# BACHELOR OF SCIENCE IN CIVIL ENGINEERING (2021-2022 Catalog Year)

## First Year: Fall
- ES F101 – Intro. to Engineering 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

## 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

## Second Year: Spring
- MATH F302 – Differential Eqn. 3
- PHYS F212X – General Physics 4
- ES F301 – Engineering Analysis 3
- GE F261 – Gen’l Geology for Engr. 3

## 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

## Third Year: Spring
- CE F302 – Transportation Engr. 3
- CE F331 – Structural Analysis 3
- CE F334 – Properties of Materials 3
- GE F344 – Water Resources Engr. 3

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## Fourth Year: Fall
- CE F432 – Steel Design 3
- ESM F450 – Economic Analysis & Ops. 3
- Technical Elective 3
- Technical Elective 3
- GER A, H, SS, E (3 of 6) 3

## 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**

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

**GEOTECHNICAL EMphasis**
- CE F422 Foundation Engineering

**STRUCTURAL EMphasis**
- GE F440 Slope Stability
- GE F441 Geohazard Analysis
- 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

Modified 11/13/2020
STUDENT NAME: _______________________

2021-2022 CATALOG
CIVIL ENGINEERING
B.S. Degree Requirements
Minimum required credits: 125

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:

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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.

ID #: ____________________________

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

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 F101 (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

Modified 11/13/2020