

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

**Program Name:** University Arts and Sciences  
**Credential/Certification:** Certificate in Engineering  
**Date Submitted:** June 2020  
**Effective Date:** September 2020

**Program Contact:** Program Chairs

**Dean:** Lisa Verbisky

**Document Author:** Program Leadership Team

**Program Description:** The Certificate in Engineering is an intense undergraduate credential that requires courses in the areas of chemistry, computer programming, communications, engineering design, math, and physics.

This credential allows for seamless, guaranteed transfer into second-year engineering programs at the University of Alberta. NLC students are responsible for understanding the terms and conditions of transfer to the UofA. For example, while second-year admission with a minimum GPA is guaranteed, competitive placement in specific second-year engineering disciplines applies to all students.

**Admission Requirements:**

Official transcripts demonstrating high school graduation with the following:

1a. English requirement for applicants whose first language is English: English Studies 12 or ENGL 050 or equivalent with a minimum final grade of "B."

OR

1b. English requirement for applicants whose first language is not English: IELTS with an overall score of 6.5 and no band less than 6.0. Applicants with a Writing Band of 6.0 are required to complete ENGL 099 with a minimum final grade of "B."

AND

2. Chemistry requirement for all applicants: Chemistry 12 or CHEM 050 or equivalent with a minimum final grade of "C+."

AND

3. Math requirement for all applicants: Pre-Calculus 12 and Calculus 12 or equivalents with a minimum final grade of "B."

AND

4. Physics requirement for all applicants: Physics 12 or PHYS 050 or equivalent with a minimum final grade of "C+."

**Length of Program:** (weeks and total hours) All courses should be completed within 30 weeks (or two semesters) of full-time study in a single academic year. The Certificate in Engineering consists of a minimum of 930 hours of class time.

**Program Intake:** (start/finish dates)

Start: September

Finish: April

**Available Seats:** 16

**Application Deadline:** Last day for September course registration in a given year (i.e., early- to mid- September). International students should contact NLC's International Education Department for due-dates specific to their situation.

**Career Prospects:** This credential provides a post-secondary pathway to a career as an engineer by allowing for further study in the University of Alberta's highly regarded engineering programs.

**Affiliations/Partnerships:** University of Alberta

**Location:** Fort St. John.

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

-Laptop. See minimum NLC requirements.

-Engineering or scientific calculator.

**Eligibility for Canada Student Loans:** (Yes or No)

Yes (domestic students only).

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

Required overall or cumulative GPA for the Certificate in Engineering: 2.00. Required minimum grade within each course: "D" or 50%.

Note that NLC students must attain a minimum cumulative GPA of 2.50 on all courses considered for transfer to the UofA. Individual courses with grades below "C minus" are not transferable. Students are advised to pursue the highest possible cumulative and individual grades to secure a seat in their chosen engineering discipline.

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

The NLC residency requirement is 25%. NLC requires a minimum final grade of "C" in any course considered for transfer credit. All first-year transfer credits accepted by NLC will be individually assessed by the UofA.

**Required Courses:** (list courses required to complete credential)

Semester 1

CHEM 103: Fundamentals of Chemistry I (105 hours/4 credits)

CPSC 123: Introduction to Object Oriented Programming C++ (90 hours/4 credits)

ENGL 100: Academic Writing (45 hours/3 credits)

ENGG 115: Engineering Design, Drafting, and Sustainable Practice 1 (60 hours/ 3 credits)

MATH 101: Calculus (60 hours/3 credits)

PHYS 103: Mechanics (Calculus) (105 hours/4 credits)

Semester 2

CHEM 104: Fundamentals of Chemistry II (105 hours/ 4 credits)

ENGG 120: Engineering Design, Ethics, and Sustainable Practice 2 (60 hours/ 3 credits)

ENGG 125: Engineering Mechanics and Thermodynamics (75 hours/3 credits)

MATH 102: Calculus II (60 hours/3 credits)

MATH 152: Introductory Linear Algebra (60 hours/3 credits)

PHYS 104: Electromagnetics and Waves (Calculus) (105 hours/4 credits)