NORTH SEATTLE COLLEGE

UW Pre-Engineering Transfer Information

This document lists information about admission to the University of Washington (UW), UW Engineering program admission requirements, and prerequisite courses offered at North Seattle College (NSC) and their UW equivalencies. Students should always verify information with the specific Engineering Department or the UW Admissions Office.

General UW Engineering Transfer Resources

- Undergraduate Engineering Advising office: email: engradv@uw.edu, phone: (206) 543-1770
    - Prospective UW Engineering Transfer Student Information
    - UW Engineering Departmental advising directory
- General UW Transfer information: Transfer Thursday information session; UW Admission website

Transfer Application Process

1. Apply to UW for general transfer admission by the due date.
2. Apply to the Engineering Department(s) by the department's application due date. Consult the prerequisite course list on page 3 for required courses to complete before this due date. Note that the department's application will be due before students hear if they have been admitted to the university in general.

Table 1: Transfer Application Due Dates for UW Seattle and Engineering Departments

Quarter	UW Transfer Application Due Date	Engineering Dept Application Due Date	Engineering Majors accepting applicants for this term
Autumn (Fall)	February 15	April 5	Aeronautics & Astronautics Engineering Bioresource Science & Civil Engineering Computer Engineering Electrical & Computer Engineering Environmental Engineering Human Centered Design & Engineering Industrial Engineering Materials Science & Engineering Mechanical Engineering
Spring[1]	December 15	January 15 5 PM PST	Bioengineering Sustainable Bioresource Science & Engineering Chemical Engineering

College Academic Distribution Requirements (CADRs)

Admission to UW requires completion of general academic courses, referred to as CADRs, unless applicants have earned 40 transferable college quarter credits or more at the time of application.

[1] International transfer students are only admitted for Autumn quarter, **unless** they are already in the US and meet department admission requirements for Bioengineering or Chemical Engineering.

Minimum College Level Credit Requirements

Most engineering departments require applicants to have earned a minimum number of college-level credits either before the university or the departmental application deadlines. In addition, most engineering departments have a minimum cumulative GPA and/or a minimum grade requirement in each prerequisite course. Please visit the UW's Choosing a Major page or the department's website for more information.

Prerequisite Courses Available at NSC

This table lists common Engineering major prerequisites offered at NSC drawn from the UW Equivalency Guide.

Table 2: Engineering Prerequisite Courses currently offered at NSC

NSC Course Number	NSC Course Title	UW Equivalency Guide Listing
BIOL& 211, 212, 213 (5, 5, 5)	Majors Cellular Biology, Majors Plant, Majors Animal	BIOL 180, 200, 220 (5 credits per course) if all three courses taken; otherwise, BIOL 2XX for each course
CHEM& 161 (6)	General Chemistry with Lab 1	CHEM 142 (5), 1XX (1)
CHEM& 162, 163 (6, 6)	General Chemistry with Lab 2 General Chemistry with Lab 3	CHEM 152, 162 (5 credits per course) if both courses taken, otherwise CHEM 1XX for each[2]
CHEM& 241 (4)	Organic Chemistry 1	CHEM 237 (4 credits)
CHEM& 242 (4)	Organic Chemistry 2	CHEM 238 (4 credits)
CSC 142 (5)	Computer Programming 1	CSE 142 (4 credits), 1XX (1 credit)
CSC 143 (5)	Computer Programming 2	CSE 143 (5 credits)
ENGL& 101 (5)	English Composition 1	ENGL 131 (5 credits)
ENGL& 102 (5)	English Composition 2	ENGL 141 (5 credits)
ENGL& 235 (5)	Technical Writing	ENGR 231 (3 credits), 2XX (2 credits)
ENGR& 204 (5)	Electrical Circuits	EE 215 (4 credits), 2XX (1 credits)
ENGR& 214 (5)	Statics	AA 210 (4 credits), 2XX (1 credits)
ENGR& 215 (5)	Dynamics	ME 230 (4 credits), 2XX (1 credits)
ENGR& 224 (5)	Thermodynamics	AA 260 (4 credits), 2XX (1 credits)
ENGR& 225 (5)	Mechanics of Materials	CEE 220 (4 credits), 2XX (1 credits)
ENGR 240 (5)	Introduction to Numerical Methods	AMATH 301 (4 credits), 2XX (1 credits)
MATH& 151 (5)	Calculus 1	MATH 124 (5 credits)
MATH& 152 (5)	Calculus 2	MATH 125 (5 credits)
MATH& 163 (5)	Calculus 3	MATH 126 (5 credits)
MATH 220 (5)	Linear Algebra	MATH 208 (3 credits), 2XX (2 credits)
MATH 224 (5)	Vector Calculus	MATH 224 (3 credits), 2XX (2 credits)
MATH 238 (5)	Differential Equations	MATH 207 (3 credits), 2XX (2 credits)
PHYS& 221 (5)	Engineering Physics 1	PHYS 121 (5 credits)
PHYS& 222 (5)	Engineering Physics 2	PHYS 122 (5 credits)
PHYS& 223 (5)	Engineering Physics 3	PHYS 123 (5 credits)
PSYC 222 (5)	Survey of Physiological Psychology	PSYCH 202 (5 credits)
ECON& 201 (5)	Microeconomics	ECON 200 (5 credits)
ECON& 202 (5)	Macro Economics	ECON 201 (5 credits)
MATH 211 (5)	MATH 211 Elements of Statistical Methods	STAT 311 (5 credits)

[2] While CHEM&162 (without CHEM&163) will transfer to UW as Chemistry 1XX, students who complete both CHEM&161 and CHEM&162 at a Washington State Community College (including NSC) will satisfy the admission and graduation requirements for the CivE, EnvE, ISE, and ME departments. Please visit the UW Engineering transfer admission webpage for more information. For the MSE major, students should complete the entire sequence of CHEM&161, 162, and 163.

Engineering Department Admission Requirements

Table Key:

A: Application requirements. Courses must be completed by the Engineering department upon application due date.

E: Enrollment requirements. Courses must be completed by the start of the first quarter of the Engineering program.

R: Recommended courses. Strongly recommended to complete before the first quarter of the program.

Make sure to read the notes section that follows the table for additional information on each program's requirements.

Table 3: Courses required for application and enrollment to UW Engineering programs

Program	Math	Science	Engineering
Aeronautics & Astronautics	A: MATH& 151, 152, 163 E: MATH 220, 224, 238	A: CHEM& 161, PHYS& 221, 222 E: PHYS& 223	A: ENGR& 214 E: ENGR& 215, 224, 225, ENGR 240
Bioengineering	A: MATH& 151, 162, 163 R: MATH 238	A: CHEM& 161, 162, 163, PHYS& 221 E: BIOL& 211, CHEM& 241, PHYS& 222	E: ENGR 240 or CSC 142
Sustainable Bioresource Science & Engineering	A: MATH& 151, 152, 163 E: MATH 220, 238	A: CHEM& 161, 162, 163, PHYS& 221 R: CHEM& 241, PHYS& 222	E: ENGR& 224 R: ENGR 240 or CSC 142, ENGL& 235
Chemical Engineering	A: MATH& 151, 152, 163 E: MATH 238 R: MATH 220	A: CHEM& 161, 162, PHYS& 221 E: CHEM& 163, PHYS& 222 R: CHEM& 241, 242, PHYS& 223	
Civil Engineering	A: MATH& 151, 152, 163 E: MATH 220 R: MATH 238	A: CHEM& 161, PHYS& 221, 222 R: CHEM& 162, PHYS& 223	A: ENGR& 214 E: ENGR& 215, 225, and ENGR 240 or CSC 142
Computer Engineering	A: MATH& 151, 152, 163	A: PHYS& 221	A: CSC 142, 143
Electrical and Computer Engineering	A: MATH& 151, 152, 163 E: MATH 238, MATH 220 or 224 (see note)	A: PHYS& 221, 222 E: see note for choices of BIOL& 211, 212, 213, CHEM& 161 or PHYS& 223	A: CSC 142 E: CSC 143
Environmental Engineering	A: MATH& 151, 152, 163 E: MATH 238 R: MATH 220	A: CHEM& 161, 162, 163, PHYS& 221 E: BIOL& 160 or 211, PHYS& 222 R: PHYS& 223	A: ENGR& 214 E: ENGR 240 or CSC 142 R: ENGR& 224, 225
Human Centered Design & Engineering	A: Two of MATH& 151, 152, 163, One of MATH& 146, MATH 211 or BUS 210	A: Three courses from BIOL& 211, 212, 213, 241, CHEM& 161, 162, 163, PHYS& 221, 222, 223	A: CSC 142
Industrial Engineering	A: MATH& 151, 152, 163 R: MATH 220, MATH 238	A: CHEM& 161, PHYS& 221, 222 E: CHEM& 162 and 163, PHYS& 223	A: ENGR& 214 E: ENGR& 215 or 225 R: CSC 142
Mechanical Engineering	A: MATH& 151, 152, 163 R: MATH 220, MATH 238	A: CHEM& 161, PHYS& 221, 222 E: CHEM& 162, PHYS& 223	A: ENGR& 214 E: ENGR& 215, 225 R: ENGR 240
Materials Science & Engineering	A: MATH& 151, 152, 163 E: MATH 238 R: MATH 220	A: CHEM& 161, 162, PHYS& 221, 222 R: CHEM& 163, PHYS& 223	E: ENGR 240 or CSC 142 R: ENGR& 214, 225

General Notes

- ENGL& 101 is an application requirement for all engineering programs.
- Science sequences should be completed at the same college, or the sequence may not count upon transfer.
- Always verify the required prerequisite coursework as it is subject to change.
- If ENGR& 224 is not offered at North, please ask your advisor about other options for completing the course.

Program-Specific Notes

- **Bioengineering (BioE)**
  - BIOL& 160 or 211 must be completed by the start of the first quarter in the program. BIOL& 211 is preferred.
  - Students are encouraged to have MATH 238 completed or in progress at the time of department application.
  - Pre-medical students should plan to complete PHYS& 223 before the first quarter in the program.
- **Sustainable Bioresource Science & Engineering (SBSE)**
  - ENGL& 235 and ECON& 201 are graduation requirements for this major.
- **Chemical Engineering (ChemE)**
  - This program begins in Spring quarters only.
  - Up to two application requirements may be in progress at the time of application.
  - Students must complete MATH 220, CHEM& 241, 242 and PHYS& 223 before the Fall quarter following their admission in Spring
- **Civil Engineering (CivE)**
  - The program prefers ENGR 240 over CSC 142 for the programming requirement.
  - It is highly recommended that students take either ECON& 201 or ECON& 202 while at North since an Economics class is required for graduating from the Civil Engineering program.
  - If time allows, students can take MATH 211 to satisfy the program's statistics requirements.
- **Electrical and Computer Engineering (ECE)**
  - For the general major, complete two from BIOL& 213, CHEM&161, MATH224, MATH 220, or PHYS&223.
  - For the Neural Engineering pathway, complete the sequence of BIOL&211, 212, 213 and UW's BIOL130 (Introduction to Neuroscience, NOT offered at NSC).
- **Environmental Engineering (EnvE)**
  - The program prefers ENGR 240 over CSC 142 for the programming requirement.
  - If time allows, students can take MATH 211 to satisfy the program's statistics requirements.
- **Human Centered Design & Engineering (HCDE)**
  - While Biology sequences at North (BIOL& 211, 212, 213 and BIOL& 241, 242) transfer to UW as BIOL 2XX if the entire sequence is not completed, the HCDE program allows any single course or combination of these courses as application requirements.
  - If you are NOT completing a whole sequence of CHEM&161, 162, 163, BIOL&211, 212, 213, or BIOL&241, 242, please email the HCDE undergraduate advising department at hcdehelp@uw.edu after submitting your HCDE departmental application before the HCDE application deadline.
- **Industrial Engineering (IE)**
  - The program recommends completing both ENGR& 215 and 225 before the first quarter in the program.
- **Materials Science & Engineering (MSE)**
  - ENGL& 235 is recommended before entering the program.
  - UW's MSE 170, Introduction to Materials Science, does not have an equivalent course available at NSC. Students should plan to take this course during their first term in the major.

Other helpful websites and support organizations

- **Explore UW Engineering Departments**
- **Explore what areas Engineering majors impact**
- **UW Engineering Student Programs and Support**
- **North Seattle College's BE-STEM (Belonging and Excellence in STEM)**
- **Women in Engineers Rise (WE Rise)**