



PHYSICAL GEOGRAPHY



STUDENT HANDBOOK
2025

Introduction	2
Program Requirements.....	3
BSc Physical Geography	3
Minors	3
Experiential Learning.....	4
Undergraduate Thesis and the Honours Degree	4
Specializations	4
Co-operative Education.....	4
Planning Your Degree.....	5
Student Resources and Contacts	5
Geography, Earth, and Environmental Sciences	5
Geography BSc Program Academic Advising	5
UNBC Student Advisors.....	5
Scholarships, Bursaries, and Financial Aid	6
UNBC Academic Success Centre.....	6
UNBC Co-operative Education	6
UNBC Access Resource Centre.....	6
UNBC Wellness Centre	7
UNBC Career Centre	7
Northern Undergraduate Student Society.....	7
Northern Women’s Centre	7
Northern Pride Centre.....	8
Geography, Earth, and Environmental Sciences Club (GEES Club)	8
Web, Social Media and Electronic Mail lists	8
After your Physical Geography degree.....	8
Careers in earth science	8
Accreditation and Certification	9
Graduate Studies	9
Appendix I – Tentative Physical Geography Course Offering Timetable	10

PHYSICAL GEOGRAPHY

UNDERGRADUATE STUDENT HANDBOOK

Revised: November 2024

INTRODUCTION

Welcome to UNBC's Physical Geography B.Sc. Program in the [Faculty of Environment's Department of Geography, Earth and Environmental Sciences](#)! At the undergraduate level, we offer the Bachelor of Science (BSc) degree in *Physical Geography* (Major and Honours), as well as Minors in *Earth Science*, *Geomorphology*, and *Geographic Information Systems*. Students majoring in Physical Geography also have the option of listing an *area of specialization* (Air, Water, Earth, Soil Science, Geospatial Science, or Ecogeography) on their transcript. Physical Geography faculty also participate in graduate education (MSc, MNRES, and PhD) through the [Natural Resources and Environmental Studies](#) graduate program.

The Department of Geography, Earth and Environmental Sciences (GEES) at UNBC recognizes that systemic barriers, such as racism, sexism, ableism, homophobia, transphobia, and others, impact the experiences and opportunities of students in academia. We are committed to fostering an environment where every student is treated equitably and where diverse perspectives, backgrounds, and experiences are valued. By embracing equity, diversity, and inclusion, we aim to strengthen our learning community and ensure that all students feel supported in their academic journeys and beyond.

This handbook is for undergraduate students studying Physical Geography at UNBC; it supplements the more formal information in the UNBC Calendar¹. It is designed to help you navigate your degree, leading into geoscience careers or further study. It supplements the face-to-face advising that is available through UNBC Academic Advisors (see below) or by meeting directly with Physical Geography [faculty](#).

The document overviews the Major, Minors, and Honours degrees. It discusses important points to consider when planning your degree so that you can successfully and efficiently complete your program. It highlights important student resources, and then concludes by discussing career and further study options to consider after completion of your undergraduate degree. Important information on internships and course timetabling are contained in appendices.

This is a living document; if you are reading it as a hard copy, there are active web links that can be accessed using the online version that is accessible from the UNBC Geography web page at <https://www.unbc.ca/geography>.

¹ The information in the UNBC Calendar (<https://www2.unbc.ca/calendar>) is the official source of information and supersedes this document in case of discrepancies.

PROGRAM REQUIREMENTS

BSC PHYSICAL GEOGRAPHY

The BSc Physical Geography degree:

- Is interdisciplinary, and offers the ability to specialize in a topic of interest
- Focuses on the interactions between the atmosphere, biosphere, hydrosphere, and lithosphere
- Examines the patterns and processes that shape the Earth's surface
- Builds depth (through the Major and Minor) and breadth through the [UNBC Academic Breadth Requirement](#)
- Provides you with tools and techniques that can be used in a wide range of careers

As a graduate of the Physical Geography program, you will:

- Develop a full understanding of the complex connections between the atmosphere, biosphere, hydrosphere, and lithosphere
- Gain invaluable tools and skillsets for data analysis, remote sensing, mapping, and interpretation
- Be ready to address diverse problems such as: geohazards, climate change impacts and adaptation, and ecosystem health
- Have a solid background for careers in earth protection and resource management and research, in the public, private, and non-governmental sectors.

The Physical Geography degree has the following basic structure:

- 1st year has fundamental science courses including physics, chemistry, biology, and mathematics. Introductory courses in physical and human geography are also required. It is **strongly recommended** to complete these introductory courses early to develop a strong foundation built upon by subsequent courses. To complete the [UNBC Academic Breadth Requirement](#), students must select an elective from the Arts and Humanities. Clear writing is foundational to many courses; ENGL 170-3 *Writing and Communication Skills* is recommended for most students.
- 2nd year core curriculum develops a cross-disciplinary geophysical understanding through integrative environmental systems courses on weather and climate, soils, hazards, and earth science, including techniques to analyze these systems.
- 3rd and 4th year students take a core curriculum that includes hydrology, geomorphology, GIS and remote sensing, and options for field schools, special topics courses, and more advanced analyses or synthesis courses.
- In addition, students can complete a *Specialization* or a *Minor* by completing a subset of courses related to a particular topic.
- Students interested in independent research can work with a faculty member supervisor and complete a *Thesis* to earn a BSc. Honours degree.

While the curriculum is in the [UNBC Calendar](#), adjustments may be possible (e.g. substituting courses) with program approval. If you have questions about degree requirements, talk to your Academic Advisor well before degree completion.

MINORS

The Physical Geography degree at UNBC offers several minors, including *Earth Science*, *Geomorphology*, *Geographic Information Systems (GIS)*, *Physical Geography*, *Human Geography*, and *Global Environmental Change*. A Physical Geography minor is available to students majoring in another program, but who have completed significant study in Physical Geography topics.

EXPERIENTIAL LEARNING

A Physical Geography Major integrates a wide range of experiential learning opportunities where learning occurs through a process of activity, analysis, reflection, and evaluation. Many courses incorporate scheduled **lab** and/or carefully chosen **field activities** during the term or weekend field experiences. Other courses offer students the opportunity to travel to other locations to learn and participate in field schools; these are usually identified as GEOG 333 courses.

For example, past field schools have taken students to Death Valley in the southwest United States, across BC studying mountain snowpacks and geomorphology, and to the Quesnel River Research Centre to learn about river and lake processes. Hands on field trips integrated into many physical geography courses literally get your hands dirty as you study soils, hike up to nearby glaciers, and take measurements of the earth, air, and water.

To discover courses with a greater focus on experiential learning, look at course descriptions, consult the course schedule for courses with labs, and speak with Geography instructors or the GEES advisor.

While field schools are run regularly, the destination and thematic focus of each field camp can vary year to year, subject to scheduling and instructor availability. Regardless of the specific focus of each field camp, students are exposed to essential field work skills transferrable to any discipline.

See the Geography Field Schools website: <https://www.unbc.ca/geography/field-schools>

UNDERGRADUATE THESIS AND THE HONOURS DEGREE

An undergraduate thesis is encouraged for students who are considering a postgraduate degree. Students do not need to be in the BSc Honours program to complete an undergraduate thesis, however BSc Honours students *are* required to complete a thesis. The undergraduate thesis must be conducted under the supervision of a faculty member. The minimum requirement for a BSc Honours degree in Geography is 126 credit hours. To be admitted to the Honours degree program, students must have completed 60 credit hours, obtained a minimum Cumulative GPA of 3.33, and find their own undergraduate thesis research supervisor. Attaining the minimum requirement does not guarantee admission into the Honours program, which is at the discretion of the Geography Program (contact the Program Chair for details). For example, faculty members are not obliged to supervise Honours students, so we encourage students to initiate discussions with both faculty members and the Program Chair, if interested in pursuing an undergraduate thesis and/or pursuing an Honours degree.

See the [Undergraduate Course Calendar](#) for further details on the BSc Honours program.

SPECIALIZATIONS

We encourage BSc Geography majors to complete an area of specialization to increase the breadth and utility of their degree. BSc Geography students can choose from the following specializations: **Air, Water, Earth, Soil Science, Ecogeography,** or **Geospatial Science**. Further details on each specialization can be found in the [Undergraduate Course Calendar](#). Questions on specializations can be directed to the Department Chair directly or through the Department email (see below).

CO-OPERATIVE EDUCATION

The Co-operative Education program integrates academic study with practical work experience through an alternating sequence of four-month work and study semesters. For more information, refer to the [Co-op section](#) in the UNBC Calendar.

PLANNING YOUR DEGREE

Your time at UNBC will be most productive and efficient if you plan your degree and courses early. Some courses in the program have pre-requisites that must be taken first; while some courses, especially optional ones, are only offered in alternate years. If you do not have the necessary pre-requisites for a given course, consider seeking instructor permission to register for the course. This may be an option for many courses and gives more flexibility to schedule planning. A tentative list (subject to change) of GEOG courses and when we plan to offer them is provided in [Appendix I](#). Advising has put together a helpful [degree planning guide](#) for your reference; check it out!

Since Geography BSc students are encouraged to complete an *Area of Specialization* during their degree, you should choose it early – usually in the 2nd year of your program, so that courses needed by the Area of Specialization can be integrated into the courses required in your Major. Geography BSc Program faculty and UNBC Academic Advisors can provide advice on selecting and sequencing courses required in your Major and Area of Specialization and in choosing elective courses most relevant to your interests and future career. If [accreditation](#) is important for your desired career, it will be important to know this early in your program so that you can make appropriate course choices.

STUDENT RESOURCES AND CONTACTS

GEOGRAPHY, EARTH, AND ENVIRONMENTAL SCIENCES

Geography is part of the Department of Geography, Earth, and Environmental Science (GEES) at UNBC. For more information, consult the program (<https://www2.unbc.ca/geography>) and departmental (<https://www.unbc.ca/departement-geography-earth-and-environmental-sciences>) webpages.

Contacts

Phone: 250-960-5832

Departmental Email: gees@unbc.ca

Administrative Assistant Email: michelle.keen@unbc.ca

Department Chair email: Dr. Catherine Nolin catherine.nolin@unbc.ca

GEOGRAPHY BSC PROGRAM ACADEMIC ADVISING

Talk to Geography faculty members! Students can seek general academic advice from [Geography BSc Program faculty members](#) who can advise on topics such as Areas of Specialization, courses, electives, careers, research and graduate studies. Initial points of contact for Faculty advising could be through the required GEOG 111-1 course that is normally taken in first year, or through the Department Chair.

UNBC STUDENT ADVISORS

Talk to your Student advisor! Students should communicate regularly with the Faculty of Environment Student Advisor who advises Geography majors to ensure all program requirements are met. For instance, technical inquiries about transfer credits, course substitutions, the possibility of taking courses at other institutions through a letter of permission, and ensuring graduation requirements are met, should be directed to the Faculty of Environment Student Advisor. For more information, consult the UNBC Student Advising webpage: <https://www.unbc.ca/advising>.

Contacts: Emily Gadzala – Academic Advisor for BSc Geography students

Phone: 250-960-5680

Email: fe.advising@unbc.ca

Office: Agora 7-710

SCHOLARSHIPS, BURSARIES, AND FINANCIAL AID

The UNBC Awards and Financial Aid office helps you finance your education and provides advice on budgeting. There are many scholarships and bursaries available, some for all majors and some targeted toward specific majors but most of them require an application. We commonly see awards not given because no one applies – so pay attention to the list of awards and application deadlines. Please consult the Awards and Financial Aid webpage: <https://www.unbc.ca/financial-aid>

UNBC ACADEMIC SUCCESS CENTRE

The UNBC Academic Success Centre (ASC) is a valuable resource to support your learning and success as a student. The ASC provides one-on-one and drop-in tutoring services, which may include online support. Special services and resources are offered to students learning English through peer-learning programs. There are also further resources on communication skills development, physics, math and statistics, computer literacy skills, and effective studying approaches and exam preparation. All services offered by the ASC are free to UNBC students. For more information, consult the ASC webpage: <https://www.unbc.ca/academic-success-centre>.

Contacts

Phone: 250-960-6367

Email: asc@unbc.ca

Fax: 250-960-5425

Office: Geoffrey R. Weller Library, first floor

UNBC CO-OPERATIVE EDUCATION

The UNBC Co-op Program offers undergraduate students the tools and supports necessary to be successful in gaining relevant, paid work experience, before graduation.

Contacts

Phone: 250-960-5447

Email: co-op@unbc.ca

Office: 7-153

UNBC ACCESS RESOURCE CENTRE

The UNBC Access Resource Centre (ARC) supports students with disabilities to create and maintain physical, intellectual and social access to the University. ARC is mandated to reduce physical, altitudinal and systemic barriers faced by students with disabilities. Services are provided to students with documented learning disabilities, facilitating access to resources and providing reasonable accommodations. Services offered by the ARC include, among others: assessment of student needs, assistive technology and services coordination, time management, and study skills development. For more information, consult the ARC webpage: <https://www.unbc.ca/access-resource-centre>.

Contacts

Phone: 250-960-5682

Email: arc@unbc.ca

Fax: 250-960-5775

Office: 5-157

UNBC WELLNESS CENTRE

Your mental and physical wellbeing is paramount to your success! The UNBC Wellness Centre offers both professional and general support to ensure student success and well-being. Support is provided to students to be healthy in both body and mind for successful accomplishment of their personal and professional goals. The UNBC Wellness Centre works closely with students, staff, faculty and community organizations to fulfill its obligations. For more information, consult the UNBC Wellness Centre webpage: <https://www.unbc.ca/wellness-centre>.

Contacts

Phone: 250-960-6369 (Counselling Services)

Phone: 250-960-6370 (Health Services)

Email: wellness@unbc.ca

Office: 5-161 (Counselling Services)

UNBC CAREER CENTRE

The UNBC Career Centre offers students resources and services to students, alumni, and employers. Among services provided, it holds workshops to assist students in preparing to gain employment, arranges employer recruiting and information sessions to students, hosts annual career fairs, and posts employment and career opportunities for students and alumni. For more information, consult the UNBC Career Centre webpage: <https://www.unbc.ca/career-centre>.

Contacts

Phone: 250-960-6426

Email: hirestudents@unbc.ca

Fax: 250-960-6065

Office: 7-232

NORTHERN UNDERGRADUATE STUDENT SOCIETY

The Northern Undergraduate Student Society (NUGSS) is a student-lead organization focused on improving the quality of student life at UNBC. NUGSS also administers a Health and Dental plan. For more information, consult the NUGSS webpage: <https://www.nugss.ca/>.

Contacts

Phone: 250-960-6427

Email: nugss-hello@unbc.ca

Office: 6-370

NORTHERN WOMEN'S CENTRE

The Women's Centre houses information and education on women's issues as a service to the whole community. They focus on providing options and sharing strategies for women who seek to overcome barriers that they may face in the academic arena, in the workplace, and at home. For more information, consult the Northern Women's Centre Facebook page at: <https://www.facebook.com/NorthernWomensCentre/> or email: empower@unbc.ca.

NORTHERN PRIDE CENTRE

The mission of The Northern Pride Centre Society is to promote public understanding and acceptance of people of all gender expressions or sexual orientations, regardless of class or ability. The Centre is created to foster and enhance the well-being, unity and visibility of LGBTQ persons and allies with related identities. The Centre is committed to providing the community with education and resources, and a safe space in an open and supportive environment to eliminate prejudice and discrimination in our communities. The Northern Pride Centre is 100% volunteer operated and is fully free to join. For more information, consult the Northern Pride Centre Facebook page at: <https://www.facebook.com/northernpridecentre/> or email: prideunbc@gmail.com.

GEOGRAPHY, EARTH, AND ENVIRONMENTAL SCIENCES CLUB (GEES CLUB)

The GEES Club is a way for all Geography and Environmental Science students to meet and build our community. In the club, members work to engage students interested in geography, earth and environmental sciences through career-related gatherings with industry professionals, talks from guest lecturers, and social outdoor activities. GEES Club members believe that interacting with likeminded people is necessary when it comes to academic success. For more information email: geesclub@unbc.ca or Instagram: [@unbcgeesclub](https://www.instagram.com/unbcgeesclub)

WEB, SOCIAL MEDIA AND ELECTRONIC MAIL LISTS

Internet: <https://www2.unbc.ca/geography>

X (formerly Twitter): [@UNBC_GEES](https://twitter.com/UNBC_GEES)

Facebook: [@UNBCGeographyENSC](https://www.facebook.com/UNBCGeographyENSC)

Instagram: [@unbcgeography_ensc](https://www.instagram.com/unbcgeography_ensc)

AFTER YOUR PHYSICAL GEOGRAPHY DEGREE

CAREERS IN EARTH SCIENCE

There are many possible earth science careers within private organizations, consulting firms, government agencies and departments, NGOs, and universities and colleges. In each case, minimum requirements for employment vary; some may require an additional degree (such as an MSc or a PhD), some may require [professional accreditation](#). Other careers may require skills obtained through certain courses or experiential learning (e.g. practical or field courses). While good grades are always useful (especially for graduate degrees), most employers tend to look for experience and skills that help you stand out or demonstrate resourcefulness.

If you have career ideas (e.g. working for a geotechnical consultancy) then find out what is required. Talk to those already in that profession; most employees welcome the opportunity to discuss their job and how they got to where they are. [Geography faculty](#) would be happy to describe their experiences and point out others that can help. Below are some useful websites with information about earth science careers and jobs.

<https://www.eco.ca/viewjobs/>

<https://earthsciencescanada.com/careers/>

<https://www.egbc.ca/Careers>

<https://www.cag-acg.ca/jobs-emplois>

ACCREDITATION AND CERTIFICATION

Public Service (Federal and provincial government) and consulting positions often require professional accreditation/licensure. Professional accreditations are typically specific to a particular province and may have legislated rights and responsibilities. Examples of accreditation and certification that could follow from a degree in Physical Geography include:

- BC Institute of Agrologists (BCIA) Professional Agrologist of BC (P.Ag.): <https://www.bcia.com/>
- Engineers & Geoscientists British Columbia, Professional Geoscientist (P.Geo.): <https://www.egbc.ca/>

To become accredited or certified, there are usually certain requirements, such as courses and/or professional development. If certain courses are required for accreditation, then it is worth finding out what these are early in your program so that they can be built into your schedule.

Professional Geoscientist (P.Geo.) accreditation requires [certain courses](#) in addition to other requirements. Most of these are offered at UNBC, while others can be obtained from other institutions like UBC or Athabasca University.

GRADUATE STUDIES

Some professions require a graduate degree (e.g. MSc, PhD). In other cases, while not required to enter the profession, a higher degree may be needed for promotion. Universities and colleges normally require a PhD to become a professor, although Instructors may be hired with a master's degree. In Canada, most master's degrees take 2-3 years and involve a combination of coursework and thesis research. Some shorter master's degrees only involve course work; these are aimed at certain applied professions and may be less suitable if you plan to continue to a PhD.

A graduate degree is supervised by a professor who guides course selection and research design. The supervisor may be able to provide funding or offer advice on funding opportunities. Many graduate students obtain funding as a teaching (TA) or research assistant (RA); others secure fellowships or awards, usually based on GPA. Universities normally have specific entrance requirements (such as a GPA >3.0) and a willing supervisor who should be contacted prior to the application process. While there are various ways of deciding what degree to take and where to do it, the most common approach is to find a suitable and willing professor or department/program with a good reputation. University websites or academic search engines such as Web of Science are good ways to find a supervisor, others include: <https://scholar.google.ca/> or <https://www.researchgate.net>

UNBC has an active graduate program, offering several graduate degrees - MA, MSc, MNRES, and PhD programs in Natural Resources and Environmental Studies (NRES). Geography faculty supervise graduate students in the NRES graduate program and are members of the NRES Institute, one of three UNBC research institutes. For further details see: <https://www.unbc.ca/graduate-programs> and <https://www.unbc.ca/nres>

APPENDIX I – TENTATIVE PHYSICAL GEOGRAPHY COURSE OFFERING TIMETABLE

Revised: 2024-11-13

NOTE: The courses listed below are presented for planning purposes only. They will certainly change over time and do not constitute any kind of guarantee that the courses will be offered as listed. All course offerings are subject to change based on enrolments, faculty availability, and budgets to hire sessional instructors, etc. Beyond the next academic year, the information is even more uncertain. Please review course planning with your Academic Advisor.

GEOG	F24	W25	F25	W26	F26	W27	F27	W28	F28	W29
101-3	X		X		X		X		X	
102-3		X		X		X		X		X
111-1	X		X		X		X		X	
200-3	X		X		X		X		X	
204-3	X		X		X		X		X	
205-3		X		X		X		X		X
210-3	X		X		X		X		X	
211-3		X		X		X		X		X
250-3		X		X		X		X		X
300-3		X		X		X		X		X
310-3				X				X		
311-3		X		X		X		X		X
315-3		X				X				X
357-3	X		X		X		X		X	
405-3			X				X			
411-3			X		X				X	
413-3	X				X				X	
416-3	X		X		X		X		X	
450-3		X				X				X
457-3		X				X				X
498/698-3				X				X		

- Physical Geography field schools (GEOG 333-3) currently run every spring semester (May) and alternate between Techniques in Ecohydrology and Aquatic Processes (2025, 2027) and Mountain Landscapes, Snowpacks, and Remote Sensing (2024, 2026, 2028).