## BACHELOR OF SCIENCE IN CIVIL ENGINEERING

### 2020-2021 Catalog

#### First Year: Fall
- WRTG 111X–Writing Across Contexts 3
- MATH 251X–Calculus 4
- ES 101–Intro to Engineering 3
- CHEM 105–General Chemistry 4
- GER A, H, SS, E (1 of 6) 3

#### First Year: Spring
- COJO 131X or COJO 141X 3
- MATH 252X–Calculus 4
- CE 112–Elementary Surveying 3
- CHEM 106–General Chemistry 4
- ES 201–Computer Techniques 3

#### Second Year: Fall
- MATH 253X–Calculus 4
- PHYS 211–General Physics 4
- ENGL 211X or 213X 3
- ES 209–Statics 3
- GER A, H, SS, E (1 of 6) 3

#### Second Year: Spring
- MATH 302–Differential Equations 3
- PHYS 212–General Physics 4
- GER A, H, SS, E (3 of 6) 3
- LS 101X–Library Info and Research 1

#### Third Year: Fall
- CE 341–Environmental Engineering 4
- ES 301–Engineering Analysis 3
- ES 331–Mechanics of Materials 3
- ES 341–Fluid Mechanics 4
- GER A, H, SS, E (4 of 6) 3

#### Third Year: Spring
- CE 334–Properties of Materials 3
- CE 302–Intro. Transportation Engr. 3
- Technical Elective* 3

#### Fourth Year: Fall
- CE 344–Water Resources Engr. 3
- CE 432–Structural Engineering II 3
- CE 470*** or CE 471 1
- Technical Elective* 3
- GER A, H, SS, E (5 of 6) 3

#### Fourth Year: Spring
- ESM 450–Econ. Analysis & Operations 3
- CE 438–Design of Engr. Systems II 3
- ESM 422–Engineering Decisions 3
- Technical Elective* 3
- GER A, H, SS, E (6 of 6) 3
- CE 400–EIT Exam 0

### Typical Schedule of Electives
- Electives, all 3 credits
- CE 434–Timber Design
- CE 405–Design of Highways and Streets
- CE 401–Arctic Engineering**
- CE 451–Construction Cost Estimating
- CE 463–Groundwater Dynamics
- CE 434–Timber Design
- CE 405–Design of Highways and Streets
- CE 401–Arctic Engineering**
- CE 451–Construction Cost Estimating
- CE 463–Groundwater Dynamics
- Electives, all 3 credits
- CE 422–Foundations
- CE 424–Introduction to Permafrost
- CE 433–Reinforced Concrete Design
- CE 445–Hydrologic Analysis & Design
- CE 435–Steel Bridge
- CE 442–Environmental Design
- CE 446–Biological Unit Processes
- CE 443–Air Pollution Management

Complete 12 technical elective credits. Must include 3 credits in the field of environmental engineering, construction, or transportation, 6 credits of CE, ENVE or ESM courses, and 3 credits of either ES 307 or 346. **Up to two graduate-level courses may be used towards graduation. Graduate level courses must be approved by student’s semesters of graduation and have at least a 3.0 GPA to take graduate-level courses. *** CE 470 Internship can be taken in summer. Students should consult their advisor.

**NOTE:** The ability to utilize computers for normal class work is expected in all engineering classes above the 100 level.
2020-2021 CATALOG
CIVIL ENGINEERING
B.S. Degree Requirements
134 Credits

GENERAL EDUCATION REQUIREMENTS –

COMMUNICATIONS: (9)
WRTG 111X (3) _________
WRTG 211X or 213X (3) _________
COJO 131X or 141X (3) _________

*ARTS: (3) ____________________________

*HUMANITIES: (3) ____________________________

*SOCIAL SCIENCES: (3) ____________________________

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

*ETHICS: (3) ____________________________

MATHEMATICS (15):
MATH 251X (4) _____
MATH 252X (4) _____
MATH 253X (4) _____

NATURAL SCIENCE (16):
CHEM 105X (4) _____
CHEM 106X (4) _____
PHYS 211X (4) _____
PHYS 212X (4) _____

LIBRARY & INFO. SKILLS:
LS 101X (1) _______

Students must earn a C or better in each course to fulfill requirements.

MAJOR REQUIREMENTS

1. Complete the following (64)
CE 112 (3) _________
CE 302 (3) _________
CE 326 (4) _________
CE 331 (3) _________
CE 334 (3) _________
CE 341 (4) _________
CE 344 (3) _________
CE 432 (3) _________
CE 470 or 471 (1) _________
CE 400 (0) FE Exam
CE 437 (3) _________
CE 438 (3) _________

ES 101 (3) _________
ES 201 (3) _________
ES 209 (3) _________
ES 210 (3) _________
ES 301 (3) _________
ES 331 (3) _________
ES 341 (3) _________

GE 261 (3) _________
ESM 422 (3) _________
ESM 450 (3) _________

Complete 2 designated W AND

2. Complete 12 credits of Technical Electives
ES 307 or 346 (3) _________ AND
Environmental, Construction,
Or Transportation (3) _________
Other Tech Elective (3) _________
Other Tech Elective (3) _________

Must include 3 credits of field of environmental or
transportation engineering, 6 credits of CE, ENVE, ESM
courses or approved technical courses, and 3 credits of
either ES 307 or ES 346. Up to two graduate-level
engineering courses can serve as a technical elective if
approved by advisor and the student must be within two
semesters of graduation and have at least a 3.0 GPA.

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