

**NORTHERN LIGHTS COLLEGE
REGISTRAR'S OFFICE
PROGRAM INFORMATION AND COMPLETION GUIDE**

Program Name: Land and Water Resources
Credential/Certification: Land and Water Resources Diploma
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Program Description: The Land and Water Resources (LWR) Diploma program prepares students to effectively conserve and repair disturbed land and riparian zones, as well as monitor water quality and quantity. The main focus of the program is reclamation of sites disturbed by industrial development and activity, and the regulations of reclaiming such sites as per the BC Oil and Gas Commission and relevant government bodies.

Employment opportunities are primarily concentrated in the oil and gas sector with some opportunities in mining, forestry, independent environmental consulting firms, First Nation band offices, and municipalities. As resource companies strive to meet government guidelines and industry best practices, this field of work will continue to grow across western Canada. Travel and field work are regular features of careers within this industry.

Admission Requirements:

*English is the language of instruction in all programs at NLC, thus it is imperative that NLC students meet minimum English Language Proficiency requirements.

*In University Arts and Sciences and Related Programs, it is understood that the minimum English Language Proficiency requirement is that required to graduate from a Canadian high school program conducted in English. This is defined in the English Language Requirement document.

A. Domestic students must have official transcripts demonstrating the following:

1.Math Requirement: One of the following with a 'C' grade or higher: Pre-calculus 11, Foundations of Mathematics 11, Principles of Mathematics 11, Math 040, or equivalent. Alternatively, readiness for MATH 050 as determined by the CCP Math appraisal.

2.Science Requirement: One of the following with a 'C' grade or higher: Biology 11 or Biology 040; or Chemistry 11 or Chemistry 040; or Physics 11 or Physics 040; or successful completion of the BEAHR program or equivalency.

B. International students must have documentation demonstrating the following:

1.Math Requirement: One of the following with a 'C' grade or higher: Pre-calculus 11, Foundations of Mathematics 11, Principles of Mathematics 11, Math 040, or equivalent. Alternatively, readiness for MATH 050 as determined by the CCP Math appraisal.

2.Science Requirement: One of the following with a 'C' grade or higher: Biology 11 or Biology 040; or Chemistry 11 or Chemistry 040; or Physics 11 or Physics 040; or successful completion of the BEAHR program or equivalency.

Length of Program: (weeks and total hours)

Four academic semesters (64 weeks) with a minimum of 1057 hours in total, practicum hours included. Students are required to complete this program within a 10 year period from the start date.

Program Intake: (start/finish dates) One cohort every two years starting May and September on even years. Note that part-time learners can start the program in the January semester, but completion in this case could take 3.5 yrs due to the cohort model.

Available Seats: 20

Application Deadline: Last day for late registration as indicated in the NLC Calendar. International students should contact the International Department for deadlines specific to their situation.

Career Prospects:

Employment opportunities include the following positions in government, industry, First Nation band offices, and consulting companies:

- Land Reclamation Technician
- Water Resource Technician
- Remediation Technician
- Drilling Waste Technician
- Research Technician

Affiliations/Partnerships: Academic courses transfer as per the BC Transfer Guide <http://www.bctransferguide.ca>.

Location: Fort St. John, with some courses available through distance delivery and face to face on other NLC campuses.

Additional Requirements/Supplies: (fees, supplies, materials)

Students should be prepared to apply inventory methods and reclamation activities in outdoor settings. Personal equipment includes hiking or safety boots, warm and water proof clothing, clip board, and backpack.

Practicum activities for LAND 290 will require students to have H2S, Basic First Aid, Pipeline Construction Safety Training, and WHMIS. Students will be responsible for obtaining certification as required prior to the fourth semester of the program. Personal safety gear will be available for students during the practicum activities, apart from protective footwear.

Students are required to attend a Culture Camp through the Treaty 8 Tribal Association or other approved organization.

Eligibility for Canada Student Loans: (Yes or No)

Yes, for domestic students. No, for international students.

Required Minimum Grade: (overall and/or minimum within a course)

C (60%) overall; D (50%) minimum in a course.

Residency Requirement: (percentage of courses which must be taken at NLC)

50%; note that a minimum 60% or 'C' grade is required for courses to be considered for transfer into the LWR diploma program. The age of a course will also be considered.

Required Courses: (list courses required to complete credential)

Semester 1:

CPSC 101: Introduction to Computing (3 credits; 45 hrs)

BIOL 125: Basic Ecology (3 credits; 45 hrs)

BIOL 127: Botany Basics (3 credits; 45 hrs)

ENGL 110: Introduction to Workplace Communications (3 credits; 45 hrs)

SOIL 117: Introduction to Soil Science (3 credits; 45 hrs)

Semester 2:

ENGL 230: Technical Writing (3 credits; 45 hrs)

GEOG 112: Physical Geography: Surface of the Earth (3 credits; 75 hrs)

LAND 241: Petroleum Fundamentals (3 credits; 45 hrs)
LAND 245: Inventory and Assessment Techniques (3 credits; 45 hrs)
WATR 250: Introduction to Freshwater Resources (3 credits; 45 hrs)

*Prior to the third semester, students are required to attend a Culture Camp through the Treaty 8 Tribal Association or other approved organization and submit a Certificate of Completion to the Registrar's Office.

**Prior to the fourth semester, students are required to submit a certificate or evidence of completion of required safety tickets to the Registrar's Office.

Semester 3

AGRI 223: Introduction to Agriculture (3 credits; 45 hrs)
GEOG 250: Cartography: Map and Air Photo Interpretation (3 credits; 45 hrs)
LAND 227: Wildlife Habitat Conservation (3 credits; 45 hrs)
SOIL 230: Soil Classification (3 credits; 45 hrs)
WATR 260: Water Mensuration (4 credits; 90 hrs)

Semester 4:

FNST 102: Treaties and Aboriginal Rights (3 credits; 45 hrs)
FRST 225: Forest Ecology (3 credits; 45 hrs)
GEOG 260: Introduction to GIS (3 credits; 45 hrs)
LAND 255: Land Reclamation (4 credits; 75 hrs)
LAND 280: Introduction to Contaminated Sites (3 credits; 45 hrs)
LAND 290: Work Practicum (3 credits; 80 hrs practicum and 16 seminar hrs)

General Academic English Language Proficiency Requirements

1. Overview

English is the language of instruction in all programs at NLC. Thus, it is imperative that NLC students meet minimum English Language Proficiency requirements.

In University Arts and Sciences and additional baccalaureate-level programs, students are required to have English Studies 12, English First Peoples 12, ENGL 050, or an equivalent course. Required final grades are specified by program.

2. Select Baccalaureate-Level Programs

The following English Language Requirement applies to the Associate of Arts Degree (general)¹; to diplomas in Archaeology, Business Management,² Criminology, Interactive Technologies and Game Design, Land and Water Resources, and Social Services Worker; and to certificates in Business Management and University Arts and Sciences.³

A. Domestic students⁴ and students from countries⁵ that practice Standard Written English must have official transcripts demonstrating that they have met one of the following English Requirements with a "B" grade or higher: English Studies 12, English First Peoples 12, English 050, or English 099; alternatively, any university-level English course⁶ with a "C" grade or higher. Students who do not meet one of the above English requirements must complete the NLC Writing Assessment for appropriate course placement.

B. International students and domestic students who received their secondary education in French or another language must show that they have met the NLC English requirement for baccalaureate-level programs specified above by demonstrating one of the following:

- An IELTS result with an overall score of 6.0 or higher with no band less than 6.0. Students with a writing band of 6.0 are required to complete English 099 with a "B" grade or higher in their initial semester. Alternatively, NLC will accept a TOEFL iBT of 78, Canadian Academic English Assessment (CAEL) 60 overall band, Canadian Language Benchmark Assessment (CLBA) 8 in each section, Pearson Test of English (PTE) 57, Michigan English Language Assessment Battery (MELAB) 76, Cambridge-Michigan Language Assessment (CaMLA) 69 plus NLC's Writing Assessment.
- Documented completion of a post-secondary credential that is assessed as equivalent to a similar program from a reputable Canadian institution with its own appropriate English Language Requirement.
- Documented completion of the last two years of full-time Canadian secondary school education in English with a minimum grade of "B" in English 12, English Studies 12, English Literature 12, English 12 First Peoples, or equivalent.
- Completion of NLC's English for Academic Purposes (EAP) 060-level Certificate.

Where international students and domestic students who received their secondary education in French or another language are unable to provide an appropriate IELTS score or equivalent, such students may be conditionally enrolled in an NLC program with permission of the Chair. Upon arrival at NLC, these students will be assessed by the ESL department and transferred to the appropriate level of the EAP program as necessary.

¹Not applicable to the Associate of Arts Degree (Health Studies) or to the Associate of Science Degree.

²Not applicable to the Executive Assistant Diploma.

³Not applicable to the Engineering Certificate, the Engineering Studies Certificate, the General University Arts and Sciences Certificate, the Indigenous Human Services Worker Diploma.

⁴Except those whose secondary education was conducted in French or in another language.

⁵ Australia, England, Ireland, New Zealand, Scotland, Wales, United States of America.

⁶ From reputable institutions in Canada or from the above list of countries that practice Standard Written English.