

BACHELOR OF SCIENCE IN CIVIL ENGINEERING (2025-2026 Catalog Year)

First Year: Fall

ES F100X & L – Engineering Alaska	4
MATH F251X – Calculus I	4
CHEM F105X – General Chemistry	4
LS F101X – Library Info. & Research	1
WRTG F111X – Intro. to Acad. Writing	3
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Second Year: Fall

MATH F253X – Calculus III	4
PHYS F211X – General Physics	4
DRT F210 – Intermediate CAD	3
ES F201 – Computer Techniques	3
GER A, H, SS, E (1 of 6)	3
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Third Year: Fall

ES F331 – Mechanics of Materials	3
CE F326 – Intro. to Geotech. & Fndts	4
ES F341 – Fluid Mechanics	4
CE F341 – Environmental Engr.	4
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Fourth Year: Fall

CE F344 – Water Resources Engr.	3
ESM F450 – Economic Analysis & Ops.	3
Technical Elective (1 of 4)	3
Technical Elective (2 of 4)	3
GER A, H, SS, E (4 of 6)	3
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First Year: Spring

MATH F252X – Calculus II	4
CHEM F106X – General Chemistry	4
GE F261 – Gen'l Geology for Engr.	3
WRTG F21XX –Writing*	3
CE F112 – Surveying	3
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Second Year: Spring

MATH F302 – Differential Eqn.	3
PHYS F212X – General Physics	4
ES F208 – Mechanics	4
ES F301 – Engineering Analysis	3
COJO F1X1X – Oral Comm.*	3
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Third Year: Spring

CE F302 – Transportation Engr.	3
CE F331 – Structural Analysis	3
CE F334 – Properties of Materials	3
GER A, H, SS, E (2 of 6)	3
GER A, H, SS, E (3 of 6)	3
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Fourth Year: Spring

CE F438 – Design of Engr. Systems	3
Technical Elective (3 of 4)	3
Technical Elective (4 of 4)	3
GER A, H, SS, E (5 of 6)	3
GER A, H, SS, E (6 of 6)	3
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* Students may choose from a suite of courses to fulfill this requirement.

Students must take the Fundamentals of Engineering Exam in order to graduate.

GER A, H, SS, E: General Education Requirements – Arts, Humanities, Social Science, Ethics

Technical electives: 1) Complete 3 credits from the fields of environmental, construction, or transportation engineering; 2) Complete 6 credits from any of the following areas of emphasis, or as approved by an advisor:

ARCTIC EMPHASIS

CE F401 Arctic Engineering
CE F424 Permafrost Engineering
ME F441 Heat and Mass Transfer

CONSTRUCTION EMPHASIS

CE F451 Constr. Cost Est. and Bid Prep.

ENVIRONMENTAL EMPHASIS

CE F442 Water & Wastewater Trtmt. Design
CE F443 Air Pollution Management
ENVE F446 Biological Unit Processes

GEOTECHNICAL EMPHASIS

CE F422 Foundation Engineering
GE F440 Slope Stability

GE F441 Geohazard Analysis

STRUCTURAL EMPHASIS

CE F432 Steel Design
CE F433 Reinforced Concrete Design
CE F434 Timber Design

TRANSPORTATION EMPHASIS

CE F405 Design of Highways and Streets
CE F407 GIS Apps. in Civil Engineering
CE F408 Transportation Safety Analysis
CE F409 Pavement Materials and Design

WATER RESOURCES EMPHASIS

CE F445 Hydrologic Analysis and Design
CE F420 Groundwater Engineering

STUDENT NAME: _____

ID #: _____

2025-2026 CATALOG

CIVIL ENGINEERING

B.S. Degree Requirements

Minimum required credits: 126

Students must earn a C- grade (1.7) or better in each course.

GENERAL EDUCATION REQUIREMENTS:

COMMUNICATIONS:

WRTG F111X (3) _____

WRTG F21XX* (3) _____

COJO F1X1X* (3) _____

*ARTS: (3) _____

*HUMANITIES: (3) _____

*SOCIAL SCIENCES: (3) _____

*SOCIAL SCIENCES: (3) _____

*ADDITIONAL A, H, SS: (3) _____

*ETHICS: (3) _____

*Course meeting Alaska Native-themed requirement:

MATHEMATICS:

MATH F251X (4) _____ MATH F252X (4) _____

§MATH F253X (4) _____ §MATH F302 (3) _____

NATURAL SCIENCE:

CHEM F105X (4) _____ CHEM F106X (4) _____

§PHYS F211X (4) _____ §PHYS F212X (4) _____

LIBRARY & INFO. SKILLS:

LS F101X (1) _____

* For a list of allowable classes, check the UAF catalog or speak with your advisor.

MAJOR REQUIREMENTS:

Complete the following program (major) requirements (includes courses indicated with § to the left):

CE F112 (3) _____

CE F302 (3) _____

CE F326 (4) _____

CE F331 (3) _____

CE F334 (3) _____

CE F341 (4) _____

CE F344 (3) _____

CE F438 (3) _____

DRT F210 (3) _____

ES F100 (4) _____ or DRT F150 (3) _____

ES F201 (3) _____

ES F208 (4) _____

ES F301 (3) _____

ES F331 (3) _____

ES F341 (4) _____

ESM F450 (3) _____

GE F261 (3) _____

Technical electives:

_____ (3) _____ (3) _____

_____ (3) _____

One additional technical elective (different emphasis area):

_____ (3) _____ (3) _____

Note: Up to two graduate-level engineering courses can serve as technical electives if approved by advisor; the student must be within two semesters of graduation and have at least a 3.0 GPA.

Must take the Fundamentals of Engineering Exam.

EXAM TAKEN: _____

Total minimum credits required for degree: 126