions, chemistry, air pollution meteorology and dispersion modelling, engineering and legislative controls, health effects, and airshed planning.

*Prerequisites:* ENSC 201-3 , or ENVS 201-3, or permission of the instructor
*Precluded:* ENVS 412-3

**ENSC 417-6 Designing Solutions in Environmental Engineering** In this project-oriented course, students apply concepts and principles from Environmental Science and fundamentals from engineering to design engineering solutions to Environmental problems. The course may include group projects and working with an industry in north/ central BC.

*Prerequisites:* completion of 90 credit hours in an Engineering Program

**ENSC 418-3 Environmental Measurement and Analysis**
This is a capstone course for Environmental Science and Environmental Engineering Majors. It is a quantitative laboratory and field based course focusing on advanced environmental measurement and analysis of atmospheric, aquatic, and terrestrial systems. The approach is integrative and problem-oriented; students may examine natural and/or managed systems, including engineered systems (e.g., waste management) and systems impacted by anthropogenic activity (e.g., contamination).

*Prerequisites:* STAT 240-3 or STAT 371-3, 200 level 3 credit Chemistry, FSTY 205-3 or GEOG 210-3, and 90 credit hours or permission of the instructor
*Strongly recommended:* BIOL 203-3, ENSC 201-3, ENSC 202-3, ENSC 308-3
*Precluded:* ENVS 418-3

**ENSC 425-3 Climate Change and Global Warming** Climate change and global warming caused by human activity has become one of the most significant environmental, social and economic threats that we have faced. This course presents the science of global climate change and global warming. Emphasis is placed on scientific principles responsible for climate changes, observed evidence of global climate change and global warming, and future climate change. Course topics include climate system, greenhouse effect, El Niño, atmospheric and ocean circulation, Earth's past and present climate, climate models, future climate projection, and climate change impacts on Canada.

*Prerequisites:* ENSC 201-3
*Precluded:* ENSC-625-3

**ENSC 430-6 Undergraduate Thesis** The undergraduate thesis allows students in Environmental Science or Environmental Engineering to devote time to a concentrated piece of research. The thesis may be completed over one or two semesters.

*Prerequisites:* 90 credit hours and permission of the instructor and Program Chair

**ENSC 435-3 Soil Biological Processes and the Environment** Processes at the interface between the biosphere, atmosphere, hydrosphere and lithosphere are critical to the regulation of environmental quality on Earth. This course provides an overview of the soil habitat from a biological perspective and of how soil organisms and the processes they mediate play critical roles in a sustainable planet.

*Prerequisites:* FSTY 205-3 or permission from instructor
*Precluded:* FSTY 455-3; NREM 655-3; ENSC 635-3

**ENSC 440-(2-6) Internship** May be repeated for credit (maximum six credit hours).

*Prerequisites:* Permission of the instructor and Program Chair

**ENSC 450-3 Environmental and Geophysical Data Analysis** The focus of this course is on the principles and practicality of the most common environmental and geophysical data analysis methods, including time series analysis and multivariate statistical analysis as well as their application in the environmental and natural sciences. This course consists of lectures and labs, where students apply theories and methods learned in lectures to solve practical problems using computers and software for statistical data analysis.

*Prerequisites:* MATH 240-3, or STAT 240-3 or STAT 371-3
*Precluded:* ENSC 650-3

**ENSC 451-3 Groundwater Hydrology** This course introduces fundamental principles of groundwater flow and their applications to solve problems related to groundwater resources evaluation, development, and management. Topics include the role of groundwater in geological process, the occurrence and movement of groundwater, steady-state and transient well hydraulics, aquifer testing techniques, unsaturated flow theory, and groundwater modelling techniques.

*Prerequisites:* MATH 100-3 and MATH 101-3, or MATH 152-3, or permission of the instructor
*Recommended:* ENSC 308-3

**ENSC 452-3 Reclamation and Remediation of Disturbed Environments** This course takes an integrative, scientific approach to the remediation and reclamation of drastically disturbed environments. Industrial activity and chemical spills can result in the contamination of soil, surface water, and groundwater. In addition, some industrial activities such as mining can cause large scale disturbances to the landscape, potentially impacting both terrestrial and aquatic systems. The focus is on the remediation and reclamation of terrestrial systems, but aquatic systems are also included.

*Prerequisites:* Any second year 3-credit hour Chemistry course, FSTY 205-3, and 60 credit hours
*Recommended:* ENSC 308-3

**ENSC 453-3 Environmental Resources Management and Decision Making** This course introduces various decision-making models and methods to aid in environmental resources management. Topics include environmental economics, benefit-cost analysis, planning evaluation and review technique (PERT), linear programming, multi-objective programming, integer programming, stochastic programming, dynamic programming, and nonlinear programming. A number of environmental systems serve as management examples, such as water resources, water quality, air quality, groundwater, solid waste, and forest ecosystem. Supporting computer software may be used.

*Prerequisites:* MATH 100-3 and MATH 101-3, or MATH 152-3, or permission of the instructor
*Recommended:* ENSC 308-3

**ENSC 454-3 Snow and Ice** This course focuses on the physical processes involving snow and ice that greatly influences the hydrometeorology of Northern BC and the remainder of Canada. The goals of this course include gaining a better understanding of snowpack, permafrost, lake ice, and glacier formation and ablation processes, learning about the characteristics of snow and ice and how they will evolve with climate change, and conducting an extensive snow survey in the field.

*Prerequisites:* ENSC 201-3 required
*Recommended:* GEOG 210-3 and GEOG 412-3

**ENSC 460-3 Soil Chemical Processes and the Environment** Reactions at the interface of the atmosphere, biosphere, hydrosphere and lithosphere play key roles in regulating environmental quality on Earth. This course focuses on the key chemical processes in soils, in the Earth's "Critical Zone." The fundamental concepts of chemistry and mineralogy are applied to help students understand the soil system and its relevance to processes in natural ecosystems and environments impacted by human activity.

*Prerequisites:* FSTY 205-3 or permission of the instructor
*Precluded:* FSTY 455-3; NREM 655-3; ENSC 660-3

**ENSC 498-(1-6) Special Topics** Selected environmental topics. May be repeated for credit (maximum six credit hours).

*Prerequisites:* Permission of the instructor and Program Chair

**ENSC 499-(1-6) Independent Study** May be repeated for credit (maximum six credit hours).

*Prerequisites:* Permission of the instructor and Program Chair

# Environmental Studies (ENVS)

**ENVS 101-3 Introduction to Environmental Citizenship** This course provides an introduction to the concept of "environmental citizen," and to the foundational elements of environmental studies, including social, ecological, humanistic and indigenous approaches to understanding human interactions with the natural environment. Development of skills in written communication is emphasized.

**ENVS 306-3 Human Ecology** A review of ecological theory and research methods as they pertain to problems facing human societies today.

*Prerequisites:* 60 credit hours or permission of the instructor

**ENVS 309-3 Gender and Environment** This course is an introduction to theories, concepts and approaches for understanding relationships between gender and the environment. It considers the evolution and utility of approaches such as ecofeminism. It also examines links between gender and the following: science; environmental domains and professions; environmental management; conservation and recreation; and environmental impacts.

*Prerequisites:* None

**ENVS 311-3 Northern Perspectives** Viewpoints and issues particularly relevant to environmental issues and planning activities in northern BC.

*Prerequisites:* None
*Precluded:* ENPL 311-3

**ENVS 325-3 Global Environmental Change: Science and Policy** This course provides both social and natural science students with a common vocabulary and trans-disciplinary understanding of the complex problems and issues of global environmental change science and policy. Once a common vocabulary has been established, interdisciplinary approaches to current environmental problems are introduced and explored.

*Prerequisites:* 60 credit hours

**ENVS 326-3 Natural Resources, Environmental Issues and Public Engagement** This course examines public engagement mechanisms and the attributes of successful engagement with respect to environmental and resource management issues. It also addresses the socio-political and legal requirements for engagement with the public, including Aboriginal peoples. Exercises and critiques are used to provide students with practical experience in public engagement around environmental issues.

**ENVS 414-3 Environmental and Professional Ethics** Analysis of environmental and natural resource issues from an ethical perspective; viewpoints and value systems that determine management decisions; professional ethics in natural resource management.

*Prerequisites:* 90 credit hours or permission of the instructor
*Precluded:* NREM 411-3, ENVS 602-3

**ENVS 440-(2-6) Internship** May be repeated for credit (maximum six credit hours).

**ENVS 498-(1-6) Special Topics** Selected environmental topics. May be repeated for credit (maximum six credit hours).

*Prerequisites:* Permission of the instructor and Program Chair

**ENVS 499-(1-6) Independent Study** May be repeated for credit (maximum six credit hours).

*Prerequisites:* Permission of the instructor and Program Chair

# First Nations Studies (FNST)

*UNBC's First Nations Studies courses are offered in a number of different locations: Prince George, New Aiyansh, Prince Rupert.*

**FNST 100-3 The Aboriginal Peoples of Canada** This course is an introduction to the languages, history, culture, and enduring presence of the aboriginal people of Canada, intended to explore the range of aboriginal social formations, both past and present, and to consider the future. Oral, written, and archaeological records will be examined. Special attention will be given to the crucial economic, social, and spiritual contacts that exist within aboriginal societies, as well as to materials on the changes that have occurred since contact with Europeans.

*Prerequisites:* None

**FNST 131-3 A First Nations Language: Level 1** This course provides an introduction to the conversational and written elements of one First Nations language. It may be taught in a number of different sections, each of which may focus on a different language, e.g., Gitxsanimx, Tlingit, Sekani, Beaver, Slavey, Tahltan, Chilcotin, or another Athabaskan language, Cree or Shushwap. Student transcripts will indicate the specific language studied.

*Prerequisites:* None

**FNST 132-3 A First Nations Language: Level 2** This course develops the reading, writing, and speaking skills in a First Nations Language. It may be taught in a number of different sections, each of which may focus on a different language, e.g., Gitxsanimx, Tlingit, Sekani, Beaver, Slavey, Tahltan, Chilcotin, Cree or other Athabaskan language, or Shushwap. Student transcripts will indicate the specific language studied.

*Prerequisites:* FNST 131-3 or permission of the Program Chair

**FNST 133-3 Dakelh / Carrier Language: Level 1** This course provides an introduction to the conversational and written elements of the Dakelh / Carrier language.

*Prerequisites:* None

**FNST 134-3 Dakelh / Carrier Language: Level 2** This course develops reading, writing, and speaking skills in the Dakelh / Carrier language.

*Prerequisites:* FNST 133-3 or permission of the Program Chair

**FNST 135-3 Haisla Language (X_a'islak'ala): Level 1** This course provides an introduction to the conversational and written elements of the X_a'islak'ala language.

*Prerequisites:* None

**FNST 136-3 Haisla Language (X_a'islak'ala): Level 2** This course develops reading, writing, and speaking skills in the X_a'islak'ala language.

*Prerequisites:* FNST 135-3 or permission of the Program Chair

**FNST 137-3 Tsimshian Language (Sm'algyax): Level I** This course provides an introduction to the conversational and written elements of Sm'algyax.

*Prerequisites:* None

**FNST 138-3 Tsimshian Language (Sm'algyax): Level 2** This course develops reading, writing, and speaking skills in Sm'algyax.

*Prerequisites:* FNST 137-3 or permission of the Program Chair

**FNST 139-3 Nisga'a Language: Level 1** This course provides an introduction to the conversational and written elements of the Nisga'a language using materials from everyday life.

*Prerequisites:* None

**FNST 140-3 Nisga'a Language: Level 2** This course develops reading, writing, and speaking skills in the Nisga'a language.

*Prerequisites:* FNST 139-3 or permission of the Program Chair

**FNST 143-3 Gitxsanimx: Level 1** This course provides an introduction to the conversational and written elements of Gitxsanimx.

*Precluded:* FNST 131-3 when taught as Gitxsanimx

**FNST 144-3 Gitxsanimx: Level 2** This course develops reading, writing, and speaking skills in Gitxsanimx.

*Prerequisites:* FNST 143-3
*Precluded:* FNST 132-3 when taught as Gitxsanimx

**FNST 145-3 Tsilhqot'in Language: Level 1** This course provides an introduction to the conversational and written elements of the Tsilhqot'in language.

**FNST 146-3 Tsilhqot'in Language: Level 2** This course develops reading, writing, and speaking skills in Tsilhqot'in language.

*Prerequisites:* FTNST 145-3 or permission of the Program Chair

**FNST 147-3 Tsilhqot'in Culture: Level 1** This course provides an introduction to Tsilhqot'in culture.

**FNST 148-3 Tsilhqot'in Culture: Level 2** This course provides advanced study of Tsilhqot'in culture.

*Prerequisites:* FNST 147-3 or permission of the Program Chair

**FNST 161-3 A First Nations Culture: Level 1** This course focuses on one First Nation's culture. It may be taught in a number of different sections, each of which may focus on a different culture e.g., Haida, Gitxsan, Tlingit, Sekani, Beaver, Slavey, Tahltan, Chilcotin, or other Athabaskan culture, Shushwap, Métis. Student transcripts will indicate the specific culture studied.

*Prerequisites:* None

**FNST 162-3 A First Nations Culture: Level 2** This course focuses on one First Nation's culture. It may be taught in a number of different sections, each of which may focus on a different culture e.g., Haida, Gitxsan, Tlingit, Sekani, Beaver, Slavey, Tahltan, Chilcotin, or other Athabaskan culture, Shushwap, Métis. Student transcripts will indicate the specific culture studied.

*Prerequisites:* FNST 161-3 or permission of the Program Chair

**FNST 163-3 Dakelh / Carrier Culture: Level 1** This course provides an introduction to Dakelh / Carrier culture.

*Prerequisites:* None

**FNST 164-3 Dakelh / Carrier Culture: Level 2** This course provides advanced study of Dakelh / Carrier culture.

*Prerequisites:* FNST 163-3 or permission of the Program Chair

**FNST 167-3 Tsimshian Culture: Level 1** This course provides an introduction to Tsimshian culture.

*Prerequisites:* None

**FNST 168-3 Tsimshian Culture: Level 2** This course provides advanced study in Tsimshian culture.

*Prerequisites:* FNST 167-3 or permission of the Program Chair

**FNST 169-3 Nisga'a Culture: Level 1** This course provides an introduction to Nisga'a culture.

*Prerequisites:* None

**FNST 170-3 Nisga'a Culture: Level 2** This course provides advanced study of Nisga'a culture.

*Prerequisites:* FNST 169-3 or permission of the Program Chair

**FNST 171-3 Métis Studies Level One** The course focuses on the Métis from their origins in the early Nineteenth Century, through the flowering of the Métis Nation on the Western Plains, to the situation of the Métis in contemporary Canadian society.

*Prerequisites:* None

**FNST 172-3 Métis Studies Level Two: The Métis Nation and the Canadian State** During this course, we will look closely at the historic and contemporary relations between the Métis, the Canadian State, and the ramifications of state policies on the maintenance of the Métis as a distinct people. We will also look at the way that Métis people, as individuals, have experienced the Canadian justice system.

*Prerequisites:* FNST 171-3

**FNST 173-3 Gitxsan Culture: Level 1** This course introduces students to Gitxsan culture.

*Precluded:* FNST 161-3 when taught as Gitxsan culture

**FNST 174-3 Gitxsan Culture: Level 2** This course develops student knowledge of selected topics in Gitxsan culture.

*Prerequisites:* FNST 173-3
*Precluded:* FNST 162-3 when taught as Gitxsan culture

**FNST 200-3 Methods and Perspectives in First Nations Studies** This course provides an introduction to approaches to the cultures of contemporary First Nations including ethics of research and working with communities.

*Prerequisites:* FNST 100

**FNST 203-3 Introduction to Traditional Ecological Knowledge** Designed for students with an interest in traditional ecological knowledge (TEK), this course takes an experiential approach to Indigenous ecological practices in British Columbia and beyond. Students explore and apply Indigenous ecological knowledge introduced through literature, discussion, and visits by local knowledge holders.

*Prerequisites:* FNST 100-3

**FNST 205-3 Seminar in First Nations Studies** Defining questions for the discipline. Major topics in the discipline will be introduced through the study of published examples by well-known contributors.

*Prerequisites:* registration as a major in First Nations Studies or permission of the Program Chair

**FNST 206-3 First Nations Oral Literatures** An introduction to oral traditions, storytelling, and the analysis of discourse structures.

*Prerequisites:* None

**FNST 217-3 Contemporary Challenges Facing Aboriginal Communities** This is a survey course focusing on the contemporary challenges faced by Aboriginal peoples in Canada. In this course students research and participate in seminars on the specific challenges facing Aboriginal communities today. This includes specific challenges that arise out of the broader topic areas of language and culture, land rights, economics, governance, youth, education, health, social services, violence, healing, community development, repatriation of cultural property, and decolonization.

*Prerequisites:* FNST 100-3
*Precluded:* FNST 215-3, 216-3

**FNST 220-3 Introduction to Linguistics** An introduction to linguistics with emphasis on aspects especially relevant to students interested in native languages of northern BC.

*Prerequisites:* None

**FNST 221-3 Practical Phonetics of First Nations Languages** An examination of the articulatory basis of human languages with an emphasis on the sounds of the First Nations languages of northern British Columbia. Includes intensive practice in the recognition, production and description of classes of sounds and the use of a practical writing system for one or more target languages.

*Prerequisites:* None

**FNST 223-3 First Nations Language Immersion*** This course provides intensive immersion experience in one First Nations language to facilitate development of conversational fluency. It will be taught in a number of different sections, each of which will focus on a different language, e.g. Haida, Sm'algyax (Coast Tsimshian), Nisga'a, Gitxsanimx̲, Haisla, Tlingit, Sekani, Beaver, Slavey, Tahltan, Wet'suwet'en, Dakelh / Carrier, Chilcotin, or another Athabaskan language; or Shushwap. Student transcripts will indicate the specific language studied.

*Prerequisites:* None (may be offered concurrently with first and/or second level language courses). *Specific equivalent courses for each First Nations language may be substituted: e.g. FNST 231-3, 232-3, 233-3, 234-3, 235-3, 236-3, 237-3, 238-3, 239-3, 240-3

**FNST 231-3 A First Nations Language: Level 3** This course provides an introduction to the conversational and written elements of one First Nations language. It may be taught in a number of different sections, each of which may focus on a different language, e.g., Gitxsanimx̲, Tlingit, Sekani, Beaver, Slavey, Tahltan, Chilcotin, or another Athabaskan language, or Shushwap. Student transcripts will indicate the specific language studied.

*Prerequisites:* FNST 132-3, or equivalent, in the appropriate language

**FNST 232-3 A First Nations Language: Level 4** This course provides an introduction to the conversational and written elements of one First Nations language. It may be taught in a number of different sections, each of which may focus on a different language, e.g., Gitxsanimx̲, Tlingit, Sekani, Beaver, Slavey, Tahltan, Chilcotin, or another Athabaskan language, or Shushwap. Student transcripts will indicate the specific language studied.

*Prerequisites:* FNST 231-3, or equivalent, in the appropriate language

**FNST 233-3 Dakelh / Carrier Language: Level 3** This course focues on the development of speaking and understanding the Dakelh / Carrier language, including reading and writing skills, at the intermediate level.

*Prerequisites:* FNST 134-3 or permission of the Program Chair

**FNST 234-3 Dakelh / Carrier Language: Level 4 (Advanced Intermediate)** This course focuses on the development of speaking and understanding the Dakelh / Carrier language, including reading and writing skills, at level 4 (advanced intermediate).

*Prerequisites:* FNST 233-3 or permission of the Program Chair

**FNST 235-3 Haisla Language (X_a'islak'ala): Level 3** This course focuses on the development of speaking and understanding the X_a'islak'ala language, including reading and writing skills, at the intermediate level.

*Prerequisites:* FNST 136-3 or permission of the Program Chair

**FNST 236-3 Haisla Language (X_a'islak'ala): Level 4 (Advanced Intermediate)** This course focuses on the development of speaking and understanding the X_a'islak'ala language, including reading and writing skills, at level 4 (advanced intermediate).

*Prerequisites:* FNST 235-3 or permission of the Program Chair

**FNST 237-3 Ts'msyen Language (Sm'algyax): Level 3** This course focuses on the development of speaking and understanding of Sm'algyax, including reading and writing skills, at the intermediate level.

*Prerequisites:* FNST 138-3 or permission of the Program Chair

**FNST 238-3 Ts'msyen Language: Level 4 (Advanced Intermediate)** This course focuses on the development of speaking and understanding of Sm'algyax, including reading and writing skills, at level 4 (advanced intermediate).

*Prerequisites:* FNST 237-3 or permission of the Program Chair

**FNST 239-3 Nisga'a Language: Level 3** The development of speaking and understanding of the Nisga'a language, and reading and writing skills at level. Materials studied include modern texts as well as tapes of elders.

*Prerequisites:* FNST 140-3 or permission of the Program Chair or grade 12 equivalent

**FNST 240-3 Nisga'a Language: Level 4** The development of speaking and understanding of the Nisga'a language, and reading and writing skills at level 4 (advanced intermediate). Materials studied include modern texts as well as tapes of elders.

*Prerequisites:* FNST 239-3 or permission of the Program Chair

**FNST 243-3 Gitxsanimx̲: Level 3** This course provides intermediate study of the conversational and written elements of Gitxsanimx̲.

*Prerequisites:* FNST 144-3

**FNST 244-3 Gitxsanimx̲: Level 4** This course provides advanced study of the conversational and written elements of Gitxsanimx̲, at level 4 (advanced intermediate).

*Prerequisites:* FNST 243-3
*Precluded:* FNST 232-3 when taught as Gitxsanimx̲

**FNST 245-3 Tsilhqot'in: Level 3** This course focuses on the development of speaking and understanding the Tsilhqot'in language, including reading and writing skills, at the intermediate level.

*Prerequisites:* FNST 146-3 or permission of the Program Chair

**FNST 246-3 Tsilhqot'in Language: Level 4** This course focuses on the development of speaking and understanding the Tsilhqot'in language, including reading and writing skills at level 4 (advanced intermediate).

*Prerequisites:* FNST 245-3 or permission of the Program Chair

**FNST 249-3 Aboriginal Resource Planning** This course is designed for students who have an interest in First Nations and planning. It develops students' research, writing and communication skills. This interdisciplinary course combines theory and practices from traditional land-use planning and First Nations practices and ideas concerning resource planning. Students apply what they learn to issues of particular interest to First Nations in northern British Columbia.

*Prerequisites:* FNST 100-3
*Precluded:* ENPL 208-3

**FNST 261-3 A First Nations Culture: Level 3** This course focuses on one First Nation's culture. It may be taught in a number of different sections, each of which may focus on a different culture e.g., Haida, Gitxsan, Tlingit, Sekani, Beaver, Slavey, Tahltan, Chilcotin, or other Athabaskan culture or Shushwap. Student transcripts will indicate the specific culture studied.

*Prerequisites:* FNST 162-3 focusing on the same culture, or permission of the Program Chair

**FNST 262-3 A First Nations Culture: Level 4** This course focuses on one First Nation's culture. It may be taught in a number of different sections, each of which may focus on a different culture e.g., Haida, Gitxsan, Tlingit, Sekani, Beaver, Slavey, Tahltan, Chilcotin, or other Athabaskan culture or Shushwap. Student transcripts will indicate the specific culture studied.

*Prerequisites:* FNST 261-3 focusing on the same culture, or permission of the Program Chair

**FNST 263-3 Dakelh / Carrier Culture: Level 3** This course provides advanced study in Dakelh / Carrier culture.

*Prerequisites:* FNST 164-3 or permission of the Program Chair

**FNST 264-3 Dakelh / Carrier Culture: Level 4** This course provides advanced study in Dakelh / Carrier culture.

*Prerequisites:* FNST 263-3 or permission of the Program Chair

**FNST 267-3 Tsimshian Culture: Level 3** This course provides advanced study in Tsimshian culture.

*Prerequisites:* FNST 168-3 or permission of the Program Chair

**FNST 268-3 Tsimshian Culture: Level 4** This course provides advanced study in Tsimshian culture.

*Prerequisites:* FNST 267-3 or permission of the Program Chair

**FNST 269-3 Nisga'a Culture: Level 3** This course provides advanced study in Nisga'a culture.

*Prerequisites:* FNST 170-3 or permission of the Program Chair

**FNST 270-3 Nisga'a Culture: Level 4** This course provides advanced study in Nisga'a culture.

*Prerequisites:* FNST 269-3 or permission of the Program Chair

**FNST 271-3 Métis Studies Level 3: Métis Communities in Town and Country** In this course we look at the variety of Métis communities located in both rural and urban areas. We will examine more specifically the manner in which these communities are formed, and the challenges that they face. Our focus is on contemporary social and political issues.

*Prerequisites:* FNST 172-3 or permission of the Program Chair

**FNST 272-3 Métis Studies Level 4: Working with Métis Communities** This class is designed to develop and apply a set of research skills and competencies for working with Métis Communities.

*Prerequisites:* FNST 271-3 or permission of the Program Chair

**FNST 273-3 Gitxsan Culture: Level 3** This course introduces students to advanced study of specific topics in Gitxsan culture.

*Prerequisites:* FNST 174-3
*Precluded:* FNST 261-3 when taught as Gitxsan culture

**FNST 274-3 Gitxsan Culture: Level 4** This course introduces students to advanced study of specific topics in Gitxsan culture, including community-based research.

*Prerequisites:* FNST 273-3
*Precluded:* FNST 262-3 when taught as Gitxsan culture

**FNST 280-3 Aboriginal Medicines I-Harvesting and Preservation** This course provides students with an understanding of the traditional health knowledge of a specific Aboriginal group. Students are expected to participate in the identification, description, and methods of harvesting and preserving plants for medicinal purposes. This course is taught in the traditional territory of a specific Aboriginal group.

*Prerequisites:* FNST 100-3

**FNST 281-3 Aboriginal Medicines II - Administering Ethics** This course examines the treatment of diseases, administering of medicines and ethical practices and standards within the traditional health knowledge of a specific Aboriginal group. Students are introduced to medicine from an Aboriginal world view. This course is taught in the traditional territory of an Aboriginal group.

*Prerequisites:* FNST 280-3

**FNST 282-3 Aboriginal Health Philosophy** This is an introductory course that examines traditional health knowledge, Aboriginal approaches to health, connection to the land, Aboriginal world views and spirituality, family systems and the importance of traditional food to good health. Students are introduced to the traditional health teachings of a specific Aboriginal group. This course is taught in the traditional territory of an Aboriginal group.

*Prerequisites:* FNST 100-3

**FNST 283-3 Métis Studies** This course examines the place of the Métis in Canadian and American history and culture. It explores ways in which incorporations into Canada and the Canadian provinces and territories, as well as American states, affects the lives of the Métis. This will take place through readings, lectures, discussions, guest speakers, biographies of influential Métis and studies of Métis organizations.

**FNST 284-3 Dakelh Studies** This course is an introduction to the Dakelh cultures of British Columbia. The course will provide an overview of the philosophy, world view, oral histories, technologies and history of the Dakelh people. This course may provide focus on a particular Dakelh culture or it may be offered as a survey course of all Dakelh cultures in BC.

*Precluded:* FNST 163-3: Carrier Culture: Level 1 and FNST 164-3: Carrier Culture: Level 2

**FNST 298-(1-3) Special Topics in First Nations Studies** This course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* Permission of the instructor and Department Chair

**FNST 300-3 Research Methods in First Nations Studies** Major methodologies such as participant observation, archival research, questionnaires and statistical analysis will be reviewed and considered in the light of other goals of the discipline.

*Prerequisites:* FNST 200-3

**FNST 301-3 Art and Material Culture of BC First Nations**
A survey of major sources in the literature on First Nations art and material culture with an emphasis on contemporary forms. First Nations artists will participate in the seminar.

*Prerequisites:* Upper-division standing

**FNST 302-3 First Nations Health and Healing** This is a seminar on the concepts of health and healing including a review of major published materials. Representatives of First Nations communities and organizations participate in the seminar.

*Prerequisites:* Upper-division standing
*Precluded:* NURS 205-3

**FNST 303-3 First Nations Religion and Philosophy** A seminar on philosophy and religion in First Nations cultures. First Nations representatives will participate in the seminar.

*Prerequisites:* Upper-division standing

**FNST 304-3 Indigenous Environmental Philosophy** A seminar exploring Indigenous philosophy, knowledge, contemporary issues and perspectives, this interdisciplinary course draws on literature from fields such as traditional ecological knowledge (TEK), cultural ecology, ethnoscience, and international development. Students develop research, writing and communication skills.

*Prerequisites:* Upper-division standing

**FNST 305-3 Seminar in First Nations Studies** This course examines sources for the development of the discipline. The theoretical approaches of major contributors to the discipline are examined in the context of theory in allied disciplines such as anthropology, literature and cultural studies.

*Prerequisites:* FNST 100-3 or permission of the Program Chair

**FNST 306-3 Indigenous Women: Perspectives** The purpose of this course is twofold: first, to understand how Indigenous women's lives have been shaped by colonialism; and second, to delineate the global themes in indigenous women's current political and social struggles to transcend the colonial legacy that continues to constrain them.

*Prerequisites:* FNST 100-3 or WMST 100-3 or permission of the instructor
*Precluded:* WMST 306-3

**FNST 310-3 Lisims Anadromous Summer and Fall Fisheries in Nisga'a Culture and History** This course provides an opportunity to study the relationship between Nisga'a and anadromous summer and fall fisheries, primarily Salmonids. The course content focuses on Nisga'a culture, history, environmental philosophy and knowledge of these fisheries. Course content will include a holistic discussion of the fisheries, including such topics as spirituality, politics and diplomacy, traditional science and technology, and fisheries resource management. Students already receiving credit in FNST 304-3 at WWN prior to passage of this motion will not be eligible to receive credit in FNST 310-3.

*Prerequisites:* FNST 100-3 or FNST 169-3 or permission of the Chair

**FNST 311-3 The Spring Anadromous Fisheries of Lisims in Nisga'a Culture and History** This course provides an opportunity to study the relationship between Nisga'a and spring anadromous fisheries. The focus will be on important fisheries of oolichan and early salmon, such as steelhead. The course content will focus on Nisga'a culture, history, environmental philosophy and knowledge of these fisheries. Course content will include a holistic discussion of the fisheries, including such topics as spirituality, politics and diplomacy, traditional science and technology, and fisheries resource management. Students already receiving credit in FNST 498-(3-6) at WWN prior to passage of this motion will not be eligible to receive credit in FNST 311-3.

*Prerequisites:* FNST 100-3 or FNST 169-3 or permission of the Chair

**FNST 312-3 Image of the Indian in Film** This course explores the history of images of the Indian in film and how such images continue to influence the ongoing relationships between Indigenous and settler societies today. Included in this course is an exploration of the images presented by Indigenous filmmakers themselves.

*Prerequisites:* FNST 100 or permission of instructor
*Precluded:* FNST 498-3

**FNST 313-3 Healing within Art: Space, Time and Materials** This course examines healing within art from an Indigenous perspective, including fundamental concepts of expressive art as a healing force, creating a space and time for healing within art, and use of basic material such as paint, clay and collage for therapeutic purposes. This course emphasizes experiential learning methods, where students create, process and share art. Students gain an understanding of the socio-political contexts of personal struggles and successes, as well as learn to apply Indigenous spiritual philosophies.

*Prerequisites:* FNST 100 or permission of instructor
*Precluded:* FNST 498-3

**FNST 315-3 Aboriginal Health Management** This course examines government policies dedicated to the improvement of Aboriginal health in Canada. Population health, prevention and health promotion theories are explored as well as current health management structures in place in Aboriginal communities. This course is designed to be delivered in collaboration with an Aboriginal/First Nations community partner.

*Prerequisites:* FNST 282-3

**FNST 316-3 Aboriginal Health and Chronic Illness** This course provides students an opportunity to critically examine the current health status of Aboriginal people, including the incidence of chronic illness and mental health issues. Students are introduced to traditional Aboriginal healing practices intended to address the current state of Aboriginal health. This course is designed to be delivered in collaboration with an Aboriginal/First Nations community partner.

*Prerequisites:* FNST 281-3
*Precluded:* HHSC 471-3

**FNST 317-3 Aboriginal Healing Practices** This course focuses on the he traditional healing practices of a specific Aboriginal/ First Nations group. Students are expected to participate in the organization, preparation, and hosting of one or more traditional healing practice. This course is taught in the traditional territory of a specific Aboriginal group.

*Prerequisites:* FNST 281-3

**FNST 320-3 The Structure of a First Nations Language** An introduction to the linguistic structure of a First Nations language—words, phrases and sentences. Student transcripts will indicate the specific language studied.

*Prerequisites:* FNST 220-3

**FNST 321-3 First Nations Advanced Composition and Conversation, Level 1** Advanced composition and conversation, using texts and tapes including poetry.

*Prerequisites:* Level 4 (or equivalent) in the appropriate First Nations language

**FNST 322-3 First Nations Advanced Composition and Conversation, Level 2** Advanced composition and conversation, using texts and tapes including poetry.

*Prerequisites:* FNST 321-3

**FNST 323-3 First Nations Advanced Translation and Transcription** Translation and transcription from English to a First Nations language and back.

*Prerequisites:* advanced knowledge of a First Nations language satisfactory to the instructor

**FNST 324-3 Advanced First Nations Language Immersion*** This course provides advanced intensive immersion experience in one First Nations language to extend and deepen student skills and fluency in conversation and other oral genres (public speaking, storytelling, etc.). It will be taught in a number of different sections, each of which will focus on a different language, e.g. Haida, Sm'algyax (Coast Tsimshian), Nisga'a, Gitxsanimx̲, Haisla, Tlingit, Sekani, Beaver, Slavey, Tahltan, Witsuwit'en, Dakelh / Carrier, Chilcotin, or another Athabaskan language, or Shushwap. Student transcripts will indicate the specific language studied. May be repeated for up to three additional credits with permission of the Program Chair; if repeated, credits may substitute for an advanced language course in the relevant language with permission of the Dean.

*Prerequisites:* FNST 223-3
*Specific equivalent courses for each First Nations language may be substituted.

**FNST 325-3 First Nations Language Mentoring*** This course provides an opportunity for students of First Nations languages to work with fluent speakers in a mentoring or apprenticeship context to develop language skills. It will be available in a number of different sections, each of which will focus on a different language, e.g. Haida, Sm'algyax (Coast Tsimshian), Nisga'a, Gitxsanimx̲, Haisla, Tlingit, Sekani, Beaver, Slavey, Tahltan, Witsuwit'en, Dakelh / Carrier, Chilcotin, or another Athabaskan language, or Shushwap. Student transcripts will indicate the specific language studied.

*Prerequisites:* FNST 220-3 or FNST 223-3
*Co-requisites:* FNST 220-3 or FNST 221-3
*Specific equivalent courses for each First Nations language may be substituted.

**FNST 350-3 Canadian Law and Aboriginal Peoples** An examination of the constitution, Indian Act, treaties, court decisions, and laws as they relate to the government and politics of aboriginal peoples.

*Prerequisites:* FNST 100-3 or POLS 100-3
*Precluded:* POLS 220-3, FNST 250-3

**FNST 400-3 Community-based Research Project** Applying First Nations Research Methods Group projects will be undertaken in partnership with a community or organization under the supervision of a faculty member.

*Prerequisites:* FNST 300-3

**FNST 405-3 Advanced Seminar in First Nations Studies: Extending the Discipline** A seminar on the theory and practice of First Nations Studies emphasizing critiques of theory; this seminar is an excellent preparation for graduate training.

*Pre-* or Co-requisites: FNST 400-3

**FNST 406-3 Comparative Rhetoric and Discourse** This course is a seminar in which examples of contemporary rhetoric are considered as aesthetic and cultural performances.

*Prerequisites:* Upper-division standing or permission of instructor

**FNST 407-3 First Nations Perspectives on Race, Class, Gender and Power** An advanced seminar in which First Nations writings regarding experience of race, class, gender, and power will be discussed in relation to contemporary theory.

*Prerequisites:* Upper-division standing or permission of the Chair

**FNST 408-3 First Nations Clothing and Adornment** In this course, we will look at the clothing and personal adornment of First Nations people in North America, particularly Canada. We will examine clothing styles of the past and the traditional clothing styles worn today by First Nations. We will consider the resources used in the manufacture of materials, the science of clothing manufacture, the cultural meaning of clothing and adornment and the clothing of a number of culture areas. This course will provide students an opportunity to create an item of First Nations-style clothing or ornamentation for part of the grade. The course will begin with a discussion of possible projects, materials and techniques and then will move to a series of lectures. A number of classes thereafter will involve actual work on projects while short presentations are given by the instructor, guest speakers and class members.

*Prerequisites:* FNST 301-3, or permission of the Program Chair

**FNST 409-3 Indigenous Perspectives on Reincarnation and Rebirth** This seminar will review indigenous philosophy on the subject of reincarnation and rebirth, both of humans and of the animal realm or four legged, winged and finned creatures of this earth. The importance of these philosophies will be reviewed in terms of indigenous concepts of psychology and the nature of personality, of ecological concerns, of spirit dimensions as well as of nationhood. The course will briefly compare indigenous concepts of reincarnation and rebirth with those in Africa and the Hindu and Buddhist traditions, but the emphasis is on North American indigenous thought and experience regarding returning and rebirth.

*Prerequisites:* Upper-division standing, or permission of the instructor

**FNST 410-(3-6) Advanced Topics in First Nations Art and Material Culture** Advanced Topics in Art and Material Culture of BC First Nations: A survey of major sources in the literature on focused topics in First Nations Art and Material Culture with an emphasis on contemporary forms. Topical focus may vary with each offering, ranging from clothing and adornment of First Nations Peoples: Northwest Coast design and carving; Métis material culture, etc. The course may cover traditional and contemporary material, sources of materials and science of artists will participate in the seminar, and students will work on projects as well as participate in seminars with the instructor, guest speakers and class members.

*Prerequisites:* FNST 301-3, or permission of the Program Chair

**FNST 411-(3-6) Advanced Topics in Indigenous Religion and Philosophy** Review of Indigenous philosophies on a selected topic (such as relations with animals or luck and hunting). The significance of the philosophies will be considered in the light of indigenous concepts of psychology and personality, ecological concerns, and nationhood. First Nations representatives will participate in the seminar.

*Prerequisites:* FNST 303-3, or permission of the Program Chair

**FNST 412-3 Political Economy and First Nations Women** The purpose of this course is to understand how the political economy acts upon First Nation's women's lives in and beyond their home communities as well as to offer comparative examples of similar processes from elsewhere in the new world and from Asia and Africa

*Prerequisites:* Upper-division standing or permission of the Program Chair
*Precluded:* WMST 412-3

**FNST 413-(3-6) Topics in Aboriginal Women's Studies** This course explores topics relating to aboriginal women in both Canadian and international contexts. Topics may vary from year to year. This course may be repeated for credit (maximum six credit hours).

*Prerequisites:* FNST 100-3 or WMST 100-3 or permission of the instructor
*Precluded:* WMST 413-(3-6)

**FNST 416-3 International Perspective** Indigenous Issues in International Perspective. An advanced seminar in which issues such as land rights, relations to nation states, and cultural harmony are examined by presenting cases from a variety of indigenous groups. This course may be taught as 416-3/606-3.

*Prerequisites:* FNST 100-3 or permission of the instructor

**FNST 420-3 Developing Language Materials** A presentation of design goals and practical considerations in the preparation of reference and pedagogical materials for poorly documented languages, with an emphasis on languages of northern BC.

*Prerequisites:* FNST 220-3

**FNST 421-3 First Nations Songs and Poetry** A study of songs and poetry in a First Nation's language.

*Prerequisites:* Level 4 (or equivalent) in the appropriate First Nations language

**FNST 422-3 First Nations Speeches and Stories** A study of speeches and stories in a First Nation's language. Analysis of the various linguistic variations which accompany different kinds of speeches and stories.

*Prerequisites:* Level 4 (or equivalent) in the appropriate First Nations language

**FNST 423-3 A Study of a First Nation's Language Family and Its Linguistic Relatives** This course will include: a survey and comparison of the languages in a particular language family; the evidence for the genetic affiliation of the languages; the correspondences among the languages and reconstruction of the proto-language; the evidence for subgrouping; discussion of possible remoter relations of the family; interaction with neighbouring languages; implications for prehistory.

*Prerequisites:* Level 4 (or equivalent) in the appropriate First Nations language

**FNST 424-3 The Literature of a First Nation** A study of a First Nation's literature in a First Nation's language.

*Prerequisites:* Level 4 (or equivalent) in the appropriate First Nations language

**FNST 425-3 Oral History** This course examines the foundations of oral traditions and oral history methods within academic research. It provides students with an understanding of the importance of oral research methods and an opportunity to expand and enhance this understanding through presentations by First Nations resource people, reading, assignments, online and material resources as well as class discussion. This course incorporates Indigenous perspectives to examine Indigenous worlds through the lens of storytelling methods and collective narrative memory.

*Prerequisites:* FNST 100-3

**FNST 440-(3-6) Internship in First Nations Studies** May be repeated once for a total of six credit hours.

*Prerequisites:* Permission of the Program Chair

**FNST 444-3 Experiential Course in First Nations Studies** Students participate in an Indigenous community and/or land based experiential learning environment that provides opportunities for them to study applied knowledge relative to local and global contexts. This course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* Upper-division standing or permission of the instructor

**FNST 451-3 Traditional Use Studies** An advanced seminar on traditional use studies, their use, application, and development. The seminar will examine the origins and development of this field, review case studies and recent applications, and contemporary policies.

*Prerequisites:* ANTH 101-3 or FNST 100-3 or permission of instructor
*Precluded:* ANTH 451-3

**FNST 497-(3-6) Senior Project in First Nations Studies**

*Prerequisites:* must be in final year of study and majoring in First Nations Studies; permission of Program Chair

**FNST 498-(3-6) Special Topics in First Nations Studies** This course examines in detail topics selected by the instructor. This course may be repeated for credit (maximum six credit hours).

*Prerequisites:* Permission of the Program Chair

**FNST 499-(3-6) Independent Study in First Nations Studies** This course enables students to read in depth in an area of First Nations Studies not normally covered by established principal or ancillary courses in the First Nations Studies program. This course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* Permission of the Program Chair

# Forest Ecology and Management (FSTY)

**FSTY 201-3 Forest Plant Systems** This course provides knowledge and understanding of classification, nomenclature and identification, morphology, phenology, range, natural history, evolutionary relationships, and basic ecology of important trees (native and exotic) and forest plant families (woody and herbaceous) in western Canada. The course also provides a survey of plant indicator potential and attributes significant to vegetation management. The course includes the development of a plant collection and field trips are required.

*Prerequisites:* BIOL 101-4, or BIOL 103-3 and BIOL 123-1; and BIOL 102-4, or BIOL 104-3 and BIOL 124-1
*Co-requisites:* FSTY 205-3

**FSTY 205-3 Introduction to Soil Science** Chemical, physical, and biological properties of forest soils; fundamentals of soil formation; soil-water-plant relations, soil ecology and soil fertility. Field trips required.

*Prerequisites:* CHEM 100-3, 101-3, 120-1, 121-1

**FSTY 207-1 Terrestrial Ecological Classification** This course explores the critical concepts and methodology of classifying terrestrial ecosystems. The course explores the historical context and attributes of several systems of ecological classification. The primary focus is Biogeoclimatic Ecosystem Classification, the standard for natural resource managers in BC. The course also explores regional examples of site classification.

*Prerequisites:* BIOL 101-4, or BIOL 103-3 and BIOL 123-1; and BIOL 102-4, or BIOL 104-3 and BIOL 124-1

**FSTY 209-4 Forest Biology and Silvics** This course explores critical aspects of the biology of forest floor organisms and the autecology of associated regional tree species. The course also examines the biology and ecology of forest ecosystems, the structure and function of forest trees and stands, the influence of biotic and abiotic factors on tree and stand growth, interactions between forest ecosystems and ecological site conditions, and silvicultural attributes of tree species of Western Canada.

*Prerequisites:* BIOL 101-4, or BIOL 103-3 and BIOL 123-1; and BIOL 102-4, or BIOL 104-3 and BIOL 124-1; and FSTY 201-3

**FSTY 305-4 Silviculture** Silviculture examines forest ecology, stand dynamics, basic management practices and harvesting. Content includes stand dynamics, natural and artificial regeneration methods, site preparation, intermediate stand treatments, silvicultural systems, forest harvesting concepts and practices, and relationships of natural resource management to silviculture practices. Field trips are required.

*Prerequisites:* FSTY 201-3, FSTY 205-3, FSTY 209-4, NREM 203-3

**FSTY 307-3 Disturbance Ecology and Forest Health** This lecture course explores principles and concepts of disturbance ecology, including examples of fire, disease and insects. Links between anthropomorphic disturbances, fire risk and forest health problems, and approaches to forest health management are explored.

*Prerequisites:* 60 credit hours, FSTY 201-3, FSTY 207-1, FSTY 209-4

**FSTY 310-3 Forest Economics** Contemporary issues in the allocation of natural resources. Economic concepts and tools applied to the forestry, recreation, and other natural resource sectors.

*Prerequisites:* ECON 100-3
*Precluded:* ORTM 310-4

**FSTY 317-1 Forest Disturbance Agents** This laboratory course focuses on the identification of pathogens and insects of importance in forest health. The course is required for students in the Natural Resources Management degree Forest Ecology and Management major, and it should be taken concurrently with FSTY 307-3. Field trips are required.

*Prerequisites:* 60 credit hours
*Co-requisites:* FSTY 307-3
*Precluded:* FSTY 307-4

**FSTY 405-3 Forest Growth and Yield** This course explores factors influencing forest yields, traditional prediction methods, and growth and yield simulation. The course also explores stand dynamics, quantitative implications of management treatments and environmental limitations to tree and stand growth.

*Prerequisites:* NREM 203-3 and MATH 152-3, STAT 240-3 and FSTY 305-4

**FSTY 407-3 Forest Products** Properties, values and processing of forest products including wood, pulp and paper, pharmaceuticals, and other botanical products. Life cycle analysis of products manufactured from wood and its derivatives. Value-added strategies and product diversification through manufacturing and marketing. Field trips required.

*Prerequisites:* CHEM 100-3 and 101-3

**FSTY 408-3 Forest Practices and Management** Principles and operational practices for the management of forest land including forest estate planning, harvest scheduling, and legislative requirements.

*Prerequisites:* Minimum of 90 credit hours

**FSTY 415-3 Forest Soils** This course examines the distinctive physical, chemical and biological properties of forest soils from an ecological perspective, emphasizing western Canadian examples. Major themes include the role of soils in forest site classifications, carbon and nutrient cycling in forests, soil determinants of forest productivity, and the responses of soils to forest management practices. Field trips and laboratory exercises provide experience in techniques used for assessing forest soil properties and management impacts.

*Prerequisites:* FSTY 205-3

**FSTY 425-3 Soil Formation and Classification** Examination of soil formation with emphasis on environmental forces including human activity as a factor of soil formation; distribution and classification of soils of northern and interior BC; correlation of Canadian System of Soil Classification with international systems of classification such as Soil Taxonomy and FAO/UNESCO Soil Map of the World. Field trips are required.

*Prerequisites:* FSTY 205-3 or permission of the instructor

**FSTY 440 (2-6) Internship** May be repeated for credit (maximum six credit hours).

**FSTY 498-3 Special Topics** May be repeated for credit (maximum three credit hours).

**FSTY 499-(1-6) Independent Study** May be repeated for credit (maximum of six credit hours)

# Geography (GEOG)

**GEOG 100-3 Environments and People: The Geography of Natural Hazards** This course is intended to introduce students to the Earth's physical processes that are hazardous to people. Students will be able to identify which regions of the world are at greatest risk for a given hazard and how humans can mitigate the loss of life and property.

*Prerequisites:* None
*Precluded:* ENVS 100-3

**GEOG 101-3 Human Geographies of Global Change** This course examines global issues of development and change from a human geographic perspective. Students focus especially on the interconnectedness of places in the world and the range of local responses to widespread change processes.

*Prerequisites:* None
*Precluded:* GEOG 201-3

**GEOG 111-1 Theory and Practice of Physical Geography** This course introduces physical geography students to the theory and practice of physical geography, particularly in BC, through seminars and invited presentations involving professional practitioners in the region and province. A weekend field trip is required. This course is intended for students who want to major in Physical Geography.

*Prerequisites:* None

**GEOG 200-3 British Columbia: People and Places** This course provides an introduction to the biophysical and human landscapes of British Columbia with a special emphasis on the relationship of Northern BC to the rest of the province. The course takes a regional approach to understanding the links between the physical geography of the province and its settlement patterns, resource use and economic development.

*Prerequisites:* None

**GEOG 202-3 Economic Geography of Resources and Sustainability** British Columbia is a resource exporting economy that competes in the global marketplace. With a focus on both renewable and non-renewable resources, this course examines economic, community, and environmental issues that support and/or limit sustainable development. Topics include energy, minerals, food, water, natural and cultural amenities, and ecosystem products and services.

*Prerequisites:* None

**GEOG 203-3 Roots, Ruggedness, and Rituals: A Geography of Canada** Regionally and nationally, this course examines Canada, its peoples, and our diverse environments. Students consider Aboriginal/non-Aboriginal/Métis identity, Canadian culture, national fault lines, symbols, icons, and trends, focusing on shared patterns and divergent distinctions in Canadian development, changes and future possibilities.

*Prerequisites:* None

**GEOG 204-3 Introduction to GIS for the Social Sciences** To manipulate database and spatial information and to create GIS based illustrations and maps. This lab-based introductory course will provide a foundation in GIS for social scientists. Students will incorporate data searching and acquisition, manipulation of information in spreadsheets, reviewing quality of data, spatial properties of geographic information, linking meta-data to spatial features, basic cartographic techniques and map production.

*Prerequisites:* None

**GEOG 205-3 Cartography and Geomatics** This course examines mapping techniques and thematic layers, using GIS software in the labs. Topics include coordinate systems, symbolization, terrain depiction and visualization, aerial photography, satellite images and Global Positioning Systems (GPS). It introduces students to the world of maps and to Geographic Information Systems (GIS) technology.

*Prerequisites:* None

**GEOG 206-3 Society and Space** Social relations, social identities, and social inequalities are open to geographical exploration. These relations are negotiated and contested in different spaces at different times. This course critically examines the ways in which social relations, identities, and inequalities are produced, their spatial variation, and the role of space in constructing them. Geographic dimensions of various facets of identity (such as gender, ethnicity, "race," class, sexuality, and ability) and the theoretical frameworks that geographers use to analyze them are central.

*Prerequisites:* None
*Precluded:* GEOG 304-3

**GEOG 209-3 Migration and Settlement** Urbanization, globalization, and international migration are dynamic processes related to human settlement and are changing our social and physical spaces. This course examines major theoretical approaches to global migration processes and the settlement form and organization resulting from migration, refugee movements, and globalization, with particular emphasis on reconfigured urban and rural spaces in Canada.

*Prerequisites:* None

**GEOG 210-3 Geomorphology** The nature and formation of Earth's surface and its major landforms are studied, and methods used to monitor and understand these are demonstrated through lectures and labs. Topics include Earth's surface materials, landforms, weathering, slope movement, and the erosional and depostional effects of gravity, wind, water, waves, and ice.

**GEOG 220-3 World Regions: Latin America and the Caribbean** Struggles for land, labour, and resources are central themes in Latin American and the Caribbean. We examine this diverse region as a landscape of inequality with extremes in poverty and wealth dating from the European invasion. Uneven development across time and space is characterized by growing hunger, narco-trafficking, agro-exports, resource extraction, organized crime, undocumented migration, and environmental degradation, as well as resilience and grassroots mobilization for positive change.

**GEOG 222-3 World Regions: Russia** This course explores the interaction of physical and human landscapes of Russia. Special attention is paid to nationality issues, energy and other resource developments, the changing state of environmental management, and Russia's shifting geopolitical role in the world.

*Prerequisites:* None

**GEOG 300-3 Geographic Information Systems** This lab-based course examines the data management and analysis capabilities of GIS, with special emphasis on natural resources and environmental studies. Topics include methods of data input, coordinate systems, data sources, attributes, formats and conversion, digital elevation data, raster-vector models, data availability and quality. Lectures introduce two labs per week.

*Prerequisites:* 30 credits or permission of instructor

**GEOG 301-3 Cultural Geography** Cultural products, such as music, cuisine, language, and religion, have spatial expressions. Through cultural norms, products and activities, we create places and construct landscapes. This course examines the influence of power relations, cultural imperialism, globalization, and cultural resistances on the human organization of space and on how people engage with place. This is a writing-intensive course, emphasizing improvement of upper-division level written communication through iterative editing.

*Prerequisites:* 60 credit hours and at least one lower-division GEOG course, or permission of instructor

**GEOG 305-3 Political Ecology** This course examines the geopolitics and power relations of environmental resource use, knowledge production, policy , and decision-making. It focuses on access, power, and ownership with respect to environment, environmental discourses, and resources, using geography as a lens for understanding political ecology, and political ecology as a lens for examining environmental relationships.

*Prerequisites:* 60 credit hours or permission of the instructor

**GEOG 306-3 Geography of International Development: Places, People, Policies and Promises** Using examples from "the local to the global," this course investigates development theory and practice, including key theories, concepts, and trends. We use international case studies to understand global inequality, debt, foreign aid, disasters, displacement, development-related health issues, gender considerations, and differential access to services and assistance. The course examines persistent problems and seeks examples of progress, promise and hope.

*Prerequisites:* 60 credit hours or permission of instructor

**GEOG 307-3 Changing Arctic: Human and Environmental Systems** Climate change, energy security, globalization, pollution, and self-determination in the Arctic are major issues that confront both Arctic societies and the world at large. This course examines the cultural, economic, environmental, political and social dimensions of sustainable development in the Circumpolar North through a geographic lens.

*Prerequisites:* 60 credit hours or permission of the instructor

**GEOG 308-3 Environments of Health and Care** This course examines the importance of environments of daily living to individual and collective experiences of health and health care.

*Prerequisites:* Any 6 credit hours of lower-division Geography or permission of the instructor
*Precluded:* HHSC 421-3

**GEOG 310-3 Hydrology** This course is an introduction to physical hydrology. It examines the components of the hydrological cycle, and investigates the processes of water movement and storage in the environment.

*Prerequisites:* ENSC 201-3 and STAT 240-3, or permission of the instructor
*Precluded:* NREM 410-3

**GEOG 311-3 Drainage Basin Geomorphology** This course focuses on hillslope and fluvial processes in drainage basins. Laboratory exercises introduce quantitative methods to understand patterns of sediment production, movement and storage in mountain watersheds.

*Prerequisites:* GEOG 210-3, PHYS 100-4 and STAT 240-3, or permission of the instructor

**GEOG 312-3 Geomorphology of Cold Regions** This course provides a detailed examination of the processes and landforms of cold regions.

*Prerequisites:* GEOG 210-3 or permission of the instructor

**GEOG 320-3 Sedimentology** This course considers processes that deposit sediments in Earth's diverse environments that include lakes, rivers, and oceans. At the end of the course students will be able to reconstruct environmental conditions that led to formation of stratified earth materials. Principles of lithostratigraphy, biostratigraphy, chronostratigraphy, sequence stratigraphy, and the facies concept are key topics of the course.

*Prerequisites:* GEOG 210-3

**GEOG 333-3 Geography Field School** Students apply field methods in physical and/or human geography towards an integrated study of local and global environments. Note: When this course is offered with predominantly human geography content, APEGBC will not consider it suitable for a Professional Geoscience credit.

*Prerequisites:* Upper-division standing

**GEOG 401-3 Tenure, Conflict and Resource Geography** This course examines global resources and their role in questions of conservation and economic development. Emphasis is placed on global and international resource issues and the role of public policy.

*Prerequisites:* 60 credit hours and at least one of GEOG 100-3, GEOG 101-3 or GEOG 202-3

**GEOG 403-3 First Nations and Indigenous Geography** This course analyzes First Nations and Indigenous traditional land tenure systems, colonial processes of land alienation, and Indigenous methods for regaining control over territory, including land claims, co-management, and legal reforms. Case studies are drawn from Canadian and international examples.

*Prerequisites:* 60 credit hours or permission of the instructor

**GEOG 405-3 Fluvial Geomorphology** This course investigates river channel morphometry and landforms developed by running water: and focuses on the physical processes and techniques of measurement. Weekend field trips are required.

*Prerequisites:* GEOG 311-3 or permission of the instructor

**GEOG 411-3 Quaternary and Surficial Geology** This course examines geomorphic processes and environmental change in BC during the last two million years of Earth's history.

*Prerequisites:* GEOG 311-3 or permission of the instructor

**GEOG 413-3 Advanced GIS** This course is a project- oriented course following on from GEOG 300-3 and including topics such as spatial data set construction, data conversion, advanced digital elevation modelling, visualization and integration of raster imagery.

*Prerequisites:* GEOG 300-3 or permission of the instructor

**GEOG 414-3 Weathering Processes** This course provides a detailed investigation of weathering processes and their applied aspects.

*Prerequisites:* GEOG 312-3 or permission of the instructor

**GEOG 420-3 Geographies of Environmental Justice** This course examines ongoing environmental justice debates over expertise, access, rights, and compensation, in the context of environmental racism and responses to it. It considers connections between space, places, identity, and justice in contaminated environments. It explores scholarship and activism, and students learn about Canadian and international case studies related to resource extraction; manufacturing and industrial processes; waste disposal; access to basic services; trade; and tourism.

*Prerequisites:* 60 credit hours and at least one GEOG course

**GEOG 424-3 Social Geography of Northern Communities** This advanced seminar course examines the social geography of rural and small-town communities within the specific context of the North. The case-study content focuses on specific examples from northern British Columbia. This is a project-based course where students work towards a class-based social geography study of selected northern communities.

*Prerequisites:* 60 credit hours or permission of the instructor

**GEOG 426-3 Geographies of Culture, Rights and Power** This seminar examines geographical approaches to culture, rights, and power as they relate to issues of political violence experienced by indigenous peoples, labour organizations, and social movements. Primary geographical focus is on the Mesoamerican region, particularly Guatemala, El Salvador, and Chiapas, Mexico. Implications for Canada and the United States are explored through consideration of refugee movements, foreign policy, and grassroots solidarity organizing.

*Prerequisites:* GEOG 206-3 or GEOG 301-3 or permission of instructor
*Precluded:* GEOG 498-3 Culture, Rights and Power

**GEOG 428-3 Health Geography in Practice** Students conduct research on health geography topics approved by the instructor. Students may choose to work individually or in groups.

*Prerequisites:* 60 credit hours and GEOG 308-3, or permission of the instructor

**GEOG 430-(3-6) Undergraduate Thesis** Student must have completed at least 90 credit hours of study and be a Geography Major. The thesis may be taken in one or two semesters in the senior year.

*Prerequisites:* Permission of the instructor and the Program Chair

**GEOG 432-3 Remote Sensing** This course covers digital processing of satellite imagery and integration with raster and vector GIS technology in natural resources and remote sensing of the environment. Topics include sensor platforms and data collection, pre-processing, enhancement, classification, change detection, multi-data integration and vectorization.

*Prerequisites:* GEOG 205-3 or GEOG 300-3 or permission of the instructor

**GEOG 440-(2-6) Internship** May be repeated for credit (maximum six credit hours).

**GEOG 457-3 Advanced Remote Sensing** This project-oriented course focuses on advanced classification procedures incorporating digital elevation data, fuzzy and object-oriented classification, and new millennium data sources including ASTER, RADAR, MODIS, LiDAR and high-resolution scenes. Repeat imagery is used to assess local and global changes in land cover, oceanic, atmospheric and/or cryospheric environments.

*Prerequisites:* GEOG 432-3 or permission of the instructor

**GEOG 498-(1-3) Special Topics** May be repeated for credit (maximum three credit hours).

**GEOG 499-(3-6) Independent Studies** Concentration is on a particular topic agreed upon by a member of the faculty and the student (maximum six credit hours).

*Prerequisites:* Permission of the Program Chair

# Health Sciences (HHSC)

*Students enrolling in Health Sciences courses with prerequisites are required to have completed all prerequisite courses for those courses with a C- or better, or have permission to enroll from the School Chair.*

**HHSC 101-3 Introduction to Health Sciences I: Issues and Controversies** This course provides a review of current issues and controversies with respect to individual and population health. Topics covered include infectious disease, cancer, genetic disease, behavioural determinants of health, addictive behaviour, eating behaviour and the role of nutrition in chronic disease.

*Prerequisites:* None

**HHSC 102-3 Introduction to Health Sciences II: Rural and Aboriginal Issues** This course will provide an overview of individual and population health, health care systems, legislation, and the roles of the various health care professions in rural and aboriginal communities. Models of interdisciplinary cooperation, models of community health, and ethical issues are also covered.

*Prerequisites:* None

**HHSC 103-3 Health Care Systems** This course examines health care systems from a public versus private perspective and explores how various systems impact the health and well-being of patients.

*Prerequisites:* Enrolment in the BHSc program, or permission of the instructor

**HHSC 105-3 Functional Anatomy** The purpose of this course is to provide a macroscopic examination of the human body. Lecture topics include musculoskeletal system and mobility, and major organ systems including cardiovascular, digestive and neurological, with emphasis on how these systems integrate for body function. A laboratory component is included. This course is appropriate for students who intend to enter health profession fields.

*Prerequisites:* Biology 12 and Chemistry 11

**HHSC 110-3 Basic Microbiology** Presents the basic principles of microbiology with an emphasis on the relevance of these principles to human health. A survey of the major types of microorganisms and a discussion on how they are classified and identified is addressed. An introduction to virology and bacterial metabolism including environment factors which affect microbial growth and survival, is presented. A laboratory component is included.

*Prerequisites:* Biology 12 and Chemistry 11

**HHSC 111-4 Anatomy and Physiology I** This course is the first half of a comprehensive survey of the structures and functions of the human organ systems. Lecture topics include cellular physiology, histology, and studies of the integumentary, skeletal, nervous and endocrine systems. A laboratory component is included. This course is appropriate for students who intend to enter health profession fields.

*Prerequisites:* Biology 12 and Chemistry 11
*Recommended:* HHSC 105-3

**HHSC 112-4 Anatomy and Physiology II** This course is a continuation of HHSC 111-4. It is designed to cover the anatomy and physiology of the muscular, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems. Emphasis is on the importance of homoeostasis and how it is maintained by the concerted proper functioning of the body systems. A laboratory component is included.

*Prerequisites:* HHSC 111-4

**HHSC 201-3 Ethics and Law in Health Care** This course examines ethical and legal concepts as applied to health care and health care research. Further, students explore how new technology and therapeutic practices change the parameters of ethical and moral reasoning, and the impact this has on health law. In addition, students are exposed to ethical practices and policies that form the foundation of health related research.

*Prerequisites:* Enrolment in the BHSc program, or permission of the instructor
*Precluded:* NURS 308-3

**HHSC 301-3 Pathophysiology** This lecture course examines central concepts in pathophysiology. Topics include cell-tissue biology, mechanisms of self-defense, and alterations to organs and systems, all in relation to human health.

*Prerequisites:* HHSC 112-4
*Precluded:* NURS 202-3, NURS 301-3

**HHSC 311-3 Nutrition** This course reviews nutrient requirements across the lifespan and physiological connections of diet to health and disease. Therapeutic aspects of parenteral nutrition (total and peripheral) and special diets in disease states are covered.

*Prerequisites:* Enrolment in the BHSc program
*Precluded:* NURS 206-3, NURS 303-3, ANTH 311-3

**HHSC 350-3 Introduction to Epidemiology** This course applies epidemiological principles in the examination of patterns of disease and disability among populations, particularly those in northern latitudes. It introduces students to the interpretation of vital statistics, the critique of cross-sectional, case-control and cohort design and the principles of screening.

*Prerequisites:* Upper-level standing in the BHSc program
*Precluded:* NURS 306-3

**HHSC 351-3 Research Design and Methods for Health Sciences** This course examines qualitative and quantitative research methods and design in the health field and the ethical and legal issues associated with health care research.

*Prerequisites:* STAT 240-3 or ECON 205-3, upper-level standing in the BHSc program, or permission of the instructor

**HHSC 370-3 Occupational Health** This course introduces students to the scientific basis of occupational health, specifically the relevant principles and concepts of injury prevention, disability management, ergonomics, toxicology, wellness and the general concepts of healthy workplaces. The nature of common occupational health hazards and their effect on humans is examined. Examples of common preventative and protective measures and controls are also reviewed.

*Prerequisites:* Upper-level standing in the BHSc program, or permission of the instructor

**HHSC 421-3 Medical Geography** This course examines the importance of environments of daily living to individual and collective experiences of health and health care.

*Prerequisites:* Upper-level standing in the BHSc program
*Precluded:* GEOG 308-3

**HHSC 440-(3-6) Special Topics in Health Sciences** The topics for this course vary, depending on student interest and faculty availability. This course may be repeated for up to 6 credits total (with the permission of the instructor and Program Chair).

*Prerequisites:* Upper-level standing in the BHSc program or permission of the instructor

**HHSC 451-3 Health Sciences Research Project** This course enables students, individually or in groups, to explore a particular health issue in depth by defining a problem, collecting, analyzing and interpreting secondary and primary data, and presenting results in written and oral formats.

*Prerequisites:* HHSC 351-3, or permission of the instructor

**HHSC 471-3 Aboriginal Health and Chronic Disease** This course provides students an opportunity to examine critically the current health status of Aboriginal people, including the incidence of chronic illness and mental health issues. Students are introduced to traditional Aboriginal healing practices intended to address the current state of Aboriginal health. This course is designed to be delivered in collaboration with an Aboriginal/First Nations community partner.

*Prerequisites:* Upper-level standing in the BHSc program
*Precluded:* FNST 316-3

**HHSC 473-3 Health Promotion** This course examines health promotion theories, principles, and underlying philosophies. Students identify and critique health promotion issues and also gain experience in developing strategies to promote health and well-being at individual, group and community levels.

*Prerequisites:* Upper-level standing in the BHSc program

**HHSC 490-6 Honours Thesis** In this course students pursue an independent research project. Credit for this course is based on designing and implementing a research methodology, analyzing data and presenting findings in a thesis format. This course is a total of 6 credit hours and is normally completed over the September and January semesters.

*Prerequisites:* HHSC 451-3 and acceptance into BHSc Honours program

**HHSC 497-3 Senior Seminar** This course provides an integrative seminar on research design and methodologies for advanced students. Enrolment is restricted to fourth-year Bachelor of Health Sciences Honours students who have completed 90 credit hours.

*Prerequisites:* HHSC 451-3 and acceptance into BHSc Honours program

# History (HIST)

**HIST 190-3 World History to 1550** This course explores the history of Asia, Africa, Europe and the Americas from human origins to 1550. Although the course is organized chronologically, it does not cover all or even most aspects of World History during this time period. Rather, it focuses on certain themes to consider the development of various civilizations. At the same time, students work on developing their skills as historians by reading, writing and discussing primary and secondary sources through a number of different historical lenses.

*Prerequisites:* None

**HIST 191-3 World History since 1550** This course examines the history of the world from the mid-sixteenth century through the end of the the twentieth. The global movement of people, ideas, and econmoic practices receives particular attention, as do processes of imperialism and colonialism. Students are also introduced to the discipline of History and to the skills of document analysis, historical writing, and primary source research.

*Prerequisites:* None

**HIST 205-3 Surveys in National History** This course examines the political, social, and economic history in one or more specified nations and periods under study. The nation(s) under study vary according to the expertise of the instructor and may include Australian, Japanese, Chinese, or British national history. With the permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* None

**HIST 210-3 Canada before Confederation** Canada is still profoundly shaped by its history before 1867. This course examines the political, social and economic development of Canada from earliest times.

*Prerequisites:* None

**HIST 211-3 Canada since Confederation** This course examines development of Canada since 1867, with emphasis on social movements, economic development, politics and political protest, and regionalism.

*Prerequisites:* None

**HIST 215-3 Global History of Indigenous People** Our understanding of Indigenous history in one location can be much improved if the topic is studies in broader context. In this course, students study the history of Indigenous peoples in various places around the world.

*Prerequisites:* None
*Precluded:* HIST 110-3

**HIST 221-3 United States from Colonization to 1877** This is an introduction to the formation of the United States from colony to nation, addressing themes of cultural, social, political and economic history and the relationships among Aboriginal, African and European peoples.

*Prerequisites:* None

**HIST 222-3 The United States since 1877** This course is an introduction to the formation of the United States after Reconstruction, addressing themes of cultural, social, political and economic history.

*Prerequisites:* None

**HIST 231-3 Medieval Europe** This course is an introduction to the cultural, spiritual, social and politicial life of Europe from the fifth to fifteenth centuries.

*Prerequisites:* None
*Precluded:* HIST 230-3

**HIST 232-3 Early Modern Europe** This survey course examines the political, economic, social, religious and cultural life of Europe from 1500-1789.

*Prerequisites:* None
*Precluded:* HIST 230-3

**HIST 240-3 The Expansion of Europe** This course examines the expansion of Europe from the Renaissance to the French Revolution. The creation of European empires and settlements in the western hemisphere are highlighted.

*Prerequisites:* None

**HIST 241-3 The Age of Empire: Europe and the World, 1789-1914** This survey course examines relations among Europe and Asia, Africa and the Americas from the French Revolution to the First World War.

*Prerequisites:* None

**HIST 256-3 Introduction to Crime and History** This course introduces students to the historic context and debate over questions of crime, punishment, and reformation. The specific emphasis depends on the instructor's expertise and the course may include examinations of police history, captial punishment, the creation of penitentiaries, or the modern phenomenon of serial murder.

*Precluded:* HIST 125-3

**HIST 257-3 Public Law in Canada** Public law includes the areas of law regulating the internal operations of governments and state agencies, the interactions among orders or levels of government and the interactions between state and non-state actors. Subjects covered in this course include constitutional law, administrative law, human rights law and criminal law and procedures.

*Precluded:* POLS 257-3

**HIST 258-3 Private Law in Canada** Private law refers in general to the areas of law that regulate the interactions among non-state actors including citizens, corporations and non-state agencies. The course covers such areas as property law, torts, contracts, family law and commercial law in Canada.

*Precluded:* POLS 258-3

**HIST 280-3 Colonial Latin America** This course is an introduction to the history of Latin America from the fifteenth century to the early nineteenth century. Topics to be discussed include Amerindian polities and empires on the eve of contact with Europe; contact, conquest, and colonization; conversion and religious adaptation; colonial imperial administration; Latin American economy in the world system; cultural conflict, resistance, and hybridization among European, African, and Aboriginal peoples; and the gradual emergence of distinctly Latin American identities.

*Prerequisites:* None

**HIST 281-3 Republican Latin America** This course is an introduction to the history of modern Latin America from the Wars of Independence in the early nineteenth century to the present day. Topics discussed include the Wars of Independence; personalist rule and institutional instability in the first half of the nineteenth century; class, race, gender, and Latin American identity; neocolonialism and the reintegration of Latin America into the global economy; modernity and Latin American nationalism; socialist revolution and conservative dictatorship; and neoliberalism and its discontents at the end of the twentieth century.

*Prerequisites:* None

**HIST 290-3 The Contemporary World** This course explores the conflicting identities and aspirations of local, national, and international groups and communities in the 20th century world. The themes of social movements, ethnicity, nationalism, imperialism, internationalism, and decolonization are explored from a global perspective.

*Prerequisites:* None

**HIST 295-3 History of Law** This course examines the historical origins and development of the law and its subsequent evolution within the social, political, economic and legal contexts.

*Prerequisites:* None

**HIST 300-3 Historiography: The Nature of the Historical Discipline** Taken in the first semester of the third year of study, this course examines the nature of history as a discipline of study and how historians approach their craft.

*Prerequisites:* HIST 190-3 and HIST 191-3

**HIST 301-3 The Canadian North** This course studies the history of the provincial and territorial Canadian North with emphasis on the pre-contact period, Native-white relations, and the impacts of government on the region.

*Prerequisites:* HIST 210-3 or HIST 211-3 or permission of the instructor

**HIST 302-3 The Prairie West** This course considers the history of the three prairie provinces from the coming of Europeans to the present with emphasis on Native peoples, the fur trade, the development of society and the economy, political protest and regional alienation.

*Prerequisites:* HIST 210-3 or HIST 211-3 or permission of the instructor

**HIST 303-3 British Columbia** This course examines the history of the province from the coming of Europeans to the present, with emphasis on Native cultures, the fur trade, colonization, the development of institutions, society and the economy, as well as the growing sense of regional identity.

*Prerequisites:* HIST 210-3 or HIST 211-3 or permission of the instructor
*Precluded:* HIST 406-3

**HIST 309-3 Women in Canada** This course explores the constructions of Canadian womanhood and experiences of Canadian women from early contact to the present. Themes include First Nations women, women in colonial society, women and work, women and reform, women and the state, lesbian women, and feminism.

*Prerequisites:* Upper-division standing or permission of the instructor
*Precluded:* HIST 402-3

**HIST 311-3 History of Feminism** This course surveys the history of those various political, social and cultural movements (suffragism, women's liberation etc) that have combined to create the phenomenon of feminism. Attention is also be devoted to the diverse theories, ideas and values that underpin contemporary feminism.

*Prerequisites:* Upper-division standing or permission of the instructor
*Precluded:* WMST 311-3

**HIST 312-3 An Introduction to the History of Gender** This course explores issues of gender in historical context using a case study approach.

*Prerequisites:* Upper-division standing or permission of the instructor
*Precluded:* WMST 270-3/WMST 312-3, and HIST 270-3

**HIST 320-3 The Western United States** This class focuses on social relations in the US West from pre-contact times to the present and on the West's mythical place in US history.

*Prerequisites:* Upper-division standing or permission of the instructor

**HIST 325-3 Sex Changes: An Introduction to the History of Sexuality** The course examines the variability of sexuality, and its connection with larger historical processes, from ancient times to the present; while offering a broad perspective on the sexual past, the course emphasizes the West after 1800.

*Prerequisites:* None
*Precluded:* HIST 120-3

**HIST 326-3 History through Film** This course indroduces students to the questions and issues arising from the use of historical settings, characters, and events in film. The specific emphasis depends on the instructor's expertise and the course may include examinations of history in film in varied settings or themes. With the permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* None
*Precluded:* HIST 130-3

**HIST 331-3 Lectures in Military History** This course examines military history in one or more specified nations and/or periods. The topics under study vary according to the expertise of the instructor and may include: the origins and causes of war; the impact of new technologies on tactics and strategy; military and naval innovation and resistance to innovation; the changing relationship of offense and defense; the concept of mass war; and the relationship of military institutions to society. With permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* Upper-division standing or permission of the instructor

**HIST 332-3 Lectures in Social History** This course examines the social history in relation to regional, national, or international contexts through time in one or more specified nations and/or periods. The topics under study vary according to the expertise of the instructor and may include major social changes, the social origins of major historical events, or the history of particular social movements. With the permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* Upper-division standing or permission of the instructor

**HIST 333-3 Lectures in Cultural History** This course examines cultural history in one or more specified nations and/or periods. The topics under study vary according to the expertise of the instructor and may include surveys in cultural events such as the Renaissance or Modernism or examination of how events such as war, economic crisis, technological change, or changing notions of gender or race have shaped culture through time or within specific periods or regions. With the permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* Upper-division standing or permission of the instructor

**HIST 334-3 Lectures in Legal History** Legal history studies the development of law and its interaactions with state, society, and culture. This course examines legal history in a variety of contexts and historical periods.

*Prerequisites:* Upper-division standing or permission of the instructor

**HIST 340-3 Politics and Society in Twentieth Century China** This course examines Chinese political and social development through the 20th century with primary attention paid to the comparison of past and present in state building, economic development and social change.

*Precluded:* POLS 309-3

**HIST 355-3 Russian Imperial History** This course explores the history of Imperial Russia from the eleventh century to the Russian Revolution of 1917. It focuses on Russia and its expansion, covering a range of themes including centre-periphery relations, Indigenous peoples, the peasantry, women, and revolution, with a particular focus on the north.

*Prerequisites:* Upper-division standing or permission of the instructor

**HIST 356-3 Soviet History** This course will explore the history of the Soviet Union from the Bolshevik Revolution of 1917 to break-up. Themes focus on the development of the Soviet Union, emphasizing Soviet power and its impact on peripheral areas. The roles of Aboriginal peoples, nationalism, women, and culture are studied with particular focus on the north.

*Prerequisites:* None

**HIST 360-3 An Introduction to Environmental History** Environmental history examines changing relationships between humans and the environment, including how human societies have been shaped by the environment, how environments have influenced human societies, and how humans have thought about the environment. This introduction to the field includes a global perspective but empahsizes North America, particularly Canada.

*Prerequisites:* None
*Precluded:* HIST 260-3

**HIST 365-3 Medieval Spain** As an overview of Iberian history from the fifth to the early sixteenth centuries, this course emphasizes the interaction of Christians, Muslims, and Jews, as well as the cultural and political distinctiveness of Castile and the Crown of Aragon during the medieval period.

*Precluded:* HIST 333-3 Lectures in Cultural History: Medieval Spain

**HIST 380-3 Modern Mexico** This course examines the history of Mexico from Independence in 1821 to the present, with emphasis on state building, economic development, and cultural transformations.

*Prerequisites:* Upper-division standing or permission of the instructor

**HIST 390-3 Aboriginal People in Canada** Lectures and readings examine the history of Aboriginal people in Canada since the earliest times.

*Prerequisites:* HIST 210-3 or HIST 211-3 or permission of the instructor
*Precluded:* HIST 400-3

**HIST 407-3 Topics in Local History/Methodology** This course examines the craft of history by focusing on the history of localities in northern British Columbia. Students are expected to conduct their own research using primary sources. With the permission of the Chari, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* HIST 300-3 or permission of the instructor

**HIST 421-3 Topics in Environmental History** This course explores aspects of environmental history in a variety of geographic settings in various historical periods. The precise content of the course varies from year to year depending on the expertise of the instructor. With the permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* HIST 300-3 or permission of the instructor

**HIST 440-(3-6) Internship in History** This is an academic course delivered in relevant workplaces (museums, archives, etc). Students are supervised in a manner that enables them to integrate their academic skills with practical application. This course may be repeated once for a total of six credits.

*Prerequisites:* History interns must be History majors who have completed 60 credit hours. Permission of the Chair of History is required for registration

**HIST 441-3 Internship in Legal Studies** This is an academic work study course delivered in relevant workplace settings where students experience the work environment in an assortment of law and legal services occupations. Permission of the Chair is required for registration.

*Prerequisites:* HIST 257-3 or POLS 257-3 and HIST 258-3 or POLS 258-3

**HIST 453-3 Topics in the History of Gender** This course studies the gendered experience of men and women in various contexts. With permision of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* HIST 300-3 or permission of the instructor

**HIST 454-3 Topics in Women's History** This course examines the diversity of women's experience in various contexts. With permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* HIST 300-3 or permission of the instructor

**HIST 456-3 Topics in Cultural Encounters** Students examine cross-cultural relations in different parts of the world. With permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* HIST 300-3 or permission of the instructor

**HIST 458-3 Topics in Law, Order, and Society** This course explores the historical interrelationships of law, authority, and social ordering in several geographic contexts. With permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* HIST 300-3 or permission of the instructor

**HIST 490-3 Topics in Historiography** This course examines particular themes in the history of history as a discipline. Topics might include the study of a particular school of historical thought, different interpretations of a major historical event, noteworthy historical controversies or the work of a significant historian. With permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* HIST 300-3 and one additional History course or permission of the instructor

**HIST 492-3 Topics in Cultural History** This course examines various themes in the history of culture. Topics might include major developments in the history of culture such as the Renaissance or Modernism. The ways in which major historical events such as the Reformation or the First World War have reshaped culture or particular cultural movements (such as classicism of 1960s counter-culture). With permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* HIST 300-3 or permission of the instructor

**HIST 493-3 Topics in Social History** This course examines various themes in social history. Topics might include major social changes such as the Industrial Revolution or Canadian urbanization. The social origins of major historical events such as the Reformation or the Russian Revolution or particular social movements (such as socialism or utopianism). With permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* HIST 300-3 or permission of the instructor

**HIST 494-3 Topics in Aboriginal History** In seminars and intensive primary and secondary research, students examine particular aspects of aboriginal history in Canada. With permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* HIST 300-3 or permission of the instructor

**HIST 498-3 Topics in International History** Students examine particular aspects of international history as selected by the instructor. With permission of the Chair, this course may be repeated to a maximu of 6 credit hours if the material is substantially different.

*Prerequisites:* HIST 300-3 or permission of the instructor

**HIST 499-3 Independent Study** Offered by special arrangement between student and instructor, this course enables students to read in depth in an area of history not normally covered in established courses. With the permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

*Prerequisites:* HIST 190-3, HIST 191-3, HIST 300-3 or permission of the instructor

**HIST 500-3 Honours Historiography: Contemporary Theories and Methods** This course traces the development of modern historical thought.

*Prerequisites:* HIST 300-3 and admission to Honours Program or permission of the instructor

**HIST 501-3 Honours Directed Readings** This course consists of specialized readings developed in consultation with, and supervised by, a faculty member in the History Department.

*Prerequisites:* Admission to Honours Program

**HIST 505-6 Honours Thesis** The Honours Thesis consists of a specialized research project developed in consultation with, and supervised by, a faculty member in the History Department. Credit is based on the presentation of research results in a formal paper of 7,500 to 10,000 words, and defended in an oral examination (the examining committee to consist of the supervisor and a minimum of three additional History Faculty members).

*Prerequisites:* HIST 500-3, HIST 501-3, and maintenance of a minimum GPA of 3.33
*Precluded:* HIST 502-3 and HIST 503-2

# Integrated Analytical Skills & Knowledge (IASK)

**IASK 101-3 Ways of Knowing** This course introduces students to the "ways of knowing" that inform and shape the Humanities and Social Sciences. It is based on three main questions related to knowledge: What is it and how is it defined? How do we assess it? How do we communicate it? Related questions include: What form does knowledge take? What counts as knowledge? Who has the power to define what counts as knowledge? Is there only one "truth"? How do we know what is credible? How do we share knowledge? Who gets to share knowledge? In other words, is knowledge political? What practices define the ways Humanities and Social Sciences disciplines define, assess and communicate knowledge? Student participation in "hands-on" learning is a key element of the course structure.

*Co-requisites:* Students will be required to register in all six IASK courses offered that year

**IASK 102-3 Waves of Globalization** "Globalization" is one of the most popular words in the Social Sciences today. It is also one whose meaning has been much debated. The purpose of this course is to introduce students to the ways in which globalization has occurred, its causes and its consequences, as a way of better understanding what the concept means and how it affects us today.

*Co-requisites:* Students will be required to register in all six IASK courses offered that year

**IASK 103-3 Foundations of Learning I** This course parallels and complements the other two IASK courses offered during the same semester, and integrates foundational readings and course content. The course focuses on critical thinking; academic reading and writing; oral presentation; library skills; and peer learning. Students meet the course objectives by working together in cohorts to discuss and practice university-level standards for writing and critical thought.

*Co-requisites:* Students will be required to register in all six IASK courses offered that year

**IASK 104-3 Peoples, Places and Culture** This course focuses on how people are shaped by and shape their worlds and where they live. People's attachment to place is meaningful and the sense of place influences our identity and our social and cultural interactions with others and with the world. Different cultures and peoples within those cultures may hold various and diverse meanings of place. One person throughout their lifetime may even understand their place, and their place in the world, in different and changing ways. All of us are always "in place" somewhere. The goal of this course is to become aware of the impact "being in place" has on our lives and the lives of others by exploring the key concepts of place, identity and belonging.

*Co-requisites:* Students will be required to register in all six IASK courses offered that year

**IASK 105-3 What is Security?** Focusing on different interpretations of the concept of security, students explore how security is subject to various interpretations over time and how different locations in society and across cultures can result in alternative understandings of security.

*Co-requisites:* Students will be required to register in all six IASK courses offered that year

**IASK 106-3 Foundations of Learning II** This course parallels and complements the other two IASK courses offered during the same semester, and integrates foundational readings and course content. The course focuses on critical thinking; academic reading and writing; oral presentation; library skills; and peer learning. Students meet the course objectives by working together in cohorts to discuss and practice university-level standards for writing and critical thought.

*Co-requisites:* Students will be required to register in all six IASK courses offered that year

**IASK 107-3 Special Topics** This course is one of the programs "big question courses" that is part of the IASK program. Based on themes of "intersections and conversations," the curriculum celebrates and respects the past, challenges students to think in diverse and creative ways, and fosters awareness of and respects the past, challenges students to think in diverse and creative ways, and fosters awareness of and connection to our communities and the world. This course may be repeated to a maximum of 6 credit hours.

*Co-requisites:* Students will be required to register in IASK courses offered that year

# International Exchange (INTX)

**INTX 288-(1-18) International Exchange Program** Undergraduate students register in this course when they have been accepted to participate in a formal international exchange program at one of UNBC's partner institutions.

*Prerequisites:* completion of 30 credit hours of course work or permission of the academic advisor and the Exchange Student Selection Committee. At least 24 of these credit hours must be completed at UNBC. A student may register in this course more than once for a maximum of 30 credit hours unless special permission is granted to complete additional credit hours.

**INTX 488-(1-18) International Exchange Program** Undergraduate students register in this course when they have been accepted to participate in a formal international exchange program at one of UNBC's partner institutions.

*Prerequisites:* completion of 60 credit hours of course work or permission of the academic advisor and the Exchange Student Selection Committee. At least 24 of these credit hours must be completed at UNBC. A student may register in this course more than once for a maximum of 30 credit hours unless special permission is granted to complete additional credit hours.

# International Studies (INTS)

**INTS 101-3 Canada and the World** An examination of Canada's position within the global community, including key economic, political, social and environmental issues and relations with the United States, Pacific Basin, and Circumpolar North.

*Prerequisites:* None

**INTS 121-3 Beginning Japanese I** An introduction to conversational and written elements of the language using materials from everyday situations.

*Prerequisites:* None

**INTS 122-3 Beginning Japanese II** Continuation of INTS 121-3.

*Prerequisites:* INTS 121-3

**INTS 131-3 Beginning Russian I** An introduction to conversational and written elements of the language using materials from everyday situations.

*Prerequisites:* None

**INTS 132-3 Beginning Russian II** Continuation of INTS 131-3.

*Prerequisites:* INTS 131-3

**INTS 141-3 Beginning Swedish I** An introduction to conversational and written elements of the language using materials from everyday situations.

*Prerequisites:* None

**INTS 142-3 Beginning Swedish II** Continuation of INTS 141-3.

*Prerequisites:* INTS 141-3

**INTS 151-3 Beginning International Language I** (international language not regularly offered at UNBC) An introduction to conversational and written elements of the language using materials from everyday situations.

*Prerequisites:* None

**INTS 152-3 Beginning International Language II** Continuation of INTS 151-3.

*Prerequisites:* INTS 151-3

**INTS 160-3 Mandarin for Chinese Speakers** Designed to help speakers of other Chinese dialects (Cantonese, Hakka, Fujian and others) who have the ability to read and write Chinese language, to gain better listening comprehension and fluency in oral Mandarin Chinese and strengthen their language skills in Mandarin Chinese. It will focus on Mandarin pronunciation, syntax and concepts of modern Chinese through reading and discussion.

*Prerequisites:* Approval of instructor

**INTS 161-3 Beginning Chinese I** A beginning course in modern written Chinese and spoken Mandarin. It is to lay the foundation for the study of Mandarin Chinese and to develop the four basic linguistic skills, namely listening, speaking, reading and writing, through the study of Hanyu Pinyin (a phonetic system using English characters), vocabulary, syntax and culture. It is designed for non-native speakers.

*Prerequisites:* Approval of instructor

**INTS 162-3 Beginning Chinese II** A continuation of the comprehensive introduction to the basics of Mandarin in INTS 161-3. The multiple approach of this course focuses on perfecting phonetic skills, improving conversation competence (speaking and listening skills) as well as learning more Chinese characters for reading and writing.

*Prerequisites:* INTS 161-3 or equivalent

**INTS 200-3 Contemporary Russia** An interdisciplinary survey of the former Soviet Union and its peoples, including an examination of major historical, social, economic, political and cultural features of the country.

*Prerequisites:* None

**INTS 202-3 Contemporary United States** An interdisciplinary survey of the country and its people, including an examination of the major historical, social, economic, political and cultural features of the nation.

*Prerequisites:* None

**INTS 203-3 Contemporary Japan** An interdisciplinary survey of the country and its people, including an examination of the major historical, social, economic, political and cultural features of the nation.

*Prerequisites:* None

**INTS 204-3 Contemporary China** An interdisciplinary survey of China and its peoples, including an examination of the major historical, social, economic, political and cultural features of the country.

*Prerequisites:* None

**INTS 205-3 Introduction to International Studies** A survey of ways to analyze international interactions between states, people and the environment.

*Prerequisites:* None

**INTS 206-3 Contemporary International Issues** An examination of issues and problems in contemporary international studies.

*Prerequisites:* INTS 205-3

**INTS 221-3 Intermediate Japanese I** The development of speaking, writing and reading abilities using modern texts.

*Prerequisites:* INTS 122-3 or permission of the instructor

**INTS 222-3 Intermediate Japanese II** Continuation of INTS 221-3.

*Prerequisites:* INTS 221-3

**INTS 231-3 Intermediate Russian I** The development of speaking, writing and reading abilities using modern texts.

*Prerequisites:* INTS 132-3 or permission of the instructor

**INTS 232-3 Intermediate Russian II** Continuation of INTS 231-3.

*Prerequisites:* INTS 231-3

**INTS 240-3 Contemporary Circumpolar North** This course is an introduction to the physical, biological, and human environments of the Arctic and Subarctic regions, and their interactions and relations to the global system. The course also introduces northern cultures, economic development processes, political systems, and international cooperation.

*Precluded:* NORS 101-3

**INTS 241-3 Intermediate Swedish I** The development of speaking, writing and reading abilities using modern texts.

*Prerequisites:* INTS 142-3 or permission of the instructor

**INTS 242-3 Intermediate Swedish II** Continuation of INTS 241-3.

*Prerequisites:* INTS 241-3

**INTS 251-3 Intermediate International Language I** The development of speaking, writing and reading abilities using modern texts.

*Prerequisites:* INTS 152-3 or permission of the instructor

**INTS 252-3 Intermediate International Language II** Continuation of INTS 251-3.

*Prerequisites:* INTS 251-3

**INTS 261-3 Intermediate Chinese I** This intermediate course is a continuation of INTS 161-3 and INTS 162-3. It provides students with opportunity to strengthen the four basic linguistic skills of the language and to increase their competency in oral and written skills. Some simple Chinese proverbs and idiomatic expressions will be introduced.

*Prerequisites:* INTS 161-3 and INTS 162-3 or equivalent

**INTS 262-3 Intermediate Chinese II** This intermediate course is a continuation of INTS 261-3. Students will continue to build proficiency in all four basic skills of the language, and are expected to be, by this level, knowledgeable and competent enough to work independently in acquiring new vocabulary and Chinese characters. Short essay writing will be included. A couple of Tang's poems and Song's verses will be introduced.

*Prerequisites:* INTS 261-3 or equivalent

**INTS 300-3 International Organization** An investigation of the evolution, operation and significance of international organization and international organizations. Examinations of the United Nations, other intergovernmental institutions and various non-governmental organizations are included.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 301-3 International Law** A study of the nature and sources of international law and its application in the contemporary international community.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 302-3 Canadian Foreign Policy** A survey of the institutions, actors, processes and issues that determine Canadian foreign policy, including a review of the relationship to domestic policies.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 304-3 International Development** An examination of approaches to and problems of economic, social and political development. Policy-making processes and the role of national and international development institutions are also explored.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 306-3 Human Rights** An examination of human rights issues and problems within the global community. Human rights questions as disputes in relations between states and societies are explored, as are efforts to establish international codes of conduct and observance.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 307-3 Global Resources** An examination of the interaction between global economic and environmental resources.

*Prerequisites:* 60 credit hours, or permission of the instructor

**INTS 308-3 Gender and International Studies** An investigation of the role of gender in international affairs.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 309-3 Global Science and Technology** This course is an inquiry into the role of science and technology in an era of "globalization". The origins of science & technology and their 'merger' in the late 1800s provide the foundation for analysis of science and technology's relationship to present-day security, economic, social, and environmental issues at the international level.

*Prerequisites:* INTS 205-3, 60 credit hours or permission of the instructor
*Precluded:* INTS 498-3-Science and Technology in a Global Word

**INTS 310-3 Origins and Evolution of International Studies** A review of the origins and theoretical development of contending approaches which inform International Studies.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 321-3 Japanese Conversation and Composition I** This course is designed for students who have an intermediate Japanese language background. It will focus on developing students' speaking and writing skills as well as reading and listening. Students will practice assigned topics in conversation and writing each week. Participation and skill levels will be evaluated each class session.

*Prerequisites:* INTS 222-3 or approval of the instructor

**INTS 322-3 Japanese Conversation and Composition II** This course is the continuation of INTS 321-3 Japanese Conversation and Composition I.

*Prerequisites:* INTS 321-3 or approval of the instructor

**INTS 325-3 Russian Film and Society** This course examines films made in the USSR and in post-Soviet Russia as a reflection of a specific world view. Special attention is paid to political, historical, sociological and cultural contexts.

*Prerequisites:* 60 credit hours or permission of the instructor

**INTS 335-3 Global Environmental Challenge: Sustainability** This course introduces social and natural science students to the monumental challenge of achieving global environmental sustainability. The roles of ethics, knowledge, and social, political and economic action in this process are examined, focusing especially on science and public policy. A common, trans-disciplinary vocabulary and a problem-solving approach to sustainability are developed and applied to case studies of environmental problems on scales from local to global.

*Prerequisites:* 60 credit hours
*Precluded:* ENVS 325-3 Global Environmental Change: Science and Policy

**INTS 340-3 The Circumpolar North in Global Perspective** An examination of the North in global perspective and the importance of a comparative perspective. The nature and development of conflicts within the region between and within native and non-native communities, between and within groups on issues such as development, and between nations over matters such as sovereignty and defence of Northern regions are surveyed, as are attempts to reduce conflicts and create a more integrated circumpolar society.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 350-3 Pacific Relations** An investigation of the evolution of relations between the nations of the Asia-Pacific region, including the consideration of economic, political, social and cultural interactions.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 371-3 Globalization** An examination of the concept of globalization as it relates to political, economic, social, cultural and environmental processes which challenge and redefine the international system.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 377-3 Redefining Security** A review of the evolution of the notion of security from traditional definitions associated with the military and the state to more recent definition of security which include gender, economics, and the environment.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 378-3 Intelligence and Security** A comparative analysis of the place of security and intelligence in international relations and within contemporary states. The role of the four major elements of intelligence (collection, counterintelligence, analysis and estimates, and covert action) will be examined as will the oversight and control issues raised by these activities.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 402-3 Pacific Affairs** This course provides a detailed study of contemporary issues in the relations between Asia-Pacific nations, including an assessment of regional and subregional institutions.

*Prerequisites:* INTS 205-3, and 60 credit hours, or permission of the instructor

**INTS 403-3 Canadian-American Relations** A review of the evolution of relations between Canada and the United States.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 404-3 Canada and the Americas** An examination of issues and problems in Canada's relationship with the countries of North, Central and South America.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 409-3 Theories of International Studies** A review of the development of international studies as a discipline and the emergence of contending theoretical approaches.

*Prerequisites:* INTS 205-3, INTS 310-3 and 60 credit hours, or permission of the instructor

**INTS 410-3 Environment and Development in the Circumpolar North** Examination of conservation and development issues and experiences in the northern circumpolar countries.

*Prerequisites:* INTS 205-3, INTS 340-3 and 60 credit hours, or permission of the instructor

**INTS 430-(3-15) Study Abroad**

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 440-(3-6) Internship**

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 444-3 Russian Foreign Policy** An analysis of the sources of Russian foreign policy and the patterns of external relations, from the Tsarist period to the present.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 460-3 Issues in Canadian Foreign Relations** A detailed examination of selected problems in Canada's foreign relations.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 470-3 International Environmental Policy** This seminar considers international actions dealing with environmental problems such as climate change, ozone depletion, hazardous waste, POP's, war and the environment, fresh water quality, deforestation, biodiversity and endangered species. Discussion focuses on the ways and the extent to which these problems can be met by international agreements and governance arrangements, or what international studies calls environmental "regimes". Two basic questions will be addressed. What factors facilitate the formation of international environmental regimes and can these regimes be effective while overcoming the "tragedy of the commons".

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 480-3 Pacific Environment** This is a seminar on international environmental problems of the Pacific region and efforts to solve them, with particular attention to the theory and practice of international environmental cooperation as applied to the Pacific region.

*Prerequisites:* INTS 205-3, 60 credit hours or permission of the instructor
*Precluded:* INTS 498-3-Pacific Environment

**INTS 498-(3-6) Special Topics in International Studies** Detailed examination and analysis of a contemporary issue in international studies, including the exploration of future policy options.

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 499-(3-6) Independent Study**

*Prerequisites:* INTS 205-3 and 60 credit hours, or permission of the instructor

**INTS 590-3 Honours Seminar** This seminar will cover major theories and developments in international affairs, and the application of key theories, such as realism, idealism, constructivism, inter-dependence and globalization, etc. The precise content will vary from year to year depending on faculty and student interest. An effort will be made to cover topics of relevance to the students' honours theses.

*Prerequisites:* Admission to the Honours program, completion of INTS 409-3, and concurrent registration in INTS 591-3

**INTS 591-3 Honours Thesis** The honours thesis comprises a major specialized research project normally analyzing the applicability of an important concept, theory, issue or development in international studies. Each honours thesis requires the approval of the honours advisor, and has a supervisor and a second reader, and is defended.

*Prerequisites:* Admission to the Honours program, completion of INTS 409-3, and concurrent registration in INTS 590-3

# Languages

*International languages taught at UNBC include Japanese, Mandarin and Russian. For course listings, see entries under International Studies.*

# Mathematics (MATH)

*Note that BC Introductory Mathematics 11, Applications of Mathematics 11, Essentials of Mathematics 11, Applications of Mathematics 12, and Essentials of Mathematics 12 are not considered prerequisites for any MATH courses as currently taught.*

*A student may enroll in any MATH course with permission of the Department Chair. Unless otherwise stated, students enrolling in any MATH courses with prerequisites are required to have completed all prerequisite courses for that course with a C- or better, or have permission to enroll from the Department Chair.*

**MATH 100-3 Calculus I** This course is an introduction to the calculus of one variable, primarily for majors and students in the sciences. Functions of one variable, inverses, limits and limit theorems, continuity, the difference quotient and derivatives, rules for differentiation, differentiability, the mean value theorem, the differential as a linear functional, definitions and derivatives of trigonometric functions, informal definitions of logarithmic and exponential functions and their derivatives, L'Hopital's rule, higher derivatives, maxima and minima, curve sketching, Newton's method, antiderivatives, definite integrals, the fundamental theorem of calculus, integrals of elementary functions, area between curves, applications of integration, and integration by substitution are discussed. All sections of this course are taught using Maple software.

*Prerequisites:* Math 12 or Principles of Math 12 or Pre-calculus 12 or MATH 115-3
*Precluded:* MATH 105-3 or MATH 152-3

**MATH 101-3 Calculus II** This course provides a continuation of MATH 100. Areas of study include the definition of the natural logarithm as an integral and of the exponential function as its inverse, integration by parts, miscellaneous techniques of integration, improper integrals, volumes by slicing and by shell techniques, the trapezoidal rule and Simpson's rule, infinite sequences and series, Taylor series, masses, volumes, moments, centre of mass, first order linear differential equations, definition of partial derivatives. All sections of this course are taught using Maple software.

*Prerequisites:* MATH 100-3 or MATH 105-3

**MATH 105-3 Enriched Calculus** This course provides a rigorous introduction to the calculus of functions of one variable. Core topics covered are similar to those of MATH 100-3, except that the focus is less on the mechanics of calculus and more on the development of the ideas in calculus and of calculus as a foundation of mathematical thought. Additional special topics may be added by the instructor. Maple labs accompany this course.

*Prerequisites:* Math 12 or Principles of Math 12 or Pre-calculus 12 or MATH 115-3
*Precluded:* MATH 100-3 or MATH 152-3

**MATH 115-3 Precalculus** This course examines algebraic manipulation, solutions of algebraic equations, functions, inverses, graphing, and analytic geometry. It is not open to students with credit in Principles of Math 12, Precalculus 12, MATH 100, MATH 105, MATH 150, MATH 152 or equivalents, except by permission of the Chair.

*Prerequisites:* Principles of Math 11 or Pre-calculus 11

**MATH 150-3 Finite Mathematics for Business and Economics** This course is offered primarily for students in the School of Business and the Economics Program. It covers functions and graphs, linear systems of equations, matrix notation and properties, matrix inversion, linear programming, sets, counting and probability, and an introduction to actuarial mathematics.

This course may not be used for credit towards a major, or joint major, in Mathematics or Computer Science.

*Prerequisites:* Principles of Math 12 or Pre-calculus 12 or Math Foundations 12 or MATH 115-3

**MATH 152-3 Calculus for Non-majors** Limits, the derivative, techniques of differentiation, exponential functions and exponential growth, maxima and minima, curve sketching, first order linear differential equations, definite and indefinite integrals, partial derivatives, optimization of functions of several variables, Lagrange multipliers, with applications in the social and physical sciences. Applications may vary somewhat from section to section, depending on student's discipline. Not open to mathematics or computer science majors.

*Prerequisites:* Math 12 or Principles of Math 12 or Pre-calculus 12 or MATH 115-3
*Precluded:* MATH 100-3 or MATH 105-3

**MATH 190-4 Mathematics for Elementary School Educators** This course develops an understanding of mathematical concepts and relationships used in the elementary school curriculum. The content focus is on numbers and number systems, patterns and relations, shapes and space, and statistics and probability. Problem solving and deductive reasoning are stressed throughout the course.

*Prerequisites:* Principles of Math 11 or Pre-calculus 11 or Math Foundations 11
*Precluded:* MATH 100-3, MATH 105-3, MATH 152-3. Students who have taken MATH 100-3, MATH 105-3, MATH 152-3 or equivalent require permission of the Chair

**MATH 200-3 Calculus III** The final course in the calculus sequence, with an emphasis on the calculus of vector-valued functions of several variables. Vectors in two- and three-dimensional space, dot and cross products, lines and planes in space, cylindrical and spherical coordinates, curves given parametrically, surfaces and curves in space, directional derivatives, the gradient, tangent vectors and tangent planes, the chain rule, the topology of Euclidean space, optimization problems for functions of several variables, vector fields, line integrals, surface integrals, the theorems of Green, Gauss, and Stokes, potential functions, conservative fields.

*Prerequisites:* MATH 101-3

**MATH 201-3 Introduction to Complex Analysis** Complex numbers and topology of the complex plane, theory of analytic functions, precise definition of limit and continuity, harmonic functions, contour integration, Cauchy's integral theorem and integral formula, series representation for analytic functions, residue theory, the fundamental theorem of algebra.

*Prerequisites:* MATH 200-3

**MATH 220-3 Linear Algebra** This course covers systems of linear equations, matrix algebra, determinants, vector geometry, vector spaces, eigenvalues and diagonalization.

*Prerequisites:* Math 100-3 or MATH 105-3 or CPSC 141-3

**MATH 224-3 Foundations of Modern Mathematics** This course develops the essential components of Zermelo-Fraenkel set theory and from these ideas constructs the standard number systems. Topics include basic logic and methods of proof, axioms of set theory, mathematical induction, the natural numbers, the integers, and the rational, real, and complex number systems.

*Prerequisites:* MATH 100-3 or MATH 105-3
*Recommended:* MATH 101-3
*Precluded:* MATH 222-3

**MATH 230-3 Linear Differential Equations and Boundary Value Problems** This course is an introduction to differential equations. Topics include first order differential equations (separable, exact, and linear), basic Euler and Runge-Kutta numerical methods of solution, homogeneous and nonhomogeneous linear second order equations with classical methods of solution (variation of parameters and reduction of order), linear partial differential equations with examples (heat equation, Laplace's equation, wave equation), Fourier sine and cosine series with an application to boundary value problems.

*Prerequisites:* MATH 200-3
*Co-requisites:* MATH 220-3
*Precluded:* MATH 332-3

**MATH 302-3 Introductory Mathematical Analysis** This course develops the essential components of metric space topology and the related ideas of convergence including convergence of sequences and series of functions. Topics include open, closed, bounded and compact sets in a metric space, the Bolzano-Weierstrass and Heine-Borel Theorems, continuous and uniformly continuous functions, and uniform convergence.

*Prerequisites:* MATH 101-3 and MATH 224-3
*Strongly* Recommended: MATH 201-3
*Precluded:* MATH 223-3 and MATH 300-3

**MATH 320-3 Survey of Algebra** A first course in the standard algebraic structures, their properties and applications. Equivalence relations, elementary group theory, finite groups, cyclic groups, permutation groups, group homomorphisms, products, elementary ring theory, ring homomorphisms and products, construction of new algebraic structures from known structures.

*Prerequisites:* MATH 220-3
*Recommended:* MATH 224-3

**MATH 326-3 Advanced Linear Algebra** Topics include abstract treatment of vector spaces, linear transformations, the Cayley-Hamilton theorem, inner product spaces, Gram-Schmidt orthogonalization, rational and Jordan canonical forms, and the spectral theorem.

*Prerequisites:* MATH 220-3
*Precluded:* MATH 226-3

**MATH 335-3 Numerical Analysis I** An introduction to the theory and application of numerical approximation techniques. Topics to be examined include number systems, error sources and analysis, solution of nonlinear equations, solution of systems of linear equations, interpolation and approximation, and numerical differentiation and integration. Programming exercises will be given, and there may be some use of commercial software. May be counted as a computer science course by computer science majors.

*Prerequisites:* MATH 101-3, MATH 220-3, CPSC 100-4 (or equivalent programming experience)
*Precluded:* MATH 330-3

**MATH 336-3 Intermediate Differential Equations** This course is a continuation of MATH 230-3 and is designed to increase the depth and breadth of students' knowledge pertaining to differential equations. Topics include existence and uniqueness theory for ordinary differential equations, series solutions of differential equations, linear system theory, phase plane analysis and stability, boundary value problems review of Fourier Series, with additional applications to boundary value problems for the Heat Equation, Wave Equation and Laplace's Equation.

*Prerequisites:* MATH 220-3 and MATH 230-3
*Precluded:* MATH 334-3

**MATH 389-3 Special Topics in Mathematics** The topic of this course varies depending on student interest and faculty availability. May be taken any number of times provided all topics are distinct.

*Prerequisites:* Permission of instructor

**MATH 402-3 Topological and Normed Linear Spaces** This course focuses on the properties of topological spaces and normed linear spaces, especially Banach spaces. Topics include inner product spaces, topological spaces, compact and locally compact spaces, classical Banach spaces, linear functionals and dual spaces, topological vector spaces, and Hilbert space.

*Prerequisites:* MATH 302-3

**MATH 403-3 Measure Theory and Integration** This course focuses on the development and properties of Lebesgue measure and the Lebesgue integral, with generalization to integration in abstract measurable spaces. Topics include outer measure, measurable sets and Lebesgue measure, measurable functions, differentiation of integrals, and the extension of these concepts to more general settings.

*Prerequisites:* MATH 302-3

**MATH 405-3 Topology** Open and closed sets, Hausdorff and other topologies, bases and sub-bases, continuous functions connectivity, product and quotient spaces, the Tychonoff and Urysohn lemmas, metrization, compact spaces.

*Prerequisites:* MATH 302-3
*Precluded:* MATH 321-3

**MATH 409-3 Mathematical Methods in Physics** This course surveys the methods and techniques involved in the formulation and solutions of physics problems. Topics include matrix algebra and group theory, eigenvalue problems, differential equations, functions of a complex variable, Green's functions, Fourier series, integral equations, calculus of variations, and tensor analysis.

*Prerequisites:* Permission of the instructor
*Precluded:* PHYS 409-3

**MATH 420-3 Structure of Groups and Rings** Advanced course in group theory and ring theory. Homomorphism theorems for groups, rings and R-modules, Sylow theorems, short exact sequences, chain conditions.

*Prerequisites:* MATH 320-3

**MATH 421-3 Field Theory** Topics discussed will include: fields, field extensions, splitting fields, automorphism group, Galois Theory.

*Prerequisites:* MATH 320-3

**MATH 450-3 Combinatorics** This course in an introduction to combinatorics. Topics include counting principles, principle of inclusion and exclusion, generating functions, graph theory and applications, combinatorial structures, combinatorial optimization and applications.

*Prerequisites:* MATH 101-3, MATH 220-3
*Recommended:* CPSC 141-3 or MATH 224-3

**MATH 455-3 Graphs and Algorithms** This course is an introduction to graphs and algorithms. Topics include basic graph concepts, flows and connectivity, trees, matchings and factors, graph colouring, scheduling, planar graphs, and algorithms.

*Prerequisites:* MATH 224-3 or CPSC 141-3 or CPSC 142-3

**MATH 460-3 Mathematics Seminar** Topic will vary from year to year. Offered in a seminar format with limited enrolment. Students will complete a substantial project under the supervision of the instructor.

*Prerequisites:* Completed 90 credit hours and permission of the instructor

**MATH 480-3 Number Theory** This course is an introduction to number theory. Topics include the integers, divisibility, Euclidean algorithm, primes, unique factorization, congruences, systems of linear congruences, Euler-Fermat Theorem, multiplicative functions, quadratic residues and reciprocity, nonlinear Diophantine equations.

*Prerequisites:* MATH 220-3 or MATH 224-3

**MATH 499-3 Special Topics in Mathematics** The topic for this course will vary, depending on student interest and faculty availability. May be taken any number of times provided all topics are distinct.

*Prerequisites:* Permission of the instructor

**MATH 530-(3,6) Undergraduate Thesis** This undergraduate thesis allows students to examine and research a topic in the field of mathematics. Students must have completed at least 90 credit hours and be a Mathematics major. This thesis may be taken in one or two semesters. MATH 530 is normally taken over two semesters and requires that a student find an Undergraduate Thesis research supervisor. Therefore, students are encouraged to apply to potential supervisors well in advance of completing 90 credit hours. This course is taken for a total of 6 credit hours.

*Prerequisites:* Honours standing and permission of the Instructor and Department Chair
*Precluded:* STAT 530-(3,6)

# National Outdoor Leadership School (NOLS)

*The National Outdoor Leadership School (NOLS) is a not for profit educational institution that offers courses in outdoor leadership and wilderness education throughout Canada and around the world. Courses with NOLS prefixes are taught through a partnership agreement with NOLS and are not physically taught at UNBC. Students need to enroll in a NOLS field-based program in order to access these courses/credits, and there are additional tuition costs for such a program. Information about NOLS courses and how to register is available from the ORTM program or from the student advisors.*

**NOLS 100-4 The Natural History of Regional Ecosystems** This course teaches students field natural history and basic field ecology as keys to the exploration of their surroundings and in order to minimize the human effects on the ecosystems through which they travel. This is done through immersion in a wilderness setting, class work, and guided "teachable moments" that develop students' knowledge of local biota.

**NOLS 300-2 Environmental Ethics, Leave No Trace and Leadership** This course allows students to master "Leave No Trace" principles and develop the teaching skills necessary to pass these ethics on to others effectively. These goals are accomplished in an independent learning community immersed in a remote wilderness environment.

**NOLS 301-2 Group Leadership Techniques** This course enables students to learn and practice advanced levels of outdoor leadership. Areas of emphasis include high accountability standards, communications, group organization, teamwork, and expedition ethics.

**NOLS 302-(2-6) Wilderness Skills Practicum** This course teaches students safety and environmental care to develop competence in wilderness travel fundamentals. Students learn the skills needed to travel through the backcountry safely, in a number of different contexts (e.g., canoeing, river travel, backpacking, mountaineering).

**NOLS 303-2 Risk Management, Assessment and Decision Making** Students learn and practice assessing and managing risks related to weather, climate, travel, and the "human factor." Foundations for decision-making, theory, and communication are practiced. Risk assessment is evaluated on the environment in which the course is based (e.g., land, water or snow).

# Natural Resources and Environmental Studies (NRES)

**NRES 100-3 Communications in Natural Resources and Environmental Studies** This course will provide a basic understanding of human behavioural responses as well as develop learning skills in oral and written communications. Emphasis will be on determining the nature of an audience, accessing appropriate material, report writing, oral presentation and literature relevant to natural resources and environmental disciplines.

*Prerequisites:* None

**NRES 421-1 Professional Writing** This course provides a structured environment in which students learn and apply skills in professional report writing. Topics include development of a research question or problem statement, accessing and properly citing information and references, synthesis and organization of information, report structure and formatting.

*Prerequisites:* At least 90 credit hours or permission of instructor

**NRES 422-2 Undergraduate Report** This course enables students to develop a professional report under the supervision of a faculty member. Students work independently, but are provided guidance on a one-on-one basis by the faculty member. The professional report requires definition of a problem statement or research question, and synthesis and integration of information from a multitude of sources.

*Prerequisites:* NRES 421-1 Professional Writing and permission of Faculty Supervisor and Program Chair
*Precluded:* NRES 420-3 Undergraduate Report

**NRES 430-6 Undergraduate Thesis** An undergraduate thesis offers students substantial research experience, which may be helpful for proceeding to postgraduate studies. The course requirements include conducting supervised research, writing a thesis, and presenting the results orally. Students taking this course would normally be majoring in Biology, Environmental Studies, Natural Resources Management (Forest Ecology and Management, Outdoor Recreation and Conservation, or Wildlife and Fisheries), or Nature-Based Tourism Management. NRES 430 is normally taken over two semesters and requires that a student find an Undergraduate Thesis research supervisor. Students are encouraged to apply to potential supervisors well in advance of completing 90 credit hours.

*Prerequisites:* 90 credit hours and permission of an Academic Supervisor and a Program Chair

# Natural Resources Management (NREM)

**NREM 100-3 Field Skills** This course introduces contemporary and traditional field skills in the natural resources including field navigation, outdoor survival, plant and tree identification, basic natural resource measurements, use of GPS, and air photo interpretation. Extensive fieldwork is required.

*Prerequisites:* None
*Note:* Applications for exemption from NREM 100-3 must be made within the first year of study in any program that requires NREM 100-3

**NREM 101-3 Introduction to Natural Resources Management and Conservation** This course introduces past, present and future issues in natural resources management and conservation. Guest speakers share their professional experiences working in various fields of natural resources management. Students learn to think critically about the multidisciplinary nature of resource management and they provide solutions to complex, real-world problems.

*Prerequisites:* None

**NREM 203-3 Resource Inventories and Measurements** This course introduces multiple resource inventories, designed to provide an understanding of how natural resources are sampled and quantified. Emphasis is placed on the measurement of forest attributes, and the analysis of forest resource data. Students learn how to make graphical and numerical summaries of their datasets and to generate descriptive statistics such as measures of central tendency and dispersion. This foundational course prepares students for future courses and careers in natural resource management, by providing them with a set of basic field skills and techniques. Field trips are required.

*Prerequisites:* NREM 100-3

**NREM 204-3 Introduction to Wildlife and Fisheries** Introduction to principles of habitat and population biology and management, and human dimensions of wildlife management. Lectures will introduce the life requisites of individual species and compare aquatic and terrestrial systems, and provide an overview of the characteristics needed to estimate parameters of fish and wildlife populations. Labs will emphasize quantification of fish and wildlife habitats.

*Prerequisites:* BIOL 102-4, or BIOL 104-3 and BIOL 124-1; NREM 100-3

**NREM 210-4 Integrated Resource Management** An introductory course in the principles of management of forest resources including fisheries, recreation, range, and wildlife.

*Prerequisites:* None

**NREM 303-3 First Nations' Approaches to Resource Management** Cultural and operational components of resource management by First Nations peoples. Relationships to conventional forest management practices.

*Prerequisites:* 60 credit hours

**NREM 306-3 Society, Policy and Administration** This course addresses social views of natural resources and the management processes by which these views and policies are developed and expressed. Social conflict and its resolution over natural resource policies are also discussed.

*Prerequisites:* Upper-division standing
*Precluded:* POLS 334-3 and POLS 344-3

**NREM 333-3 Field Applications in Resource Management** This field-based course provides students with a practical understanding of principles of integrated resource management. The course focuses on the many values on a landbase through modularized lessons and an authentic case study approach. Meeting with various stakeholders and professionals working in the field allows students to explore relevant and contemporary issues in natural resource management.

*Prerequisites:* Permission of the instructor

**NREM 400-4 Natural Resources Planning** This course focuses on the development and application of planning frameworks, government policy, and legislation from the perspective of natural resources management in British Columbia and Canada. Students are exposed to contemporary approaches for natural resources planning, the history and current application of policy and legislation in BC, and a variety of tools for engaging the public and stakeholders.

*Prerequisites:* 90 credit hours or permission of the instructor

**NREM 410-3 Watershed Management** Principles and practices of forest management for protection, maintenance and improvement of water resource values. Effects of land management on quality, quantity and timing of water flow. Field trips required.

*Prerequisites:* GEOG 210-3

**NREM 411-3 Environmental and Professional Ethics** Analysis of environmental and natural resource issues from an ethical perspective; viewpoints and value systems that determine management decisions.

*Prerequisites:* 90 credits required
*Precluded:* ENVS 414-3

**NREM 413-3 Agroforestry** This course introduces students to agroforestry concepts, strategies and practices (systems). Discussions include ecological, economic, and social circumstances under which a landowner lives and makes decisions about whether or not to practice agroforestry. Both temperate and tropical approaches to agroforesty systems are addressed in the course. Special attention is given to agroforestry research and development in British Columbia.

*Prerequisites:* Upper-division standing (more than 60 credit hours)

# Northern Studies (NORS)

**NORS 101-3 Introduction to the Circumpolar North** This course is an introduction to the physical, biological and human environments of the Arctic and Subarctic regions, and their interactions and relations to the global system. It provides an overview of northern environments, cultures, historical and economic development processes, political systems, and international cooperation.

*Prerequisites:* None

**NORS 311-3 Lands and Environments of the Circumpolar North 1** This course provides an in-depth understanding of the lands and environments that define the circumpolar north, and the key issues arising from the relationships of humans and the environment.

*Prerequisites:* NORS 101-3 or permission of the instructor
*Precluded:* ENVS 311-3 (UNBC) or ENPL 311-3

**NORS 312-3 Lands and Environments of the Circumpolar North 2** This course provides an in-depth understanding of the lands and environments that define the circumpolar north, and its physical, biological and ecological processes.

*Prerequisites:* NORS 101-3; 60 credit hours or permission of the instructor
*Precluded:* ENSC 308-3 (UNBC) or ENVS 308-3 (UNBC)

**NORS 321-3 Peoples and Cultures of the Circumpolar World 1** This course provides an introduction to the traditional and contemporary peoples and cultures of the circumpolar north, with interdisciplinary exposure to anthropology, sociology, history, cultural studies, and literature.

*Prerequisites:* NORS 101-3;60 credit hours; or permission of the instructor
*Precluded:* ANTH 305-3

**NORS 322-3 Peoples and Cultures of the Circumpolar World 2** This is an interdisciplinary course looking at the relationships among primary, secondary and tertiary societies in the circumpolar north, as well as cultural change, Indigenous peoples' movements and international/intercultural cooperation and communications.

*Prerequisites:* NORS 321-3; and upper-division standing
*Precluded:* ANTH 404-3

**NORS 331-3 Contemporary Issues of the Circumpolar North 1** This course is an introduction to the important structures and forces affecting the sustainability of circumpolar communities, including population trends, natural resource use and economic development

*Prerequisites:* NORS 101-3; 60 credit hours; or permission of the instructor
*Precluded:* INTS 340-3

**NORS 332-3 Contemporary Issues of the Circumpolar North 2** This course deals with questions relating to governance and politics, social issues, education and knowledge systems, and global issues in the circumpolar north.

*Prerequisites:* NORS 101-3; 60 credit hours; or permission of the instructor
*Precluded:* POLS 315-3

**NORS 498-3 Special Topics in Northern Studies** This is a special topics course in northern studies as selected by an instructor.

*Prerequisites:* NORS 101-3 and upper-division standing

**NORS 499-(3-6) Independent Research/Directed Reading in Northern Studies** This course involves a concentration on a particular topic as agreed upon by a member of the faculty and a student.

*Prerequisites:* NORS 101-3 and upper-division standing

# Nursing (NURS)

**NURS 101-3 The Art and Science of Nursing** This course introduces the beginning student to the dimensions of nursing practice and to individuals accessing health care. Through group and individual learning activities the student is introduced to concepts, practices, issues and trends in nursing and health care. Observational experience with a health care practitioner is incorporated.

*Major Restriction:* Restricted to students in the NCBNP

**NURS 102-3 Communication Theory and Practice** This course introduces the student to communication theory and concepts. The student has the opportunity to increase awareness of self and to explore perceptions, culture, language and non-verbal messages. Opportunities exist for the development of communication skills.

*Major Restriction:* Restricted to students in the NCBNP

**NURS 201-4 Introduction to Health Assessment** This course provides the basis to gather a health history and to assess the functioning of individuals through the proper use of physical examination techniques. Psychosocial and cultural assessment is included. The emphasis is on recognition and identification of normal findings.

*Prerequisites:* all 100 level nursing courses; HHSC 111-4 and HHSC 112-4, or BIO 111-3 and BIO 112-3 at CNC, or BIOL 131-3 and BIOL 132-3 at NWCC, or equivalent
*Major Restriction:* Restricted to students in the NCBNP

**NURS 202-3 Pathophysiological Concepts** This course uses a conceptual approach to examine pathological mechanisms of altered states in human physiology. Topics include the etiology, cellular metabolism, tissue alterations, functional changes, and age-related differences involved in each process.

*Prerequisites:* HHSC 111-4, HHSC 112-4 and HHSC 110-3, or BIO 111-3 and BIO 112-3 and BIO 105-3 at CNC, or BIOL 131-3, BIOL 132-3, and BIOL 133-3 at NWCC, or equivalent
*Major Restriction:* Restricted to students in the NCBNP
*Precluded:* NURS 301-3, HHSC 301-3

**NURS 203-3 Health Promotion in Families** This course introduces theory related to families across the lifespan within the context of primary health care in the north. Emphasis is on family assessment skills and working in partnership with families in the development of health promotion and illness and injury prevention strategies. Holistic care of families during transitions such as normal childbearing, child rearing, and caring for an elderly parent is included.

*Pre- or Co-requisites:* NURS 101-3, NURS 102-3
*Major Restriction:* Restricted to students in the NCBNP

**NURS 204-3 Healing Modalities** This course provides an overview of healing modalities currently used by nurses and other experts in practice in British Columbia. Principles of pharmacology and pharmacodynamics are addressed. Opportunity is provided for students to explore various complementary healing techniques.

*Pre- or Co-requisites:* HHSC 111-4 and HHSC 112-4, or BIO 111-3 and BIO 112-3 at CNC, or BIOL 131-3 and BIOL 132-3 at NWCC, or equivalent
*Major Restriction:* Restricted to students in the NCBNP

**NURS 205-3 Introduction to First Nations Health** This course provides an overview of First Nations health, factors influencing health status, and issues arising from northern and remote living. Historical events and their impact on health are introduced. Current barriers to health, along with culturally sensitive nursing implications, are explored.

*Pre- or Co-requisites:* ANTH 213-3 or equivalent. Admission for non-nursing students by permission of the instructor
*Precluded:* FNST 302-3

**NURS 206-3 Basic Nutrition** This course examines the nutritional needs of specific client groups throughout the lifespan and in various states of wellness and illness. The course reviews the physiology of carbohydrate, fat, protein, and energy metabolism. Topics include enteral and parenteral nutrition, trends and issues in nutritional practice, and the psychosocial and cultural aspects of food and eating behaviours.

*Major Restriction:* Restricted to students in the NCBNP
*Precluded:* NURS 303-3, ANTH 311-3, HHSC 311-3

**NURS 215-8 Nursing Care of the Adult** This course examines principles and practices of nursing adults with health problems. The focus is on the acquisition and application of knowledge in planning, implementing and evaluating the nursing care of clients requiring medical and surgical intervention. Holistic health care of individuals is highlighted. The course includes laboratory instruction in psychomotor skills. The clinical practicum enables the student to integrate theory and skills needed to provide nursing care.

*Prerequisites:* NURS 101-3, NURS 102-3; HHSC 111-4, HHSC 112-4 and HHSC 110-3, or BIO 111-3 and BIO 112-3 and BIO 105-3 at CNC, or BIOL 131-3, BIOL 132-3, and BIOL 133-3 at NWCC, or equivalent
*Co-requisites:* NURS 201-4, NURS 202-3
*Major Restriction:* Restricted to students in the NCBNP
*Precluded:* NURS 210-3, NURS 211-5

**NURS 220-5 Extended Clinical Practicum I** This practicum provides the opportunity for consolidated clinical nursing practice with adults who have health problems. This course builds on previous clinical practice with the adult and occurs in various settings in northern BC.

*Prerequisites:* All required 100 and 200 level NURS and HHSC courses (or equivalent) in the NCBNP
*Major Restriction:* Restricted to students in the NCBNP

**NURS 301-3 Advanced Pathophysiology** This course discusses the pathogenesis and pathophysiological mechanisms of select diseases and conditions, with an emphasis upon recent discoveries in genetics, immunology, and infection and includes conditions relevant to northern BC. Linkages between pathophysiological events and therapeutic modalities are made. This course presumes an understanding of anatomy, physiology, and basic pathophysiology.

*Prerequisites:* None; admission for non-nursing students by permission of the instructor
*Precluded:* NURS 202-3, HHSC 301-3

**NURS 303-3 Nutrition** This course reviews nutrient requirements across the life span and physiological connections of diet to health and disease. Therapeutic aspects of parenteral nutrition (total and peripheral) and special diets in disease states are covered.

*Prerequisites:* None; admission for non-nursing students by permission of the instructor
*Precluded:* NURS 206-3, ANTH 311-3, HHSC 311-3

**NURS 304-3 Introduction to Nursing Knowledge** This course provides an overview of the types of knowledge or theory in the profession, and how such knowledge is developed. It encourages a critical analysis of trends in knowledge development and highlights the crucial relationship of knowledge to practice.

*Prerequisites:* NURS 220-5, or enrolment in the Post-Diploma BScN, or permission of the Chair, School of Nursing

**NURS 306-3 Introduction to Epidemiology** This course applies epidemiological principles in the examination of patterns of disease and disability among populations, particularly those in northern latitudes. It introduces students to the interpretation of vital statistics, the critique of cross-sectional, case-control and cohort design, and the principles of screening.

*Prerequisites:* NURS 220-5, or enrolment in the Post-Diploma BScN, or permission of the Chair, School of Nursing
*Precluded:* HHSC 350-3

**NURS 308-3 Ethics and Law in Nursing** This course examines ethical reasoning and the use of ethical theory in nursing practice decisions. Health care law as it relates to nursing practice is explored. Special focus is on the meaning and use of nursing practice acts, professional standards of practice and nursing codes of ethics.

*Prerequisites:* NURS 220-5, or permission of the Chair, School of Nursing
*Precluded:* HHSC 201-3

**NURS 317-5.5 Nursing Theory and Practice: Maternity** This course takes a women- and family-centred, strengths-based approach to caring for individuals and families of diverse and multicultural backgrounds in the childbearing experience. Emphasis is placed on the integration and application of evidence-based theory, standards for nursing practice, effective communication, critical thinking and use of the nursing process to optimally prepare nurses as caregivers and collaborators with childbearing women, neonates, families, and the health care team.

*Prerequisites:* NURS 220-5, or permission of the Chair, School of Nursing
*Precluded:* NURS 310-3, NURS 311-5, NURS 321-2.5

**NURS 318-5.5 Nursing Theory and Practice: Pediatrics** This course emphasizes the health of infants, children, and their families, with a focus on health promotion, risk reduction, disease prevention and common health problems. Particular attention is on northern populations and First Nations groups. Information and clinical practice relating to acute and chronic conditions and medical/surgical interventions are included. The impacts of illness, disability and medical/surgical care on the child and family unit are explored. Concepts of health promotion, effects of genetics and environment on child health and the influence of social determinants of health are introduced. Clinical experiences occur in acute pediatric and selected community settings, providing opportunities to apply pediatric nursing knowledge.

*Prerequisites:* NURS 220-5, or permission of the Chair, School of Nursing
*Precluded:* NURS 310-3, NURS 311-5, NURS 322-2.5

**NURS 323-5.5 Nursing Theory and Practice: Older Adult** This course focuses on health-promoting, person-centred nursing practice with older persons in rural communities. Assessment focuses on the physical and mental health of older persons within the context of their everyday experience and their families and/or cultures. Particular attention is paid to the strengths of the individual as well as the presenting health challenges. Students explore strategies to prevent and/or address common health issues experienced by older persons. In addition, students have an opportunity to extend knowledge, skills and the application of therapeutic approaches with this population in the community and clinical settings.

*Prerequisites:* NURS 220-5, or permission of the Chair, School of Nursing
*Precluded:* NURS 313-3, NURS 314-5, NURS 316-2.5, NURS 453-3, NURS 653-3

**NURS 326-5.5 Nursing Theory and Practice: Mental Health** This course provides knowledge and skills required to care for people living with common mental health and addiction issues encountered in rural nursing practice. A holistic relational nursing focus allows students to apply concepts to a variety of health challenges and to intervene appropriately. Nursing approaches to clinical decision-making with clients who have specific mental health problems such as psychotic, mood, anxiety and personality disorders are highlighted. Nursing practice approaches to addictions, substance use, and crisis intervention, including aggression and suicide attempts, are addressed. Students have opportunity to further develop mental health nursing knowledge and skills in the clinical setting.

*Prerequisites:* NURS 220-5, or permission of the Chair, School of Nursing
*Precluded:* NURS 312-3, NURS 314-5, NURS 315-2.5, NURS 456-3, NURS 656-3

**NURS 329-1 Third-Year Objective Structured Clinical Examination** This course requires students to successfully complete a number of Objective Structured Clinical Examination (OSCE) scenarios as a prerequisite to commencing NURS 330-4 Extended Clinical Practicum II. An OSCE is a method of evaluation used to measure whether specific practice performance expectations are met, and to evaluate students' clinical judgment and integration of theory and practice in standardized situations of simulated patient care. Thirty-six hours of structured nursing laboratory practice must be successfully completed no more than eight months before the student undertakes the OSCE. Lab hours must be approved by a lab instructor.

*Prerequisites:* All required 300-level Nursing courses in the NCBNP

**NURS 330-4 Extended Clinical Practicum II** This course provides the opportunity for consolidated clinical nursing practice with clients who have multiple health care needs. Previous clinical practice experience is considered when determining placement. The practicum occurs in various health care settings in northern BC. Thirty-six hours of structured nursing laboratory practice and NURS 329-1 must be successfully completed no more than eight months before the student undertakes NURS 330-4. Lab hours must be approved by a lab instructor.

*Prerequisites:* NURS 329-1
*Precluded:* NURS 320-5

**NURS 402-3 Health Promotion** This course examines health promotion theories, principles, and underlying philosophies within a primary health care framework. Students identify and critique health promotion issues and explore strategies that promote well-being among individuals, groups, and communities.

*Prerequisites:* Upper-division standing in Nursing, or permission of the instructor
*Precluded:* HHSC 473-3

**NURS 403-3 Introduction to Nursing Research** This course covers the empirical approach to the development of nursing knowledge and reviews aspects of quantitative and qualitative methods.

*Prerequisites:* NURS 304-3, STAT 240-3 or ECON 205-3, or permission of the Chair, School of Nursing

**NURS 408-3 Nursing Leadership** This course discusses nursing as a profession within the health care delivery system. Theory regarding organizational structure, leadership, change, power, accountability and decision-making processes is included and is related to a specific clinical setting.

*Prerequisites:* NURS 330-4, or permission of the Chair, School of Nursing

**NURS 409-3 Pharmacotherapeutics for Nurses** This course examines the clinical application of drug therapy, with an emphasis on drugs commonly used in primary care settings. Implications of selected pharmacotherapeutics for patients and professional nurses are analyzed. Emphasis is on clinical decision-making for nurses working in rural or northern settings.

*Prerequisites:* Upper-division standing In Nursing, or permission of the instructor

**NURS 411-3 Medical Diagnostics for Nurses** This course considers information, interpretation and implications of commonly ordered diagnostic tests. Aspects of specimen collection and test performance are covered. Areas of study include serum chemistry, hematology, microbiology, radiological imaging, and electrography. Emphasis is upon problem-solving and decision-making for nurses in acute care settings and in remote and rural areas.

*Prerequisites:* Upper-division standing in Nursing, or permission of the instructor

**NURS 412-3 Women and Health** This course examines health issues of northern women within a holistic perspective. Students will explore general and specific health concerns of women using research literature, including epidemiology.

*Prerequisites:* Upper-division standing in Nursing, or permission of the instructor
*Precluded:* NURS 612-3

**NURS 415-3 Introduction to Community Health and Nursing** This course provides an introduction to the concepts of community and nursing in the community and builds upon previous experiences in community health nursing practice. Nursing theory and practice of working with individuals, families, and population groups in health and in illness are addressed. The trend to more community care in British Columbia is explored.

*Prerequisites:* NURS 304-3, NURS 306-3
*Major Restriction:* Restricted to Post-Diploma BScN students, or permission of the Chair, School of Nursing
*Precluded:* NURS 418-7

**NURS 418-7 Introduction to Community Health and Nursing** This course provides an introduction to the concepts of community, primary health care, and nursing in the community and builds upon previous experiences in community health nursing practice. The theory and practice of working as a nurse in the community with individuals, families, and population groups are addressed through the integration and application of community nursing and primary health care theory in nursing practice in northern communities.

*Prerequisites:* NURS 330-4, or permission of the Chair, School of Nursing
*Precluded:* NURS 415-3, NURS 416-4

**NURS 420-(6, 8) Community Health Nursing** This course provides the opportunity for students to increase their understanding of the theories, roles and practices required for community health nursing in changing primary health care systems in northern and rural settings. Emphasis is placed on a population- and community-focused approach to nursing care, including the promotion of health and prevention of disease and disability. During an extended clinical practicum, students integrate theoretical understandings and evidence into contributing to services and programs in the community. Emphasis is on the nurse as a partner with the community. The NCBNP requires the 8 credit hour course, and Post-Diploma BScN students complete the 6 credit hour course.

*Prerequisites:* NURS 418-7, or permission of the Chair, School of Nursing for 8 credit hour course
*Major Restriction:* Post-Diploma BScN students, or permission of the Chair, School of Nursing for 6 credit hour course
*Precluded:* NURS 440-(3, 5, 8)

**NURS 422-(6, 8) First Nations Health and Nursing** This course provides the opportunity for students to increase their understanding of the theories, roles and practices required by nurses in First Nations communities. Included are the theoretical and practical exploration of the impact of colonization on health, effects of rapid cultural changes, nursing management of specific health issues, culturally sensitive approaches to nursing care, the health transfer process, and special topics related to health. During an extended clinical practicum, students integrate theoretical understandings and evidence in contributing to services and programs in First Nations communities, or in agencies that primarily serve First Nations clients. The NCBNP requires the 8 credit hour course, and Post-Diploma BScN students complete the 6 credit hour course.

*Prerequisites:* NURS 418-7, or permission of the Chair, School of Nursing for 8 credit hour course
*Major Restriction:* Post-Diploma BScN students, or permission of the Chair, School of Nursing for 6 credit hour course
*Precluded:* NURS 441-(3, 5, 8)

**NURS 426-(6, 8) Acute Care Nursing** This course examines the knowledge, skills and attitudes required to provide holistic, person-centred care in the acute setting. This course explores the concepts and practices of acute care nursing with various client populations while enabling students to consolidate and extend their knowledge and clinical ability in the acute care setting. Problem solving, complex client situations and expanding the professional role of the nurse are central themes of the course. The NCBNP requires the 8 credit hour course, and Post-Diploma BScN students complete the 6 credit hour course.

*Prerequisites:* NURS 330-4, or permission of the Chair, School of Nursing for 8 credit hour course
*Major Restriction:* Post-Diploma BScN students, or permission of the Chair, School of Nursing for 6 credit hour course
*Precluded:* NURS 443-(3, 5, 8)

**NURS 428-6 Nursing Management** This course examines nursing management and leadership theory, current issues and practice in hospitals, health care agencies and communities. Special focus is on front-line nursing management within rural and northern communities in a changing health care system. This course permits the extension of skills and knowledge in the practice of nursing leadership and management.

*Prerequisites:* NURS 304-3, NURS 306-3
*Major Restriction:* Restricted to Post-Diploma BScN students, or permission of the Chair, School of Nursing
*Precluded:* NURS 429-3

**NURS 430-6 Community Continuing Care Nursing** This course explores the role, responsibilities and practices of nursing with a broad range of clients in home settings or long-term care facilities. A multidisciplinary team approach is emphasized. This course enables students to apply concepts and acquire skills of community continuing care professional nursing practice. Students provide direct care in the home setting, develop their clinical judgment, and contribute to decision-making and referral.

*Prerequisites:* NURS 304-3, NURS 306-3
*Major Restriction:* Restricted to Post-Diploma BScN students, or permission of the Chair, School of Nursing
*Precluded:* NURS 431-3

**NURS 432-(6, 8) Mental Health Nursing** This course provides the opportunity for students to increase understandings of mental health and mental illness and to integrate and apply relevant theoretical and clinical knowledge. Northern practice, cultural contexts, concepts of client, and treatment settings are examined using mental health nursing frameworks. Utilizing both classroom seminars and clinical practice, students apply theoretical understandings and evidence to practice, considering various clinical settings. The NCBNP requires the 8 credit hour course, and Post-Diploma BScN students complete the 6 credit hour course.

*Prerequisites:* NURS 330-4, or permission of the Chair, School of Nursing for 8 credit hour course
*Major Restriction:* Post-Diploma BScN students, or permission of the Chair, School of Nursing for 6 credit hour course
*Precluded:* NURS 444-(3, 5, 8)

**NURS 435-(6, 8) Pediatric Nursing** This course examines the theory and practice of pediatric nursing in depth, with particular attention to northern nursing practice. Ethical and cultural issues are explored and the impact of social determinants of health on child health and development are addressed. The concept of primary care is introduced. The NCBNP requires the 8 credit hour course, and Post-Diploma BScN students complete the 6 credit hour course.

*Prerequisites:* NURS 330-4, or permission of the Chair, School of Nursing for 8 credit hour course
*Major Restriction:* Post-Diploma BScN students or permission of the Chair, School of Nursing for 6 credit hour course
*Precluded:* NURS 434-3, NURS 445-(3, 5, 8)

**NURS 451-3 Health Assessment and RN First Call** This course provides students with the knowledge and skills needed to extend their ability to conduct a thorough health assessment for diverse client populations throughout the lifespan. It prepares students to safely utilize the CRNBC Decision Support Tools for RN First Call practice. Students conduct age-appropriate comprehensive health histories and physical examinations, identify health concerns and risks, taking into account culture, ethnicity and health beliefs, and make informed clinical judgments. This course features one or more mandatory extended skills-building laboratory/workshop sessions that include evaluation of history and physical assessment skills as well as utilization of the RN First Call Decision Support Tools. Upon successful completion students may apply for CRNBC RN First Call Practice Certification.

*Major Restriction:* Rural Nursing Certificate Program or Post-Diploma BScN students, or permission of the Chair, School of Nursing
*Precluded:* NURS 461-8

**NURS 452-6 Chronic Disease Management, Palliative Care and Wound Care** This course has three components. The Chronic Disease Management component utilizes current, evidence-based knowledge, skills and management tools to provide effective client-centred care for those with chronic health challenges in rural practice. The Palliative Care component enables the learners to extend their knowledge surrounding palliative care guidelines and discusses grief and bereavement issues. The Wound Care component examines evidence-based and cost-effective wound care for people residing in rural settings.

*Prerequisites:* NURS 330-4, or Rural Nursing Certificate Program or Post-Diploma BScN students, or permission of the Chair, School of Nursing
*Precluded:* NURS 652-6

**NURS 453-3 Nursing Practice with Older Persons** This course focuses on health-promoting, person-centred practice for nurses working with older persons in rural communities. Assessment focuses on the physical and mental health of older persons within the context of their everyday experience and their families and/or cultures. Particular attention is paid to the strengths of the individual as well as the presenting health challenges. Nurses explore strategies to prevent and/or address common health issues experienced by older persons.

*Major Restriction*: Rural Nursing Certificate Program or Post-Diploma BScN students, or permission of the Chair, School of Nursing
*Precluded:* NURS 313-3, NURS 316-2.5, NURS 323-5.5, NURS 653-3

**NURS 454-(6, 8) Perinatal Care** This course spans the antenatal, intrapartum and post-partum continuum focusing on the perinatal skills and competencies required for nurses to support women and their families through low-risk, normal pregnancies. Students learn to recognize and take action in abnormal situations and make sound, informed clinical judgments in emergency situations in rural settings. This course involves a workshop and practicum, which are both mandatory. Prior to the practicum, RNCP and Post-Diploma students must provide proof of certification in the Neonatal Resuscitation Program (NRP) and the Fetal Health Surveillance course (FHS). The NCBNP requires the 8 credit hour course. RNCP and Post-Diploma BScN students complete the 6 credit hour course.

*Prerequisites:* NURS 330-4, or permission of the Chair, School of Nursing for 8 credit hour course
*Major Restriction:* Rural Nursing Certificate Program or Post-Diploma BScN students, or permission of the Chair, School of Nursing for 6 credit hour course
*Precluded:* NURS 434-3, NURS 445-(3, 5, 8)

**NURS 455-(6, 8) Critical Care, Emergency and Trauma** This course provides students with the practical evidence-based information, skills and tools necessary to identify clients with critical conditions and to intervene appropriately and effectively within the context and confines of rural nursing practice. The most salient aspects of adult, geriatric and pediatric emergency and critical care encountered in rural practice are examined. The course includes a focused lab experience and a practicum, which are both mandatory. The NCBNP requires the 8 credit hour course. RNCP and Post-Diploma BScN students complete the 6 credit hour course.

*Prerequisites:* NURS 330-4, or permission of the Chair, School of Nursing for 8 credit hour course
*Major Restriction*: Rural Nursing Certificate Program or Post-Diploma BScN students, or permission of the Chair, School of Nursing for 6 credit hour course
*Recommended:* NURS 451-3
*Precluded:* NURS 417-4

**NURS 456-3 Mental Health and Addictions** This course provides knowledge and skills required to care for people living with common mental health and addiction issues encountered in rural nursing practice. A holistic relational nursing focus allows students to apply concepts to a variety of health challenges and to intervene appropriately. Nursing approaches to clinical decision-making with clients who have specific mental health problems such as psychotic, mood, anxiety and personality disorders are highlighted. Nursing practice approaches to addictions, substance use, and crisis intervention, including aggression and suicide attempts, are addressed.

*Major Restriction:* Rural Nursing Certificate Program or Post-Diploma BScN students, or permission of the Chair, School of Nursing
*Precluded:* NURS 312-3, NURS 315-2.5, NURS 326-5.5, NURS 656-3

**NURS 457-3 Living and Working in a Rural Community** This course enables students to gain an understanding and appreciation of the unique challenges facing nurses who live and work in rural communities. Confidentiality, anonymity, cultural safety, inter-professional relationships, population health, and maintaining competence are addressed. Students gain greater knowledge and sensitivity in the provision of ethical and effective health care for First Nations populations.

*Prerequisites:* NURS 330-4, or Rural Nursing Certificate Program or Post-Diploma BScN students, or permission of the Chair, School of Nursing

**NURS 458-6 Remote Nursing Certified Practice** This course focuses on Remote Nursing Certified Practice competencies. Key content areas include history and physical assessment, advanced clinical reasoning, informed judgment and pharmacotherapeutics for the management of specified common and predictable health conditions. Dispensary management and medication dispensing functions are also included. Content and course evaluation are based on a body-systems approach and incorporate the CRNBC Decision Support Tools for Remote Nursing Certified Practice. A mandatory extended workshop focusing on nursing practice in remote communities is included. Upon successful completion students apply for CRNBC Remote Nursing Practice Certification.

*Major Restriction:* Restricted to the Rural Nursing Certificate Program or Post-Diploma BScN students only, or by permission of the Chair, School of Nursing

**NURS 461-8 Rural Health and Nursing** This course prepares students with a focus in rural health and nursing. It provides students with the knowledge and skills to extend their ability to conduct a thorough health assessment for diverse client populations throughout the lifespan. It prepares students to safely utilize the CRNBC Decision Support Tools for RN First Call practice. Students conduct age-appropriate comprehensive health histories and physical examinations, identify health concerns and risks, taking into account culture, ethnicity and health beliefs, and make informed clinical judgments. This course features one or more extended skills-building laboratory/ workshop sessions that include evaluation of history and physical assessment skills as well as utilization of the RN First Call Decision Support Tools. Through clinical practicum experiences in rural acute care and primary health care facilities, students integrate and apply knowledge and skills in rural nursing. Upon successful completion students may apply for CRNBC RN First Call Practice Certification.

*Prerequisites:* NURS 330-4, or permission of the Chair, School of Nursing
*Precluded:* NURS 424-3, NURS 451-3, NURS 442-(3, 5, 8)

**NURS 497-(6, 8) Specialty Focus in Nursing** This course comprises both theory and clinical practicum experience in a particular specialty area of nursing practice. The specialty area varies depending on the students' interests and the opportunities for specialty education available.

*Prerequisites:* NURS 330-4, and permission of the Chair, School of Nursing for 8 credit hour course
*Major Restriction*: Post-Diploma BScN students, and permission of the Chair, School of Nursing for 6 credit hour course

**NURS 498-(1-6) Special Topics in Nursing** This course explores a special topic in nursing. The topic varies, depending on student interest and faculty availability. No more than 6 credit hours in Special Topics courses may be applied towards a BScN degree.

*Prerequisites:* Upper-division standing in Nursing, permission of the instructor, and permission of the Chair, School of Nursing

**NURS 499-(1-6) Independent Study in Nursing** This course explores a selected topic in nursing based on readings and learning experiences directed by an instructor. The course format and requirements are based on a formal contract with the instructor. No more than 6 credit hours in Independent Study courses may be applied towards a BScN degree.

*Prerequisites:* Upper-division standing in Nursing, permission of the instructor, and permission of the Chair, School of Nursing

# Outdoor Recreation and Tourism Management (ORTM)

**ORTM 100-3 Foundations of Outdoor Recreation and Tourism** This course introduces the foundations of outdoor recreation and tourism from the perspective of both the natural and social sciences. Content includes the history and philosophy of the concept of leisure, the role of leisure, recreation and tourism in students' lives and Western culture, outdoor recreation and tourism in integrated resource management, and current delivery systems.

*Precluded:* RRT 201-3 or RRT 203-3

**ORTM 200-3 Sustainable Outdoor Recreation and Tourism** This course focuses on resource policy and planning for recreation and tourism as part of a sustainable resource management strategy. The course examines the management of the supply side aspects of sustainable resource management from agriculture to forestry to understand how to plan and manage for recreation and tourism. A broad array of sustainable recreation and tourism policies and planning tools in different political, geographical and economic contexts is reviewed, including the relationship of recreation and tourism to integrated land use planning and design.

**ORTM 202-3 Ecotourism and Adventure Tourism** This course provides students with an understanding of ecotourism and adventure tourism along with other related types of tourism (e.g., nature-based, alternative, green tourism). The course covers the history and origins of ecotourism and adventure tourism; definitional debates surrounding the terms; principles of ecotourism; the application of ecotourism and adventure tourism in Northern BC, Canada and the world; and planning and management aspects of ecotourism and adventure tourism.

*Precluded:* RRT 404-3

**ORTM 205-3 Outdoor Skills and Leadership** This course focuses on the development of outdoor skills and leadership used in providing travel and recreation experiences in natural settings. Students develop skills in planning and managing outdoor actvities. Typical topics include communcation, risk management, group dynamics, coaching, leadership styles, and environmental ethics. Students are expected to come with basic personal equipment and outdoor clothing suitable to the season.

**ORTM 298-(1-6) Special Topics** This is a special topics course offered to lower-division students. The course may not be offered every year, and may be repeated to a maximum of 6 credit hours.

**ORTM 300-3 Recreation and Tourism Impacts** This course reviews the identification, monitoring and mitigation of ecological, economic and socio-cultural impacts of outdoor recreation and tourism activities. Through labs, fieldwork and analysis of the literature, students examine the origin and management of impacts of resource-based recreation and tourism.

*Prerequisites:* BIOL 110-3 or BIOL 201-3
*Precluded:* RRT 413-3

**ORTM 305-3 Protected Area Planning and Management** This course examines historical, social, cultural, and ecological considerations in the establishment, planning and management of protected areas. The focus of the course is generally on Canadian parks, though international examples are also included. Emphasis is placed on the historic and contemporary cultural roles of protected areas, understanding park legislation and policies, natural resource management issues, and current issues and trends facing contemporary protected areas.

*Prerequisites:* Any 200 level ORTM course
*Precluded:* RRT 406-3

**ORTM 306-3 Indigenous Tourism and Recreation** This course focuses on issues relating to indigenous perspectives on tourism and recreation, including indigenous tourism, cultural tourism and recreation, co-management of protected areas and conservation and tourism development opportunities in indigenous territories. Examples from northern British Columbia and other parts of the world are used.

*Prerequisites:* Any 200 level ORTM course or FNST 100-3
*Precluded:* RRT 498-3 (2005) Aboriginal and Cultural Tourism

**ORTM 310-3 Research Methods and Analysis** This course examines contemporary research approaches and methods using a variety of examples from the natural and social sciences focusing on outdoor recreation and tourism. Topics include the research process and quantitative and qualitative approaches to research. The class incorporates an applied project or projects for which data will be collected and analyszed in a mix of lab and lecture formats.

*Prerequisites:* ECON 205-3 or STAT 240-3 or permission of the instructor
*Precluded:* ORTM 410-3

**ORTM 332-3 Outdoor, Environmental, and Experiential Education** This course explores the historical, theoretical, and practical foundations of outdoor, environmental, and experiential education. It focuses on conventional and innovative applications and models of these techniques and philosophies for personal, social, and environmental learning.

*Prerequisites:* Upper-division standing

**ORTM 333-3 Field School** This is an experiential course designed to enable ORTM students to focus on theoretical and practical skills involved in the field. Each field experience is designed to incorporate the theories, models and other concepts introduced in the classroom and bring them into greater clarity by examining them in a real world setting. The course integrates outdoor recreation and tourism perspectives. This field course applies principles of integrated resource management. This course may be repeated with the permission of the instructor if the subject matter and course location differ substantially Note: ORTM 333 is typically a spring/summer course and therefore the ORTM Program encourages students to take this course in their 2nd or 3rd year, prior to the fall semester of their 4th year. If a student chooses to take ORTM 333 in the spring of their 4th year there is no guarantee they will be able to graduate in May of that year.

*Prerequisites:* Permission of the instructor

**ORTM 400-3 Conservation Area Design and Management** This course focuses on the theories, processes and techniques involved in ecological management and design of conservation and protected areas. Students develop skills in community-based involvement in conservation area design, GIS approaches and techniques for analysis, the concept of naturalness, capacity and suitability of the natural resource base for tourism and recreation. Policies, procedures and practices to protect and manage recreation and tourism resources within an integrated management context are discussed.

*Prerequisites:* BIOL 110-3 or BIOL 201-3, and 60 credit hours

**ORTM 403-3 International Dimensions of Outdoor Recreation and Tourism** The course discusses global dimensions and forces in outdoor recreation and tourism, particularly those in developing nations. Typical topics include the role of the United Nations in protected area planning and management, poverty and protected areas, the effects of globalization on ORTM, the impact of the concepts of sustainable development, and biodiversity in ORTM, the risk society, the changing role of local communities in conservation, sex tourism, and enforcement issues in the developing world.

*Prerequisites:* ORTM 300-3 or any 300 level INTS course
*Precluded:* ORTM 498-3 (2005-2007) International Dimensions of ORTM

**ORTM 407-3 Recreation, Tourism and Communities** This course assesses the relationship between tourism and recreation and local communities as well as collaborative techniques for involving communities in tourism consultation processes. It covers topics such as the concepts of communities and stakeholders, hosts and guests, the relationship between community involvement and tourism, community attitudes towards tourism development and emerging approaches towards collaboration and partnerships.

*Prerequisites:* Any 300 level ORTM courses or any 200 level ENPL course
*Precluded:* ORTM 498-3 (2005-2007) Recreation, Tourism and Communities

**ORTM 408-3 The Psychology of Recreation and Tourism** Examines individual and social factors that shape personal perception, experience and behaviours in a recreation and tourism setting.

*Prerequisites:* Upper-division standing

**ORTM 409-3 Critical Approaches to Outdoor Recreation Activities** This seminar course critically questions and creatively reconsiders the nature of outdoor recreation activities as related to contemporary, and interrelated, social and environmental issues. The course is firmly grounded in recreation and leisure studies literature offering anthropological, critical, historical, and socio-ecological interpretations of particular activities (e.g., canoeing, rock climbing, mountaineering), and involving concepts such as identity, place, skill, and community. The course may involve practical experiences and field trips to inform academic content, but these are not the focus..

*Prerequisites:* ORTM 100-3 and any 300 level ORTM courses, or permission of the instructor

**ORTM 412-3 Issues and Trends in Outdoor Recreation and Tourism** This seminar examines current issues and problems in outdoor recreation and tourism, and explores philosophical, historical and contemporary trends and issues in outdoor recreation, parks and tourism. The future outlook for management, administration and utilization of recreation and tourism resources in BC will be examined.

*Prerequisites:* 90 credit hours or permission of the instructor

**ORTM 414-3 Polar Tourism and Recreation** This course focuses on the unique aspects of tourism and recreation in the Polar Regions. Topics covered include issues of shared management, sovereignty, science vs. tourism, adventure and expeditionary tourism and recreation, the logistical challenges of operating in such remote environments, and the impacts tourism and recreation have in the Polar Regions.

*Prerequisites:* 90 credit hours

**ORTM 433-(1-6) Field School II** This senior-level experiential course provides a combination of theoretical and practical skills in the field. The course integrates outdoor recreation and nature-based tourism perspectives, and is based in various locations in BC, and worldwide. ORTM 433 may be offered in conjunction with ORTM 333; in some years enrolment may be required in both. Note: ORTM 433 is typically a spring/summer course and therefore the ORTM Program encourages students not to take ORTM 433 in the spring of their 4th year. If a student chooses to take ORTM 433 in the spring of their 4th year there is no guarantee they will be able to use the credit for graduation in May of that year.

*Prerequisites:* Permission of instructor

**ORTM 440-(2-6) Internship** May be repeated for credit (maximum 6 credit hours).

**ORTM 498-(1-3) Special Topics** May be repeated for credit (maximum 3 credits).

**ORTM 499-(1-6) Independent Study** May be repeated for credit (maximum 6 credit hours).

# Philosophy (PHIL)

**PHIL 200-3 Critical Thinking** This course introduces students to informal logic and critical thinking. Students will learn to identify standard errors in reasoning and apply these skills to contemporary readings and other forms of media representation.

*Prerequisites:* None

**PHIL 201-3 Philosophy of Science** A service course intended to introduce students to the conceptual/logical foundations of sciences. Topics include the nature of logic, scientific explanation, law, theories, use of probability and statistics, role of ethics and politics in science.

*Prerequisites:* None
*Precluded:* POLS 205-3

**PHIL 202-3 Comparative Religion** An introductory course exploring issues related to the religious traditions of the world, e.g., Native spirituality, Hinduism, Judaism, Buddhism, Christianity, Shintoism, Islam, Paganism and Atheism. Basic questions to be considered include the existence of God, freedom and immortality, nature of spirituality, religious experience and religious language in people's life and world view.

*Prerequisites:* None

**PHIL 205-3 Introduction to the History of Philosophy** This course is an introductory survey of Western philosophy from the ancient Greeks to the late medieval period, including such thinkers as Pythagoras, Parmenides, Plato, Aristotle, Augustine and Aquinas. The course provides an overview of philosophical topics including ontology, epistemology and ethics.

*Prerequisites:* None
*Precluded:* POLS 270-3

**PHIL 210-3 Philosophy of Mind** This course provides an introduction to fundamental issues in the philosophy of mind including the nature of the mind, the relationship between the mind and the body, and the nature of our thoughts and perceptions. Also included is an introduction to the works of some of the leading philosophers in the field.

*Prerequisites:* None
*Recommended:* PSYC 101-3
*Precluded:* PSYC 202-3

**PHIL 305-3 History of Philosophy: Early Modernity to Post-Modernity** This course traces the history of Western philosophy from early modernity to the early twentieth century. Thinkers discussed may include Aquinas, Ockham, Descartes, Hobbes, Locke, Hume, Kant, Schopenhauer, Rousseau, Fichte, Hegel, Marx, Nietzsche and Heidegger.

*Prerequisites:* Upper-division standing or permission of the instructor
*Precluded:* POLS 370-3

**PHIL 325-3 Moral Philosophy** This course is a survey of historical and contemporary western moral philosophy. Topics include philosophical ideas such as Platonism, virtue ethics, voluntarism, naturalism, Kantianism, social contract theory and consequentialism.

*Prerequisites:* None
*Precluded:* POLS 317-3

# Physics (PHYS)

**PHYS 100-4 Introduction to Physics I** First part of an algebra based introductory physics course for majors in life and environmental sciences: physics and measurement, the laws of motion, applications of Newton's second law, work and energy, linear momentum and collisions, static equilibrium, elasticity, law of universal gravitation, laws of thermodynamics, fluid mechanics, sound waves.

*Prerequisites:* Physics 12 or PHYS 115-4

**PHYS 101-4 Introduction to Physics II** Second part of an algebra based introductory physics course for majors in life sciences. Covers: electric charge, electric field, electric potential, DC circuits, magnetic field, sources of magnetic fields, magnetic induction, electromagnetic waves, geometrical optics, elements of modern physics.

*Prerequisites:* PHYS 100-4 or PHYS 110-4

**PHYS 110-4 Introductory Physics I: Mechanics** This is the first part of the calculus-based introductory physics course for majors in physical and mathematical sciences. Topics include vectors, measurement, motion in one and two dimensions, the laws of motion, application of Newton's laws, work and energy, potential energy, conservation of energy, linear momentum and collisions, rotation of rigid bodies, rolling motion, angular momentum, static equilibrium, elasticity, law of universal gravitation, and elements of thermodynamics.

*Prerequisites:* Physics 12 or PHYS 115-4, and Principles of Math 12 or Pre-calculus 12 or MATH 115-3
*Co-requisites:* MATH 100-3 or MATH 105-3

**PHYS 111-4 Introductory Physics II: Waves and Electricity** Second part of the calculus based introductory physics course for majors in physical and mathematical sciences, including oscillatory motion, wave motion, sound waves, superposition and standing waves, electric field, Gauss's law, electric potential, capacitance and dielectrics, current and resistance, DC circuits, magnetic fields, sources of magnetic fields.

*Prerequisites:* PHYS 110-4; or PHYS 100-4 with a grade of B or better
*Co-requisites:* MATH 101-3

**PHYS 115-4 General Introduction to Physics** This is an Algebra based introductory physics course for students without Grade 12 Physics. Topics include: physics and measurement, the laws of motion, work and energy, linear momentum and collisions, static equilibrium, elasticity, laws of thermodynamics, fluid mechanics, sound waves, electric field, electric potential, DC circuits, magnetic field, electromagnetic waves, laws of geometrical optics, and elements of modern physics.

*Prerequisites:* Students with credit in Physics 12 require permission of the Program Chair

**PHYS 120-3 Introduction to Astronomy I: The Solar System** This is a one-semester introductory course in Astronomy mainly for science students, but general enough to be of interest to non-science majors with a proper background in mathematics. This course is complementary to PHYS 121-3. Topics include: an overview of our solar system; the Sun; Earth and Moon; the inner planets: Mercury, Venus, and Mars; the gas giants: Jupiter, Saturn, Uranus, and Neptune; moons and ring structure of the gas giants; Pluto and Charon; asteroids, comets, meteors, and meteorites; the origin and evolution of our solar system; the origin and evolution of the sun. PHYS 120 and PHYS 121 may be taken in either order.

*Prerequisites:* Principles of Math 11 or Pre-calculus 11 or Foundations of Mathematics 11

**PHYS 121-3 Introduction to Astronomy II: The Universe** This is a one-semester introductory course in Astronomy mainly for science students, but general enough to be of interest to non-science majors with a proper background in mathematics. This course is complementary to PHYS 120-3. Topics include: the origins of stars and planetary systems; the sun; properties and structures of stars; stellar interiors; the evolution of stars; stellar remnants; white dwarfs; neutron stars; black holes, worm holes and warped spacetime; the Milky Way; the universe of galaxies; distance scales and indicators; active galaxies and quasars; cosmology: past, present, and future of the universe, "Is 'Anyone' Out There?". PHYS 121 and PHYS 120 may be taken in either order.

*Prerequisites:* Principles of Math 11 or Pre-calculus 11 or Foundations of Mathematics 11

**PHYS 150-3 Physics for Future Leaders** This course examines the physics underlying major technological aspects of modern society and issues of global concern. Through addressing themes such as global warming, the energy problem and alternative sources of energy, nuclear power and nuclear weapons, health and medical technology, pollution of the atmosphere, satellites, telecommunication, and the internet, this course introduces basic physics topics such as motion and energy, atoms and heat, gravity and force, electricity and magnetism, light and electromagnetic waves, radioactivity and nuclear reactions, quantum physics, and relativity. This course requires no scientific or mathematical background and is accessible to students in any discipline.

**PHYS 200-3 Thermal Physics** Thermodynamics and introductory statistical mechanics, including temperature, reversible processes and work, first law of thermodynamics, second law of thermodynamics, entropy, thermodynamic potentials, change of phase, chemical potentials, third law of thermodynamics, kinetic theory of gases.

*Prerequisites:* PHYS 111-4
*Co-requisites:* MATH 200-3

**PHYS 202-4 Electromagnetism and Optics** Magnetic field, Ampere's law, Faraday's law, inductance, magnetism and matter, electromagnetic oscillations, alternating currents, Maxwell's equations, electromagnetic waves, geometrical optics, interference, diffraction.

*Prerequisites:* PHYS 111-4
*Co-requisites:* MATH 200-3

**PHYS 205-3 Modern Physics I** This is the first part of a two-semester course in modern physics providing an introduction to the theories of quantum mechanics and their applications. Topics include foundations of quantum theory, the quantum theory of light, the particle and wave nature of matter, the Schrodinger equation in one and three dimensions, tunneling phenomena, atomic structure and spectroscopy, and molecules and molecular spectroscopy.

*Prerequisites:* PHYS 111-4

**PHYS 206-4 Modern Physics II** This is the second part of a two-semester course in modern physics providing an introduction to the theories of quantum mechanics and relativity and their applications. Topics include Lorentz transformations, relativistic kinematics, relativistic dynamics, statistical physics, the solid state of matter, structure of crystals, semiconductors and superconductors, nuclear structure, radioactivity, nuclear reactions, applications of nuclear physics, elementary particles, and elements of cosmology.

*Prerequisites:* PHYS 205-3

**PHYS 300-3 Classical Mechanics** Analytical classical mechanics, including Newtonian mechanics, motion in non-inertial frames, Lagrangian dynamics, central-force motion, motion of rigid bodies, small oscillations, coupled oscillations, Hamiltonian dynamics.

*Prerequisites:* PHYS 111-4, MATH 220-3

**PHYS 302-3 Quantum Mechanics I** Breakdown of classical mechanics, wave packets, wave-particle duality, wave function and Schrodinger equation, eigenvalues and eigenfunctions, harmonic oscillator, potential wells, potential barriers, central force problems, hydrogen atom, spin and angular momentum, time dependence of quantum states.

*Prerequisites:* PHYS 205-3, MATH 230-3
*Precluded:* CHEM 303-3

**PHYS 304-3 Biophysics** Topics include the physics of biological systems, physical principles and techniques used to study the structure and dynamics of biological membranes.

*Prerequisites:* PHYS 101-4 or 111-4; BIOL 101-4, or BIOL 103-3 and BIOL 123-1

**PHYS 305-4 Electronics** Basics of electric and electronic circuits, including DC circuits, Kirchhoff's laws, Thevenin's and Norton's theorems, AC circuits, operational amplifiers, diodes, transistors, gates, combinational and sequential logic, filters, oscillators, control systems, digital circuits.

*Prerequisites:* PHYS 111-4 and PHYS 202-4 and PHYS 206-4, or permission of the instructor

**PHYS 307-3 Selected Topics in Environmental Physics** This course is a survey of such topics as atmospheric cycles, thermal radiation and molecular absorption, pollution of the atmosphere, the Greenhouse effect, ozone depletion in the stratosphere, environmental aspects of nuclear energy and waste, the radon problem. This course may not be used as Physics credit toward any Physics major, minor, or joint major degree.

*Pre- or Co-requisites:* PHYS 101-4 or PHYS 111-4

**PHYS 310-3 Classical Electromagnetism - I** First part of a two-semester course in electrodynamics: the electric field and the scalar potential; Coulomb's and Gauss's laws; Poisson's and Laplace's equations; boundary-value problems in electrostatics; electric multipoles; electric energy and forces; dielectric materials and continuity conditions; the magnetic field and the vector potential; Ampere's law; magnetic materials; magnetic energy and forces.

*Prerequisites:* MATH 201-3, PHYS 202-4

**PHYS 351-3 Optics and Photonics I** Geometrical and physical optics: mathematics of wave motion, electromagnetic theory of light, photons, laws of geometrical optics, aberrations in optical systems, optical instruments, superposition of waves, interference, polarization, diffraction, Fourier optics, holography.

*Prerequisites:* PHYS 202-4
*Precluded:* PHYS 301-3

**PHYS 390-3 Advanced Physics** Laboratory Advanced laboratory experiments in mechanics, thermodynamics, electromagnetism, solid state physics, and atomic and nuclear physics.

*Prerequisites:* PHYS 202-4, PHYS 206-4, PHYS 305-4
*Precluded:* PHYS 303-3

**PHYS 400-3 Quantum Mechanics II** Continuation of Quantum Mechanics I. Covers: matrix formulation, perturbation theory, approximation methods, scattering theory, many-particle problems, identical particles, spin and statistics, atomic and molecular systems.

*Prerequisites:* PHYS 302-3

**PHYS 401-3 Seminar on Contemporary Topics in Physics** Special topics from current areas of research in basic and applied physics.

*Prerequisites:* Permission of the instructor

**PHYS 402-(1-6) Physics Research Project** This is an experimental or theoretical research project conducted by the student under the supervision of a faculty member. This course may be repeated to a maximum of 6 credit hours.

*Prerequisites:* Upper-division standing in a Physics Degree and permission of the instructor

**PHYS 404-3 Solid State Physics** Physics of the solid state of matter. Covers: theories of metals, crystal lattices, reciprocal lattice, periodic potentials, electron dynamics, band structures, conduction in metals, phonons in metals, semiconductors, diamagnetism and paramagnetism, superconductivity.

*Prerequisites:* PHYS 202-4, PHYS 206-4, PHYS 302-3

**PHYS 406-3 Subatomic Physics** Properties and structure of subatomic particles, symmetries and conservation laws, electromagnetic, weak, and hadronic interactions, beta decay, alpha decay, gamma decay, models of nuclear structure, nuclear reactions, fission, fusion, quarks and hadron spectroscopy.

*Prerequisites:* PHYS 206-4, PHYS 302-3

**PHYS 407-3 Statistical Mechanics** Kinetic theory of gases, laws of thermodynamics, probability theory, probability distributions, equilibrium statistical ensembles, ideal gases, phase transitions, critical phenomena, quantum statistics.

*Prerequisites:* PHYS 200-3, PHYS 302-3

**PHYS 409-3 Mathematical Methods in Physics** This course surveys the methods and techniques involved in the formulation and solutions of physics problems. Topics include matrix algebra and group theory, eigenvalue problems, differential equations, functions of a complex variable, Green's functions, special functions, Fourier series, integral equations, calculus of variations, and tensor analysis.

*Prerequisites:* Permission of the instructor
*Precluded:* MATH 409-3

**PHYS 410-3 Classical Electromagnetism - II** Second part of a two-semester course in electrodynamics: Faraday's induction law; inductance; Maxwell's equations; generation and propagation of electromagnetic waves; plane waves; spherical waves; reflection and refraction; wave guides; electric dipole radiation; magnetic dipole radiation; antennas.

*Prerequisites:* PHYS 310-3, MATH 334-3

**PHYS 451-3 Optics and Photonics II** An examination of selected topics in modern optics, quantum optics and photonics. Topics will generally include: propagation of electromagnetic waves in waveguides, fibre optic transmission, laser oscillators, resonators and amplifiers, semiconductor photon sources and detectors, and nonlinear optical effects.

*Prerequisites:* PHYS 206-4, PHYS 310-3, PHYS 351-3

**PHYS 499-3 Advanced Topics in Physics** Topics include a selection of topics from contemporary Physics.

*Prerequisites:* Permission of the instructor
*Precluded:* this course may be taken more than once for credit provided that different topics are covered

# Political Science (POLS)

**POLS 100-3 Contemporary Political Issues** An introduction to the basic concepts of political science through an examination of contemporary political issues: local, provincial, national and international.

*Prerequisites:* None

**POLS 200-3 Canadian Government and Politics** This course examines how Canadians organize their joint efforts to govern themselves at local, provincial, and federal levels. Attention is directed towards the political culture and its realization in constitutional rules of the game, in different institutions, and in the varied ways of influencing what governments do.

*Prerequisites:* None

**POLS 202-3 Canada in Comparative Perspective** This course compares the political, economic and social development of Canada with that of other industrial democracies and with that of developing and transitional countries throughout the world. The course focuses on several themes including democratic development and institutional growth, the role of government in society, citizen participation and engagement, and regional politics.

*Prerequisites:* 30 credit hours or permission of the instructor

**POLS 205-3 Philosophy of Science** This is a service course intended to introduce students to the conceptual/logical foundations of sciences. Topics include the nature of logic, scientific explanation, law, theories, use of probability and statistics, role of ethics and politics in science.

*Prerequisites:* None
*Precluded:* PHIL 201-3

**POLS 255-3 Introduction to Law in Canada** This course is an introduction to the Canadian legal system and the practice of law in Canada. Topics include an overview of the legislative and judicial processes as well as a survey of the major areas of law. The course also introduces students to the role of the lawyer within the legal system.

**POLS 257-3 Public Law in Canada** Public law includes the areas of law regulating the internal operations of governments and state agencies, the interactions among orders or levels of government and the interactions between state and non-state actors. Subjects covered in this course include constitutional law, administrative law, human rights law and criminal law and procedures.

*Precluded:* HIST 257-3

**POLS 258-3 Private Law in Canada** Private law refers in general to the areas of law that regulate the interactions among non-state actors including citizens, corporations and non-state agencies. The course covers such areas as property law, torts, contracts, family law and commercial law in Canada.

*Precluded:* HIST 258-3

**POLS 270-3 Political Philosophy: Antiquity to Early Modernity** This course is a survey of political philosophy from the Greeks to the 15th century tracing the development of contending conceptions of political order in the context of the philosophical ideas of the time.

*Prerequisites:* None
*Precluded:* POLS 204-3 and PHIL 205-3

**POLS 290-3 Research and Writing for Political Science** This course provides training in essential research and writing skills in political science. Students learn how to complete research papers in the discipline and thereby develop advanced reading and writing skills for their future careers. Students are expected to complete this course in their first or second year of study.

**POLS 298-3 Special Topics in Political Science** The content of this course varies according to the instructor and student requests. This course may be repeated, up to a maximum of six credit hours.

**POLS 302-3 How Government Works** This course enables students to navigate the political and bureaucratic structures and processes that shape our lives on a daily basis. It also provides students with practical skills to pursue careers in government at the local, provincial and federal levels.

*Prerequisites:* POLS 100-3, upper-division standing, or permission of the instructor

**POLS 303-3 Democracy and Dictatorship** This course compares the struggle for democracy and its alternatives through a survey of different approaches to political development.

*Prerequisites:* Upper-division standing

**POLS 305-3 United States Politics** This course examines the organization and function of the United States government. Topics include the constitution, political parties, electoral system, voting record, state's rights, checks and balances.

*Prerequisites:* Upper-division standing

**POLS 309-3 Politics and Society in China** This course examines Chinese political and social development through the 20th century with the primary attention to comparing past and present in state building, economic development, and social change.

*Precluded:* HIST 340-3

**POLS 311-3 Russian Politics and Society** This course examines the political, economic and social transitions that are currently taking place in Russia, as well as the historical forces that have shaped political life in this fascinating country.

*Prerequisites:* Upper-division standing

**POLS 314-3 European Politics and Government** This course introduces students to European politics and government. It focuses on the historical development and contemporary challenges facing the European Union, a supranational federation that includes the majority of European countries.

*Prerequisites:* Upper-division standing

**POLS 315-3 Contemporary Issues in the Circumpolar World** This course provides students with an in-depth understanding of a variety of issues in the Canadian and circumpolar Arctic, including governance and politics, Indigenous peoples and self-government, education, the environment and resource development, gender, health, and Arctic security and sovereignty.

*Prerequisites:* Upper-division standing or NORS 101-3
*Precluded:* NORS 332-3

**POLS 316-3 Municipal Government and Politics** This course is an introduction to the study of local government, with special attention to citizen participation, and administrative structure in municipal politics.

*Prerequisites:* Upper-division standing

**POLS 317-3 Moral Philosophy** This course is a survey of historical and contemporary Western moral philosophy. Topics include philosophical ideas such as Platonism, virtue ethics, voluntarism, naturalism, Kantianism, social contract theory and consequentialism.

*Prerequisites:* Upper-division standing
*Precluded:* PHIL 325-3

**POLS 320-3 Canadian Politics and Policy** This course provides an introduction to the concepts, goals and methods of policy analysis, with applications to current policy issues in Canada, British Columbia and the North. Topics include public opinion surveys and the statistical analysis of policy preferences.

*Prerequisites:* Upper-division standing or permission of the instructor

**POLS 327-3 Leadership and Ethics in Local Government** This course examines the principles and practices of ethical leadership with a particular focus on local government.

*Precluded:* COMM 332-3

**POLS 332-3 Community Development** How can communities develop politically, economically and socially, in ways that serve their needs and are appropriate to their environment, culture and expectations? This course explores the nature and interpretations of community development, using experiences from Canada, the Circumpolar North and the Asia-Pacific region.

*Prerequisites:* Upper-division standing or permission of the instructor

**POLS 333-3 Politics and Government of BC** This course surveys the many faces and challenges of BC politics, with specific attention to political culture and parties, the political economy, government and administration, and contemporary issues.

*Prerequisites:* Upper-division standing or permission of the instructor

**POLS 338-3 Parties and Elections** This course is an introduction to the concepts, methods and empirical tools used to study political parties and elections in Canada.

*Prerequisites:* Upper-division standing

**POLS 344-3 Society, Policy and Administration of Natural Resources** This course on natural resource and environmental management explores the ways in which ideas and interest are articulated and conflicts are resolved within the policy process.

*Prerequisites:* Upper-division standing or permission of the instructor
*Precluded:* NREM 306-3 and POLS 334-3

**POLS 350-3 Law and Municipal Government** This course examines the legislation, regulations and court decisions relevant to municipal governments in British Columbia.

*Prerequisites:* Upper-division standing or permission of the instructor
*Precluded:* POLS 250-3

**POLS 351-3 Local Services and Public Policy** This course examines local government services and the challenges involved in their delivery to local communities. Topics include public works, protective services, refuse collection, recreation and cultural services, health and social services and environmental protection.

*Prerequisites:* Upper-division standing or permission of the instructor
*Precluded:* POLS 251-3

**POLS 360-3 Politics of Public Finance** This course examines budgeting with a particular focus on local government. Topics include assessment, taxation collection, the development of local budgets, provincial and federal government transfers and long-term financial planning.

*Prerequisites:* Upper-division standing or permission of the instructor
*Precluded:* POLS 260-3

**POLS 370-3 Political Philosophy: Early Modernity to Post-Modernity** This course traces the history of Western political thought, in the wider context of the history of philosophy, from early modernity to the early twentieth century. Thinkers discussed may include Aquinas, Ockham, Descartes, Hobbes, Locke, Hume, Kant, Schopenhauer, Rousseau, Fichte, Hegel, Marx, Nietzsche and Heidegger.

*Prerequisites:* Upper-division standing or permission of the instructor
*Precluded:* PHIL 305-3

**POLS 372-3 Theories of Justice** This course introduces students to the study of justice in contemporary political theory and practice. Specific topics include justice in the liberal and libertarian traditions, justice as impartiality, justice and the politics of difference, justice as a universal or culturally bound norm, reconciliation and transitional justice, and questions surrounding historic injustice and its contemporary redress. Case studies from Canada and around the globe are used to highlight the challenges associated with implementing the requirements of justice in concrete political settings.

*Prerequisites:* Upper-division standing or permission of the instructor

**POLS 400-3 Classics in Political Philosophy** This course provides a close analysis of a classic treatise in political philosophy. Texts vary yearly. The course may be repeated for a maximum of six credit hours with permission of the instructor.

*Prerequisites:* POLS 370-3, or permission of instructor

**POLS 401-3 Resource Politics** This course examines the roles which natural resources and the environment have come to play within the contemporary political system, with an emphasis on Canada and British Columbia.

*Prerequisites:* restricted to fourth year students or by permission of the instructor

**POLS 403-3 Social and Health Policy and Administration** This course examines the evolution of social and health services in Canada in a comparative context. This includes the provision of public services, federal-provincial relations and the development of community health and social services.

*Prerequisites:* restricted to fourth year students or by permission of the instructor

**POLS 405-3 Topics in Society and Democracy** This course is a comparative analysis of the challenges of political, economic and social transition. Topics may include religion and democracy, the market and democracy, and constitutions and democracy.

*Prerequisites:* restricted to fourth year students or permission of the instructor

**POLS 412-3 Comparative Aboriginal State Relations** This course is a comparative study of relations between modern states and aboriginal peoples, and the quest by aboriginal peoples for self-determination.

*Prerequisites:* 90 credit hours or permission of the instructor

**POLS 413-3 Democracy and Diversity** This course is an exploration of the politics of ethnic, racial and religious diversity and its impact on the theory and practice of democracy in the 21st Century. Theoretical concepts and models are examined in relation to case studies drawn from Canada and around the globe.

*Prerequisites:* restricted to fourth year students or by permission of the instructor

**POLS 414-3 Comparative Federalism** This seminar course examines the theories, concepts and issues that influence politics and policy-making in federal countries around the world.

*Prerequisites:* 90 credit hours or permission of the instructor

**POLS 415-3 Comparative Northern Development** This seminar course examines the strategies and challenges of northern development in Canada, Russia and other parts of the Arctic region.

*Prerequisites:* 90 credit hours or permission of the instructor

**POLS 417-3 Ethical Leadership** This course provides an overview of the literature on leadership throughout history as well as reviews the main leadership theories developed in the 20th and 21st centuries, with a focus on what makes a good leader, both in the sense of administrative or managerial effectiveness as well as in a moral sense. Models of successful leadership in both the public and private sector are explored through case studies.

*Prerequisites:* Upper-division standing
*Precluded:* COMM 437-3

**POLS 422-(3-6) Ethnographic Research Project** This course gives students the experience of a field school in which they study selected aspects of politics, cultures and peoples in order to design and carry out a major research project. Course materials vary depending on the location of the field school and on the general research topic. This course may be repeated to a maximum of 6 credit hours.

*Prerequisites:* Upper-division standing or permission of the instructor
*Precluded:* ANTH 422-(3-6)

**POLS 427-3 Ethics and Public Affairs** This course is an exploration of the ethical foundations of domestic and foreign policy making in contemporary democratic states. Special emphasis is placed on the tension that frequently arises between moral idealism and political realism in the conduct of public affairs.

*Prerequisites:* Upper-division standing or permission of the instructor

**POLS 434-3 Resource Communities in Transition** This course examines the issues facing rural, remote and northern resource communities across Canada. It compares issues across Canada's provincial north as well as has a specific focus on northern British Columbia. Issues discussed include, among other things, the economic realities of globalization, the issues of identity for resource communities, and the effects of urban policy decision processes on rural, remote and northern regions.

*Prerequisites:* Upper-division standing
*Precluded:* POLS 401-3

**POLS 440-3 Internship I** Students with proposals relating to possible credit for an internship arrangement should consult the Program advisor well in advance.

*Prerequisites:* restricted to fourth year students and by permission of the Department Chair

**POLS 441-3 Internship II** Continuing Internship

*Prerequisites:* restricted to fourth year students and by permission of the Department Chair

**POLS 472-3 Seminar in Political Philosophy** This is a participatory seminar in which students are guided through the process of conducting a research project in political philosophy. Topics are chosen according to students' interests.

*Prerequisites:* Upper-division standing

**POLS 498-3 Special Topics in Political Science** The content of this course varies according to instructor and student requests. This course may be repeated up to a maximum of 6 credit hours with permission of the Department Chair.

*Prerequisites:* 90 credit hours and permission of the Department Chair

**POLS 499-3 Independent Study** The content of this course will vary according to the instructor and student requests.

*Prerequisites:* restricted to fourth year and graduate students and by permission of the Department Chair

# Psychology (PSYC)

**PSYC 101-3 Psychology as a science** This course describes psychology as a basic science in two logical modules: psychology as a natural science and psychology as a social science.

*Prerequisites:* None

**PSYC 102-3 Psychology and human problems** This course describes how psychological science has been applied to understanding and dealing with many of the practical problems of human existence. Topics addressed include the promotion of healthy human development, health science applications of psychology, including the description and treatment of psychological disorders and the contribution of psychology to the understanding and modification of social problems.

*Co-requisites:* PSYC 101-3

**PSYC 200-(3-6) Current Topics** This course deals with how concepts from psychology may be addressed to topics of current public interest. Examples of issues that may be included are psychological issues in the north, family violence, psychology and the justice system, modelling intelligent behaviour. The theme of the course will be updated each year and advertised in advance. This course may be repeated for a maximum of 6 credit hours.

*Prerequisites:* PSYC 101-3, PSYC 102-3

**PSYC 202-3 Philosophy of Mind** This course provides an introduction to fundamental issues in the philosophy of mind including the nature of the mind, the relationship between the mind and the body, and the nature of our thoughts and perceptions. Also included is an introduction to the works of some of the leading philosophers in the field.

*Prerequisites:* PSYC 101-3, and PSYC 102-3, or permission of the instructor

**PSYC 215-3 Research Design and Methodology in Psychology I** In this course students will learn basic research design and the methods psychologists use to investigate behaviour and mental processes, with particular emphasis on empirical methodology. The course provides students with hands-on experience in research design, data collection and writing research reports in APA style.

*Prerequisites:* PSYC 101-3, 102-3

**PSYC 220-3 Psychology of Gender and Gender Relations** An introduction to contemporary issues related to differences in the experience and behaviour of males and females.

*Prerequisites:* PSYC 101-3, 102-3

**PSYC 301-3 Social Psychology** This course examines human behaviour in its social context. Specific topics covered include interpersonal interaction, social motivation and attitudes, prejudice, socialization and communication.

*Prerequisites:* PSYC 101-3, 102-3 and a total of 30 credit hours successfully completed

**PSYC 303-3 Introduction to Abnormal Psychology** This course provides an introduction to the study of abnormal behaviour. Topics include the history of psychopathology, definitions of abnormality, classification and assessment, models of psychopathology and an introduction to the specific syndromes of abnormal behaviour.

*Prerequisites:* PSYC 101-3, 102-3 and a total of 60 credit hours successfully completed

**PSYC 306-3 Theories of Personality** This course provides an introduction to the study of personality. Influential models of personality structure and function are examined as are techniques for personality assessment.

*Prerequisites:* PSYC 101-3, 102-3 and a total of 30 credit hours successfully completed

**PSYC 307-3 Motivation and Emotion** This course addresses the properties and determinants of motivated behaviour and emotional states. Topics include eating and drinking, defence, sexual behaviour and the nature, structure and mechanisms of emotion.

*Prerequisites:* PSYC 101-3, 102-3 and a total of 60 credit hours successfully completed

**PSYC 309-3 Introduction to Health Psychology** This course provides an introduction to behavioural health science.

*Prerequisites:* PSYC 101-3, 102-3 and a total of 60 credit hours successfully completed

**PSYC 315-4 Design and Analysis of Psychological Research I** This course addresses the design, description and analysis of psychological research. Principles of research design are taught, along with common methods for analyzing data from descriptive statistics through correlational and nonparametric techniques to analysis of variance. Multivariate methods are introduced. Research design and analysis issues are addressed in an integrated manner.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, and a total of 60 credit hours successfully completed

**PSYC 316-4 Design and Analysis of Psychological Research II** This course is a continuation of Psychology 315-4, addressing the design, description and analysis of psychological research.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 315-4 and total of 60 credit hours successfully completed

**PSYC 317-3 Psychobiology** This course provides an introduction to the study of the biological roots of behaviour. This course addresses the structure and function of the nervous system and its role in psychological processes, including perception, emotion, motivation, cognition, memory and overt behaviour.

*Prerequisites:* PSYC 101-3, 102-3 and a total of 60 credit hours successfully completed

**PSYC 318-3 Sensation and Perception** This course provides an introduction to the study of sensory processes. Topics include vision, audition, taste, olfaction and somesthetic senses. These are taught within the context of the physiological and psychophysical methods that give rise to knowledge in this field.

*Prerequisites:* PSYC 101-3, 102-3 and a total of 60 credit hours successfully completed

**PSYC 320-3 The Psychology of Learning** This course provides an introduction to the study of learning. Topics covered include classical and operant processes, and cognitive models of response acquisition and change.

*Prerequisites:* PSYC 101-3, 102-3 and a total of 60 credit hours successfully completed

**PSYC 330-3 Cognition** This course provides an introduction to current research and theories of human mental processes and the methods used to study them. Topics may include attention, memory processes and systems, concept formation, language processing, problem solving, reasoning, and judgment and choice.

*Prerequisites:* PSYC 101-3, 102-3 and a total of 60 credit hours successfully completed

**PSYC 345-3 Lifespan Development** This course addresses the development of psychological abilities and characteristics and the mechanisms that subserve them. The full range of the human lifespan, from the prenatal period to the senior years, is examined.

*Prerequisites:* PSYC 101-3, 102-3, and a total of 30 credit hours successfully completed
*Precluded:* SOCW 421-3

**PSYC 401-3 Advanced Social Psychology** Advanced issues in the examination of human behaviour in its social context.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 301-3

**PSYC 403-3 Patterns of Psychopathology and Their Treatment** This course addresses major syndromes of abnormal behaviour, introducing students to the major biological and experiential theories of their origins. Approaches to treatment are also addressed.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 303-3

**PSYC 405-3 Clinical Psychology** This course deals with the contemporary practice of clinical psychology. Topics include the role of the clinical psychologist, psychological assessment, the conduct of psychological therapies and ethical issues.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 303-3
*Co-requisites:* PSYC 403-3

**PSYC 408-3 Environmental Problems and Human Behaviour** This course is a study of the individual's role in environmental conservation. Many environmental problems have their origin in human behavior. The field of psychology is able to identify factors within and outside the individual that give rise to unsustainable lifestyles and, therefore, to identify approaches to conservation that take human psychology and well-being into consideration.

*Prerequisites:* Upper-division standing
*Recommended:* PSYC 102-3, PSYC 301-3

**PSYC 409-3 Advanced Health Psychology** This course focuses on advanced issues in the field of health psychology. Topics include psychosocial epidemiology, health behaviour and its determinants, stress and its management, the modification of health-related behaviour, disease prevention and health promotion.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 309-3
For BHSc students only: PSYC 101-3, 102-3, 309-3, and HHSC 351-3

**PSYC 415-3 Advanced Developmental Psychology** This course deals with advanced issues in the field of developmental psychology. Topics may include development of the self, sex differences in interpersonal styles, adolescent problems such as drug and alcohol abuse, pregnancy and suicide, parenting, divorce, families, adulthood, death and bereavement, or successful aging.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 345-3

**PSYC 417-3 Behaviour Modification** This course examines the application of behavioural and social learning concepts to the change of problematic human behaviour.

*Prerequisites:* PSYC 101-3, 102-3, 215-3

**PSYC 418-3 Advanced Issues in Perception and Sensation** This course provides a treatment of advanced questions in the study of perception. Building on an understanding of fundamental sensory mechanisms, this course provides further exploration of the mechanisms of perception and the manner in which perceptual processes are integrated with such other psychological processes as attention, learning, memory and cognition. Mechanisms are highlighted by discussion of such topics as the perception of pain, emotion and speech.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 318-3

**PSYC 419-3 Neuropsychology** This course provides an introduction to sensory, motor, cognitive and affective disorders resulting from brain damage and dysfunction.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 317-3

**PSYC 427-3 Cross-cultural Psychology** This course deals with cultural differences in behaviour, with a special emphasis on intercultural issues in pluralistic societies.

*Prerequisites:* PSYC 101-3, 102-3, 301-3

**PSYC 430-3 Advanced Cognitive Psychology** This course examines advanced issues in the study of cognition. Topics may include models of memory, implicit learning, decision theory, computer simulation of thought and action.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 330-3

**Laboratories:** Courses in the 442 - 495 series are restricted to Psychology majors only. Ordinarily, these will be restricted to students in their fourth year of studies.

**PSYC 442-3 Methods in Developmental Psychology** This course addresses experimental and observational methods used in developmental psychology.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 315-4, 345-3

**PSYC 445-3 Methods in Perception and Psychophysics** This course provides exposure to the psychophysical techniques used in the study of human sensory systems and perception.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 315-4, 318-3

**PSYC 450-3 Tests and Measures** This course provides exposure to the design, conduct and interpretation of common techniques for describing human thoughts, feelings, and behaviours.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 315-4

**PSYC 455-3 Methods in Social Psychology** This course addresses experimental and observational techniques commonly used to test hypotheses about human social behaviour.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 301-3, 315-4

**PSYC 460-3 Methods in Cognitive Psychology** This seminar style course allows students to discuss, present and critically evaluate research on human mental processes, with particular emphasis on methodological issues.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 315-4, 330-3

**PSYC 470-3 Psychophysiology** This course offers an introduction to the measurement of physiological responses to psychological conditions.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 315-4 and one of 301-3, 306-3, 307-3, 309-3, 317-3

**PSYC 475-3 The Evaluation of Social Programs** This course offers an introduction to the methods and processes of program evaluation. Topics covered include needs assessment, the development of measures, formative and summative evaluation.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 315-4, or permission of the instructor

**PSYC 480-3 Critical Analysis in Psychology and the Health Sciences** This course addresses the logic of drawing conclusions in psychology and the health sciences. Through an analysis of the requirements for conducting reviews of the literature on a particular topic, the process of summarizing findings, and the conduct of clinical trials and their analysis, students are exposed to common pitfalls in and prerequisites for the establishment of knowledge.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 315-4, or permission of the instructor

**PSYC 485-3 Current topics in Psychological Research** This course provides exposure to advanced laboratory methods applied to areas of emerging interest in psychology.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 315-4, and upper-division standing and permission of the instructor

**PSYC 490-3 Honours Thesis I** In this course, students pursue an independent research project. Credit for this course is based on the introduction and proposed methodology for the project.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 315-4, 316-4

**PSYC 495-3 Honours Thesis II** In this course, students pursue an independent research project. Credit for PSYC 495-3 will be based on a report of the results and implications of the project.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, 315-4, 316-4

**PSYC 497-3 Senior Seminar** This course provides an integrative seminar for advanced students. Enrolment is restricted to fourth-year Psychology students.

*Prerequisites:* PSYC 101-3, 102-3, 215-3, and 90 credit hours successfully completed

**PSYC 498-3 Special Topics in Psychology** A course on a special topic, delivered in a lecture or seminar format. No more than three credit hours in Special Topics courses may be applied toward a major in Psychology.

*Prerequisites:* PSYC 101-3, 102-3, 215-3 and upper-division standing and permission of the instructor

**PSYC 499-(3-6) Independent Study** A course on a selected topic based on readings directed by an instructor. The course format and requirements will be based on a formal contract with the instructor. No more than six credit hours in Independent Study courses may be applied toward a major in Psychology.

*Prerequisites:* PSYC 101-3, 102-3, 215-3 and upper-division standing Psychology major and permission of the instructor

# Social Work (SOCW)

**SOCW 200-3 Introduction to Social Work Practice** This course provides an overview of Social Work practice including the historical, political, philosophical and practical bases in Canadian society. It introduces students to the values, concepts and the relevant Social Work Codes of Ethics. There is also an overview of current social problems and related fields of practice.

*Prerequisites:* None

**SOCW 201-3 Introduction to Social Welfare** Introduces students to the welfare state in Canadian society. It examines historical, ideological and contemporary issues in the Canadian welfare state and reviews some of the major programs, policies and concerns confronting policy makers, social workers and client groups.

*Prerequisites:* None

**Note:** Social Work required courses at the 300 and 400 levels may be taken only by those students admitted into the program. Social work elective courses may be taken by other UNBC students depending on space and permission of the Program Chair, School of Social Work. The elective courses may be of particular interest to students in Nursing, Education, Psychology, Political Science, Women's Studies and Public Administration. Priority is given to admitted Social Work students.

**SOCW 300-3 Social Work Communication Skills** Communication Skills in Social Work Practice is an introductory course that aims to increase skills and analysis in the diverse cultural settings that are appropriate to social work among First Nations and remote, northern and rural communities. Learning to recognize the contradictions in people's experiences and to maximize the possibilities, resources and strengths in their lives are critical aspects of a social worker's practice. Emphasis on integration of interpersonal and analytic skills in learning effective helping strategies within a structural framework that acknowledges the influence of class, race and gender in shaping personal and social well-being. This course includes a Skills Laboratory.

*Prerequisites:* enrolment limited to students admitted to the School of Social Work

**SOCW 301-3 Critical Social Work Practice** This course critically examines the historical origins, values, methods and applications of various social work practice approaches. With an emphasis on structural, feminist, and First Nation social work strategies, the focus includes the application of these approaches to women, minority groups, First Nations, and residents of northern and remote communities. These will be contrasted with other models of social work practice including general systems theory, ecological theory, and case management.

*Prerequisites:* enrolment limited to students admitted to the School of Social Work

**SOCW 302-6 Social Work Field Education I** An initial three-day per week field placement, which includes a bi-weekly integrative seminar, is required of all students. Students are involved in a wide range of practice roles and responsibilities at the individual, family, group and community levels. The course provides an initial opportunity for students to link social work concepts and theory with practice skills. It also introduces students to the structure, goals and operation of different human service agencies.Field practice objectives and details are worked out among the student, the agency supervisor and the faculty field instructor.

*Prerequisites:* SOCW 300-3, 301-3, 310-3 and 320-3; enrolment is limited to students admitted to the School of Social Work

**SOCW 310-3 First Nations Social Work Issues** This course examines methods of developing an anti-racist social work practice in the context of First Nations experience. Particular emphasis is placed on understanding emerging models and structures within First Nations communities. The development of these models is explored within a context of analyzing the impact of the colonial experience. Students are introduced to alternative methods including some of the healing strategies and organizational structures in First Nations communities.

*Prerequisites:* enrolment limited to students admitted to the School of Social Work
*Precluded:* SOCW 410-3

**SOCW 320-3 Critical Social Policy** This course examines the development of social policy in Canada, including current debates, from conventional and critical perspectives inviting students to consider the relationship between research, policy and social work practice. The course will review ideologies of social welfare policy, its formulation and implementation and consequences for people in need. Policy formulation will be analyzed from a critical perspective that examines the role of power and privilege in the construction of social policy. Alternative social arrangements and models of policy and practice will be explored.

*Prerequisites:* enrolment limited to students admitted to the School of Social Work

**SOCW 330-3 Social Work Research/Policy/Practice** Social Work Research, Policy and Practice introduces research methods and analysis techniques that are used to examine issues in the policy and practice of social work and social welfare. It reviews qualitative and quantitative approaches with an emphasis on community needs research, participatory research and the development of interview schedules and questionnaires. The methods examined in this course will be linked to substantive policy and practice issues that reflect the economic, social and personal circumstances of people and communities in northern, remote and First Nation communities.

*Prerequisites:* Enrolment limited to students admitted to the School of Social Work

**SOCW 336-3 Social Work Philosophy and Ethics** This course critically assesses the ethical issues involved in carrying out the tasks of Social Work practice, policy and research. Using the relevant Social Work Codes of Ethics as a starting point, these practice, policy and research roles are considered in the context of northern and remote Social Work. The course reviews different theoretical approaches to Social Work.

*Prerequisites:* Enrolment limited to students admitted to the School of Social Work

**SOCW 401-3 Northern/Remote Social Work Practice** Northern and Remote Social Work Practice builds on the structural approach examined in SOCW 301-3. Critical generalist practice will be examined within the context of current and emerging client populations and practice issues. The course aims to develop a critical awareness/ analysis of the nature, cause and response of social workers to the social problems they are meant to deal with in the field practice aspects of their work in northern and remote communities.

*Prerequisites:* All 100, 200, and 300 level required courses in Social Work

**SOCW 402-15 Social Work Field Education II** This field placement requires students to perform in a social work role or organizational setting five days per week throughout the term. Field education provides undergraduate students with an opportunity to enhance and refine their social work skills. As much as possible, the assigned field education setting will broadly match the particular type of social work experience that the student wishes to pursue. The course includes three one-day seminars as part of the field education placement.

*Prerequisites:* All 100-, 200-, 300-, and 400-level requirements; enrolment limited to students admitted to the School of Social Work

**SOCW 420-3 Family/Child Welfare Policy** Family and Child Welfare Policy focuses particularly on feminist and First Nations critiques of child welfare policy and social work intervention. It critically examines assumptions in family and child welfare policy including notions of family, substitute care, conceptions about violence and neglect, and the implications of child and welfare policy for social work practice in northern communities.

*Prerequisites:* SOCW 320-3; enrolment limited to students admitted to the School of Social Work

**SOCW 421-3 Human Growth and Development** This course examines human growth and development with an emphasis on social processes from birth to death. The course follows a life cycle approach and addresses the influence of issues such as culture, class, gender and sexual orientation. Linkages are drawn between individual human development and health and social welfare policy, particularly as it effects residents of northern British Columbia. Note: students who have not taken a human growth and development course must take this course prior to graduating with a BSW.

*Prerequisites:* Enrolment limited to students admitted to the Health Sciences, Nursing, Psychology and Social Work, or with permission of the Social Work Chair. If students have previously taken a human growth and development course, they must check with a Student Advisor to ensure that the course meets the Human Growth and Development requirement.
*Precluded:* PSYC 345-3

**SOCW 422-3 Child Welfare Practice** This course examines child maltreatment from the perspective of social work practice in the field of child welfare. The course looks at various forms of child maltreatment including methods of assessing maltreatment and the cultural and structural factors that must be considered in assessing issues such as risk. Intervention strategies are also examined along with the legal procedures and responsibilities carried by child welfare social workers.

*Prerequisites:* SOCW 301-3
*Precluded:* Students not admitted to the School of Social Work

**SOCW 424-3 Child Welfare/Sites of Resistance** Sites of Resistance: Race, Poverty and Sexuality in the Fields of Child Welfare focuses on contemporary child welfare policy and practice from the standpoints of racial and sexual minorities as well as from those on the economic margins of contemporary capitalist/patriarchal society.

*Prerequisites:* SOCW 420-3

**SOCW 426-3 Current Issues in Child Welfare Practice** This course highlights topical child welfare issues, and current trends in child welfare practice, examines different methods of intervention and attempts to link changes in the economic circumstances of families to the social well being and healthy family functioning.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 432-3 Unemployment and Social Work** Unemployment, Social Welfare and Social Work Practice examines the implications of unemployment and underemployment for social work practice and policy within a provincial, national and global context. In particular, the course will focus on the reframing of unemployment as a social work issue, explore the social consequences of joblessness, and identify models of policy and practice which are applicable in different environments: northern, rural, urban and single industry communities. Alternative policies will be explored.

*Prerequisites:* Upper-division standing; enrolment limited to students admitted to the School of Social Work or permission of the Social Work Chair

**SOCW 433-3 Women in the Human Services** From a feminist and structural social work perspective, this course examines a range of women's issues in terms of socialization, work, health, sexuality, power and the state, legal issues, and the impact these have on the roles and positions of women in Canadian society, and in particular within human and social services.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 435-3 Community Social Policy** This course represents a community practice project geared to integrating Social Work theory, policy, research and practice with specific community issues. Students prepare public briefs on actual areas of community concern in the light of Social Work and welfare theory, policy and practice. The brief focuses on proposed forms of action and the implementation of the strategies of change and intervention.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 437-3 Social Work with Groups and Communities** This course examines the historical evolution of group work and the role that Social Work has played within this context. Different types of group approaches and experiences are discussed, including professionally led groups and self-help groups. Students consider the operation of groups through analysis of group norms, roles, values, goals and decision making from a perspective that is both theoretical and experiential.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 438-3 Comparative Welfare Analysis** This course provides a critical introduction to Canadian and comparative social policy as it relates to evolving issues in Social Work practice. Its main theme is to show how the welfare systems of individual countries can only be understood through exploring the wider international context. Particular attention is paid to the interactions between family policies and issues of race and gender, and to the processes by which individuals or groups are given or denied access to full welfare citizenship. Topics include: principles of comparative studies; models of welfare; convergence versus divergence; the dynamics of welfare-state development; welfare regime analysis, crisis of the welfare states, and the impact of welfare states.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 439-3 Social Work/Law and the Justice System** This course examines various areas of the Canadian legal system: constitutional documents and conventions, the court system, the provincial legislative powers, rights of Aboriginal Peoples, the Charter of Rights and Freedoms, and provincial legislation (such as Adoption Act; Child, Family and Community Service Act; Child, Youth and Family Advocacy Act, Family Relations Act, etc). It also examines the practice of Social Work in court settings. Specifically, it provides a basic understanding of the rights and interests of children, rules of evidence, and the role of various interveners. Court writing skills will be introduced and court visits will be arranged.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 440-3 Social Work In Mental Health** This course examines policy and practice issues pertaining to the understanding and delivery of Social Work services to people with a psychiatric disability. Although the content will explore many ideas that are international and national in scope, the primary focus is on the policies and practices that are relevant to people in northern British Columbia. Students will examine assessment and intervention methods as well as analyze the impact of current trends and changes in the health and social welfare system pertaining to people who require mental health services. The nature and impact of psychiatric disability are viewed from both an individual level as well as a structural level of analysis. The major emphasis is on practice and policy issues relating to people who are sometimes described as "psychiatric survivors."

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 441-3 Social Work and Substance Abuse** Social Work and Substance Abuse examines alcohol and other drugs in terms of their effects on individuals, families and society. It also looks at different roles of social workers and human service workers in helping people deal with and understand alcohol and drug abuse.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 442-3 Social Work with Victims of Abuse** Social Work with Victims of Abuse examines physical, emotional and sexual abuse and violence perpetrated on less powerful individuals. The roles played by the helping professions in this context are also examined.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 443-3 Medical Social Work** Focuses on the knowledge, attitudes and skills workers need to practice effectively in health care settings. Case studies will be used to demonstrate different methods of intervention in this context.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 444-3 Social Work Critical Issues in Aging** Critical Issues in Aging, Social Work Practice and Research examines the physical, social and psychological needs of the elderly. Adaptation of generic social work skills in effective intervention with and on behalf of the aged is also examined.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 445-3 Social Work and Cross-Cultural Practice** Social Work and Cross-Cultural Practice provides interdisciplinary approaches to understanding cultural and visible minority groups in relation to society and differential access to power are examined. The course will examine and critically evaluate different methods of assistance and intervention offered by social work to minority groups.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 448-3 Inequality and Income Security** Poverty, Inequality and Income Security examines the changing landscape of Canadian social policy and its implications for poverty, income inequality and income security. It reviews the evolution and devolution of major Canadian income security policies with a special focus on British Columbia. The implications of these changes on poverty and income inequality are examined for the people that live and work in northern British Columbia. This is done by looking at changes in poverty and income inequality for specific groups that include single mothers, First Nations, women, men, the unemployed and underemployed, the elderly, and those dependent on public assistance.

*Prerequisites:* Upper-division standing; enrolment limited to students admitted to the School of Social Work or permission of the Social Work Chair

**SOCW 449-3 Gender and Sexuality** This course critically examines constructions of gender and sexuality that include cross-cultural and class analyses. It also focuses on the historical character of sexual relations and gender and begin to challenge what is taken for granted in contemporary society specifically as these notions affect social work policy and practice.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 450-3 Social Work and Family Practice** Social Work and Family Practice through the application of family systems theory, will examine current approaches to working with families in community counselling settings. Completion of a family assessment, as well as a critical examination of power dynamics in families, and their connection with the larger society will be undertaken. Issues of gender, race, age, class, sexual preference, and so on, will be analyzed in this context.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 452-3 Social Work/Crisis Intervention** Crisis Intervention in Social Work examines the historical development of crisis intervention practice and theory. Several models of crisis intervention are presented with an analysis of their application to particular areas and fields of social work practice. Included in the fields of practice are suicide assessment and intervention, child abuse, spousal assault, physical illness and disability, psychiatric emergency and grief resolution. Analysis and discussion will centre around crisis intervention as it applies to social work practice with minority groups in northern communities. In addition to lecture and discussion material, interview and process skills will be practised in this course.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 453-3 Social Work Practice and Spirituality** This course provides a forum for the critical exploration of the impact and influence of religious thought and practices on human service work. The historical roots of this work are based in religious movements, aspects of which still affect today's practice/policy. In an increasingly multicultural environment, students must have a fundamental understanding of religion and spirituality in order to practice effectively.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 454-3 Disability Issues** This course involves students in an examination of perspectives on disability, as well as a critical analysis of current theories, policies, and practice. The course begins with an examination of common assumptions about disability and provides opportunities to challenge and critique interpretations of the nature and meaning of disability.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 455-3 First Nations Governance and Social Policy** Family values and standards of First Nations form the basis of the study on First Nations policy development and its relationship to self-governance for First Nations Communities. Topics explored include: self-determination from a First Nations perspective, its impact on Canadian Social Policy, along with the necessity to address Child and Family social needs into self-governance and planning. The course focuses on examples within British Columbia communities. Additionally, the course explores the importance of how social work practitioners need to become skilled advocates aimed at influencing policy and laws affecting First Nations and family systems.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 456-3 Family Caring Systems** This course develops an understanding of family caring systems from an Aboriginal/First Nations perspective. Topics explored include Aboriginal/First Nations world views, traditional roles of family members, the role that historical events have played in the development and current social realities of First Nations and the role that social workers can play in family wellness. Contemporary Social Work practices with Aboriginal/First Nations children and families are also analyzed and critically reflected upon, with a particular emphasis on future directions in Aboriginal/First Nations child and family welfare.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 457-3 Individual and Community Wellness** This course develops an understanding of the role that wellness plays in the life of Aboriginal/First Nations individuals and communities. Topics explored include the definition of healing and wellness, the role that historical events have played in the development and current socio-economic situation of First Nations and the role that social workers can play in the future development of health and wellness of First Nations individuals and communities. As well, the issue of self-care and self-management for First Nations people and the social workers who may work in high stress situations is explored.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 497-3 Reflection on Practice** This course is designed for students who are, or plan to be, working in a child welfare setting, The objective is to provide an opportunity to reflect on practice experience. The historical and cultural development of social work practice models is surveyed emphasizing contemporary models such as anti-oppressive practice, constructivism, and feminist practice. Assessment, intervention planning, advocacy, organizing, recording, confidentiality, evaluation, case management, interdisciplinary, and termination are also studied.

**SOCW 498-(3-6) Special Topics** Special topic courses may be offered from time to time. These courses are available to permit faculty to offer courses in areas that fall within their particular areas of research and expertise in Social Work practice and policy. With permission of the Chair of the School of Social Work, students may repeat the course for credit.

*Prerequisites:* Upper-division standing or permission of the Social Work Chair

**SOCW 499-3 Directed Readings** Students can undertake a directed reading course in order to fulfill a particular learning need and area of interest. Directed readings are dependent upon the availability of faculty resources.

**SOCW 501-3 Aboriginal Peoples in Canada: Past/Present/Future** This course examines the history of Aboriginal peoples in Canada coupled with an examination of current and future impacts in relation to Aboriginal children and youth. A particular focus is on the importance and knowledge of traditional family systems, parental attachment, and evolving methods and practices. Interwoven discussions also include managing personal issues in professional practice, self-care and the concepts of bringing together Aboriginal and Western frameworks for health and mental health.

**SOCW 502-3 Reflections on Practice: Child/Youth Mental Health** This course is designed for students who are, or plan to be, working in an Aboriginal child and youth mental health setting. The objective is to provide an opportunity to reflect on practice experience. The historical and cultural development of social work practice models is surveyed emphasizing contemporary models such as anti-oppressive practice, constructivism, and feminist practice. Assessment, intervention, planning, advocacy, organizing, recording, confidentiality, evaluation, case management, interdisciplinary environments, and termination are also studied.

**SOCW 503-3 Social Work/Counseling Skills with Children/Youth** This course examines practice and intervention skills focused on restoring balance when working with Aboriginal children and youth. The course examines basic issues of child development as well as communication skills that are effective in working with younger people. Specific therapeutic assessments and interventions are discussed and practiced within the course. The importance of balancing the relationship between western and traditional treatment and intervention approaches is also examined.

**SOCW 504-3 Mental Illness and Addictions among Children/Youth** Common types of mental illness are studied along with an overview of substance misuse and addictions. Structural elements impacting mental health such as poverty, racism, and isolation are considered as well as biological, traumatic, attachment, and familial factors. The epidemiology of mental illness among Aboriginal children and youth is examined along with factors associated with etiology. Pharmacological interventions are also examined.

**SOCW 505-3 Crisis Work With Children/Youth: Restoring Balance** This course examines the nature of crisis and looks at the type of crisis situations faced by children and youth, giving special attention to Aboriginal children and youth. Basic crisis intervention skills are identified and practiced towards the restoration of balance. There is a particular focus on suicide, including assessment of suicide lethality, intervention skills, skills for working with survivors, cluster suicide and suicide epidemics, and prevention work. Other trauma or crisis work, critical incident debriefing with children and youth and an examination of individual, family and community risk and protective factors are also addressed.

**SOCW 506-3 Community-Based Prevention: Creating Balance** This course examines community prevention strategies and risk reduction as it applies to child and youth mental health, highlighting the role and restoration of traditional activities that promote wellness for Aboriginal children and youth. Interventions and practical application of prevention strategies in relation to suicide, parenting, disability, and other issues are addressed. Approaches to identifying and building on existing community programs and community strengths are also emphasized.

# Statistics (STAT)

*A student may enroll in any STAT course with permission of the Department Chair. Unless otherwise stated, students enrolling in any STAT courses with prerequisites are required to have completed all prerequisite courses for that course with a C- or better, or have permission to enroll from the Department Chair.*

**STAT 240-3 Basic Statistics** This course is an introduction to the basic principles of statistics and procedures for data analysis. Topics include gathering data, displaying and summarizing data, examining relationships between variables, probability models, sampling distributions, estimation and significance tests, inference for means and proportions in one and two sample situations, contingency tables, and simple linear regression. Students register in a computer lab corresponding to their area of interest.

*Precluded:* MATH 240-3, MATH 242-3, MATH 342-3. Students who have completed MATH 341-3, MATH 371-3 or STAT 371-3 may not take STAT 240-3 for credit

**STAT 371-3 Probability and Statistics for Scientists and Engineers** This course is a calculus-based introduction to the theory and application of probability and statistics. Topics covered include concepts of probability, events, populations, probability theorems, the concept of a random variable, continuous and discrete random variables, joint probability distributions, distributions of functions of a random variable, moments, Chebyshev's inequality, the de Moivre-Laplace theorem, the central limit theorem, sampling and statistical estimation theory, hypothesis testing, simple regression analysis, and an introduction to the design of experiments.

*Prerequisites:* MATH 101-3
*Precluded:* MATH 340-3 and MATH 341-3 if both taken, MATH 371-3

**STAT 372-3 Mathematical Statistics** This course introduces the theory of statistical inference. Topics covered from likelihood theory are maximum likelihood estimation, sufficiency, and the likelihood ratio test. Topics covered from frequentist theory are point estimation, unbiasedness, consistency, efficiency, confidence intervals, small sample and large hypothesis tests. Topics covered from Bayesian theory are risk, point estimation and credible intervals.

*Prerequisites:* MATH 371-3 or STAT 371-3
*Precluded:* MATH 340-3 and MATH 341-3 if both taken, MATH 372-3

**STAT 441-3 Nonparametric Statistics** This course discusses the methodology and application of nonparametric statistics. Topics covered include goodness-of-fit tests, contingency tables, empirical distribution function tests, the sign test, the Wilcoxon test, the Wilcoxon-Mann-Whitney test, the Kruskal-Wallis test, and rank correlation.

*Prerequisites:* One of the following: MATH 240-3, MATH 242-3, MATH 341-3, MATH 342-3, MATH 371-3, ECON 205-3, PSYC 315-4 or STAT 240-3, STAT 371-3
*Precluded:* MATH 441-3

**STAT 471-3 Linear Models** This course discusses the estimation of parameters in the multiple linear regression model by the least-squares method. Topics covered include the statistical properties of the least-squares estimators, the Gauss-Markov theorem, estimates of residual and regression sums of squares, distribution theory under normality of the observations, assessment of normality, variance stabilizing transformations, examination of multicollinearity, variable selection methods, logistic regression for a binary response, log-linear models for count data, and generalized linear models.

*Prerequisites:* One of MATH 150-3 or MATH 220-3; and one of ECON 205-3, MATH 240-3, MATH 371-3, PSYC 315-4, STAT 240-3 or STAT 371-3
*Precluded:* MATH 671-3, MATH 499-3 Regression

**STAT 472-3 Survey Sampling Design and Analysis** This course discusses the planning and practice of sample surveys. Topics covered include simple random sampling, unequal probability sampling, stratified sampling, cluster sampling, multistage sampling, cost-effective design, analysis and control of sources of sampling and non-sampling error, ratio estimation, model-based regression estimation, resampling, and replication methods.

*Prerequisites:* One of the following: MATH 240-3, MATH 371-3, ECON 205-3, PSYC 315-4, STAT 240-3, or STAT 371-3
*Precluded:* MATH 472-3, MATH 499-3 Design of Sample Surveys

**STAT 473-3 Experimental Design and Analysis** This course discusses experimental designs and analyses. Topics covered include basic principles and guidelines for designing experiments, simple comparative designs, single factor analysis of variance, block designs, factorial designs, response surface methods and designs, nested and split plot designs, and the analysis of covariance.

*Prerequisites:* One of MATH 150-3 or MATH 220-3; and one of MATH 240-3, MATH 371-3, ECON 205-3, PSYC 315-4, STAT 240-3, or STAT 371-3
*Precluded:* MATH 473-3, MATH 499-3 Design of Experiments

**STAT 475-3 Methods for Multivariate Data** This course discusses practical techniques for the analysis of multivariate data. Topics covered include estimation and hypothesis testing for multivariate means and variances; partial, multiple and canonical correlations; principal components analysis and factor analysis for data reduction; multivariate analysis of variance; discriminant analysis for classification; and cluster analysis.

*Prerequisites:* One of MATH 150-3 or MATH 220-3, and one of MATH 471-3 or STAT 471-3
*Precluded:* MATH 475-3, MATH 499-3 Applied Multivariate Analysis

**STAT 499-(1-3) Special Topics in Statistics** The topic for this course varies, depending on student interest and faculty availability. The course may be taken any number of times provided that topics are distinct.

*Prerequisites:* Permission of instructor

**STAT 530-(3,6) Undergraduate Thesis** This undergraduate thesis allows students to examine and research a topic in the field of statistics. Students must have completed at least 90 credit hours and be a Mathematics major. This thesis may be taken in one or two semesters. STAT 530 is normally taken over two semesters and requires that a student find an Undergraduate Thesis research supervisor. Therefore, students are encourages to apply to potential supervisors well in advance of completing 90 credit hours. This course is taken for a total of 6 credit hours.

*Prerequisites:* Honours standing and permission of the Instructor and the Department Chair
*Precluded:* MATH 530-(3,6) Undergraduate Thesis

# University (UNIV)

**UNIV 101-3 Introduction to Higher Education** This course is most appropriate for students who are in their first year of study at a university. It offers an introduction to the university as an institution of higher learning, an explanation of the various methods of inquiry employed therein, and demonstrations of the study skills and learning strategies that are required for academic success. Students will be encouraged and assisted to apply the information presented in this course to other courses that they are completing concurrently.

*Prerequisites:* None

# Women's Studies (WMST)

**WMST 100-3 Introduction to Women's Studies** A study of past and present women's positions in and contributions to society from a multidisciplinary perspective. Specific topics may include an historical overview of politics, law and the family, productive roles, health and illness, science, culture and philosophy.

*Prerequisites:* None

**WMST 103-3 Introduction to Gender Studies** This course explores the ways in which human beings think about structure gender. Topics include ideologies of masculinity and femininity, gender and psychology, gendered language, the relationship between gender and sexuality, and gender in popular culture and media.

*Prerequisites:* None

**WMST 209-3 Gender and Cultural Studies: An Introduction** This course introduces students to questions of gender, media representation, and technology. Students examine the construction of femininity and masculinity in such visual technologies as advertising, video, television, and film.

*Prerequisites:* None

**WMST 211-3 Feminist Critical Thought** This course introduces students to the philosophical, cultural, and political foundations in feminist critical thought.

*Prerequisites:* None

**WMST 220-3 Gender and Literary Theory** This course provides an introduction to critical analyses of gender and their implications for literature. Students gain an overview of some current topics in gender theory and apply these to contemporary texts.

*Precluded:* ENGL 200-3 (This is the same course as WMST 220-3)

**WMST 221-3 Women and Literature: A Survey** This course is a survey of works of poetry and fiction written by women in English from the Renaissance to the present. The course considers feminist theory and criticism in relation to these works.

*Precluded:* ENGL 210-3 (This is the same course as WMST 221-3)

**WMST 302-3 Women and the Contemporary World** This course examines the role of women in contemporary world through a comparative examination of different societies. Topics to be addressed will include such issues as legal status, health, family, work, sexuality and violence.

*Prerequisites:* WMST 100-3
*Precluded:* WMST 212-3

**WMST 303-3 Lesbian and Bisexual Lives** This course introduces students to lesbian and bisexual women studies from an historical perspective as well as focusing on contemporary contexts and issues. Students will study the diversity of political perspectives among lesbian and bisexual women and how sexuality intersects with race, class, ability and cultural differences.

*Prerequisites:* None

**WMST 304-3 Contemporary Women's Writing in an International Frame** This course covers a range of contemporary women writers in an international context. Writers will be examined in relation to developments in the women's movement and in light of recent feminist literary theoretical insights into narrative, genre, and representation.

*Prerequisites:* None

**WMST 306-3 Indigenous Women: Perspectives** The purpose of this course is twofold: first to understand how Indigenous women's lives have been shaped by colonialism and secondly, to delineate the global themes in indigenous women's current political and social struggles to transcend the colonial legacy that continues to constrain them.

*Prerequisites:* FNST 100-3 or WMST 100-3 or permission of the instructor
*Precluded:* FNST 306-3 and WMST 310-3

**WMST 307-3 Qualitative Research Methods** This course introduces students to a variety of research practices, including oral history, interviews, case studies, archival and library research, survey/content analysis, and field work.

*Prerequisites:* WMST 100-3 or permission of the instructor
*Precluded:* WMST 210-3

**WMST 309-3 Gender and Film** This course addresses the construction of gender in films that focus explicitly on the question of gender in relation to class, race, sexuality, ethnicity, colonialism and nationalism. Note: students who have completed WMST 206-3 prior to the 1996-97 academic year, may not take this course for credit.

*Prerequisites:* WMST 209-3, or permission of instructor

**WMST 311-3 History of Feminism** This course surveys the history of those various political, social and cultural movements, e.g. suffragism, women's liberation, etc., which have combined to create the phenomenon of feminism. Attention is also devoted to the diverse theories, ideas and values that underpin contemporary feminism.

*Prerequisites:* WMST 100-3 or permission of instructor
*Precluded:* HIST 311-3

**WMST 312-3 An Introduction to the History of Gender** This course explores issues of gender in historical context using a case study approach.

*Precluded:* HIST 270-3, WMST 270-3, HIST 310-3, and HIST 312-3

**WMST 401-3 Cultural Studies: Gender, Race and Representation** This course explores the visual expression of women artists, photographers, fashion designers and film makers while also examining feminist critical responses to these visual forms of expression.

*Prerequisites:* WMST 209-3 or permission of the instructor

**WMST 409-3 Advanced Feminist Social Science Methodology** The goal of this course is twofold: first to cover current debates in feminist methodology and second to develop appropriate research strategies for an independent research project.

*Prerequisites:* WMST 311-3 or permission of the instructor

**WMST 410-3 Feminist Political Philosophy** This course provides an analysis and critique of both the historical and contemporary literature on feminist political philosophy from its enlightenment roots to its contemporary post-modernist critique on enlightenment notions of rationality.

*Prerequisites:* Upper-division standing and permission of the instructor

**WMST 411-3 Contemporary Feminist Theories** This course examines various themes and debates in recent feminist theories from an interdisciplinary perspective. Topics will vary from year to year.

*Prerequisites:* WMST 311-3 or permission of instructor

**WMST 413-(3-6) Topics in Aboriginal Women's Studies** This course explores topics relating to aboriginal women's studies in both Canadian and international contexts. Topics may vary from year to year. This course may be repeated for credit (maximum six credit hours).

*Prerequisites:* WMST 100-3 or FNST 100 and permission of instructor

**WMST 420-3 Contemporary Women's Literature** This course considers contemporary women writers and their work, emphasizing their cultural diversity and considering them in the context of feminist theory. Writers may include: Nadine Gordimer, Joy Kogawa, Amy Tan and Louise Erdrich.

*Prerequisites:* Two lower-division English Courses excluding ENGL 170-3 or 45 credit hours or permission of instructor
*Precluded:* ENGL 410-3 (This is the same course as WMST 420-3)

**WMST 498-(3-6) Selected Topics in Women's Studies** The course examines in detail topics selected by the instructor. This course may be repeated for maximum of 6 credit hours.

*Prerequisites:* Permission of the instructor

**WMST 499-3 Independent Study in Women's Studies** This course enables students to read in depth in an area of women's studies not normally covered by established principal or ancillary courses in the Women's Studies program.

*Prerequisites:* Permission of the Program Chair

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