

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)	<u>3</u>
	17

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 (2 of 6)	<u>3</u>
	17

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)	<u>3</u>
	17

Fourth Year: Fall

CE 344–Water Resources Engr.	3
CE 432–Structural Engineering II	3
CE 470*** or CE 471	1
CE 437–Design of Engr. Systems I	3
Technical Elective*	3
GER A, H, SS, E (5 of 6)	3
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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	<u>3</u>
	17

Second Year: Spring

MATH 302–Differential Equations	3
PHYS 212–General Physics	4
ES 210–Dynamics	3
GE 261–General Geology for Engineers	3
GER A, H, SS, E (3 of 6)	3
LS 101X–Library Info and Research	<u>1</u>
	17

Third Year: Spring

CE 326–Intro. Geotech. Engineering	4
CE 334–Properties of Materials	3
CE 331–Structural Engineering I	3
CE 302–Intro. Transportation Engr.	3
Technical Elective*	<u>3</u>
	16

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
Technical Elective*	3
GER A, H, SS, E (6 of 6)	3
CE 400–EIT Exam	<u>0</u>
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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

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

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

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)** _____

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

***ETHICS: (3)** _____

MATHEMATICS (15):

MATH 251X (4) _____ MATH 252X (4) _____

MATH 253X (4) _____ MATH 302 (3) _____

NATURAL SCIENCE (16):

CHEM 105X (4) _____ CHEM 106X (4) _____

PHYS 211X (4) _____ PHYS 212X (4) _____

LIBRARY & INFO. SKILLS:

LS 101X (1) _____

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

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.