

BACHELOR OF SCIENCE IN CIVIL ENGINEERING (2023-2024 Catalog Year)

First Year: Fall

ES F100X – Engineering Alaska	3
MATH F251X – Calculus I	4
CHEM F105X – General Chemistry	4
MIN F202 or CE F112 – Surveying	2 or 3
WRTG F111X – Intro. to Acad. Writing	3
	<hr/> 16 or 17

First Year: Spring

MATH F252X – Calculus II	4
CHEM F106X – General Chemistry	4
COJO F1X1X – Oral Comm.*	3
WRTG F21XX –Writing*	3
LS F101X – Library Info. & Research	1
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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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Second Year: Spring

MATH F302 – Differential Eqn.	3
PHYS F212X – General Physics	4
ES F208 – Mechanics	4
ES F301 – Engineering Analysis	3
GE F261 – Gen'l Geology for Engr.	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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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: Fall

CE F344 – Water Resources Engr.	3
CE F432 – Steel Design	3
ESM F450 – Economic Analysis & Ops.	3
Technical Elective	3
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Fourth Year: Spring

CE F438 – Design of Engr. Systems	3
Technical Elective	3
GER A, H, SS, E (4 of 6)	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 F433 Reinforced Concrete Design

CE F434 Timber Design

TRANSPORTATION EMPHASIS

CE F405 Design of Highways and Streets

CE F407 Pavement Materials and Design

CE F408 Transportation Safety Analysis

WATER RESOURCES EMPHASIS

CE F445 Hydrologic Analysis and Design

CE F420 Groundwater Engineering

STUDENT NAME: _____

ID #: _____

**2023-2024 CATALOG
CIVIL ENGINEERING**

B.S. Degree Requirements
Minimum required credits: 125

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) _____

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*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) _____ or MIN F202 (2) _____
CE F302 (3) _____
CE F326 (4) _____
CE F331 (3) _____
CE F334 (3) _____
CE F341 (4) _____
CE F344 (3) _____
CE F432 (3) _____
CE F438 (3) _____
DRT F210 (3) _____
ES F100 (3) _____
ES F201 (3) _____
ES F208 (4) _____
ES F301 (3) _____
ES F331 (3) _____
ES F341 (4) _____
ESM F450 (3) _____
GE F261 (3) _____

Technical electives:

Envir., Constr., Transp. _____ (3) _____

Two additional technical electives:

_____ (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: 125