Bachelor of Science in Civil Engineering

Sample Plan

The academic plan below is one pathway through the degree/certificate. It includes all requirements, taking into account recommendations from program faculty. Each student's plan may vary according to their initial course placement (http://catalog.uaa.alaska.edu/academicpoliciesprocesses/academicstandardsregulations/courseplacement/), intended course load, additional majors and/or minors, and their placement into required prerequisite courses. Any change in the plan below can have an unforeseen impact on the rest of the plan. **Therefore, it is very important to meet with your academic advisor to verify your personal academic plan.**

Please review the following terms, definitions, and resources associated with the sample academic plan below.

- Each course in the far left column links to a pop-up bubble with a course description, prerequisite requirements, and associations with university requirements. For example, if a course fulfills a general education requirement, you will see that in the pop-up bubble.
- **GER**: indicates a General Education Requirement (http://catalog.uaa.alaska.edu/undergraduateprograms/baccalaureaterequirements/gers/). GERs that also count toward degree/certificate requirements appear as a specific course in the plan. For these courses, "GER" is not indicated explicitly in the table, but if you click on the course, you will see the course's GER status in the pop-up bubble.
- **Program Elective**: indicates a specific course selection determined by program faculty to fulfill a degree/certificate requirement. Students should seek assistance from their academic advisor.
- **Elective**: indicates an open selection of 100-400 level university courses to fulfill elective credits needed to meet the minimum total credits toward the degree/certificate.
- **Upper Division Program Elective**: indicates a specific 300-400 level course selection determined by the program faculty to fulfill a degree/certificate requirement. Students should seek assistance from their academic advisor.
- **Upper Division Elective**: indicates an open selection of 300-400 level courses to fulfill elective credits needed to meet the minimum total credits toward the degree/certificate. These courses must be upper division in order to meet General University Requirements for the particular degree/certificate type.

Course	Title	Credits
First Year		
Fall		
CHEM A105 & A105L	General Chemistry I and General Chemistry I Laboratory	4
ENGR A151	Introduction to Engineering	1
ES A106	Engineering Graphics	2
MATH A251 or MATH A251F	Calculus I [1] or F.A.T. Calculus I	4-6
WRTG A111	Writing Across Contexts	3
GER Oral Communication Skills		3
	Credits	**17-19**
Spring		
CHEM A106 & A106L	General Chemistry II and General Chemistry II Laboratory	4
ES A261	Introduction to Engineering Computation	3
GEO A155	Introduction to Surveying	3
MATH A252 or MATH A252F	Calculus II or F.A.T. Calculus II	4-6
PHYS A211 & A211L	General Physics I and General Physics I Laboratory	4
	Credits	**18-20**
Second Year		
Fall		
CE A201	Introduction to Civil Engineering	1
ES A209	Statics	3
MATH A253	Calculus III	4
PHYS A212 & A212L	General Physics II and General Physics II Laboratory	4
GER Written Communication Skills (200-level)		3
GER Social Sciences		3
	Credits	**18**
Spring		
CE A206	Civil Engineering 3D Modeling	1
ES A210	Dynamics	3
ES A302	Engineering Data Analysis	3
MATH A302	Ordinary Differential Equations	3
PHIL A305	Professional Ethics	3
Program Elective		3
	Credits	**16**
Third Year		
Fall		
CE A334 & A334L	Properties of Materials and Properties of Materials Laboratory	3
CE A341	Environmental Engineering	3
ES A331	Mechanics of Materials	3
ES A341 & A341L	Fluid Mechanics and Fluid Mechanics Laboratory	4
GER Social Sciences [2]		3
	Credits	**16**
Spring		
CE A310 & A310L	Introduction to Geotechnical Engineering and Introduction to Geotechnical Engineering Lab	4
CE A351	Structural Analysis	4

CE A420	Fundamentals of Transportation Engineering	3
ESM A450	Economic Analysis and Operations	3
GER Humanities [2]		3
	Credits	**17**
Fourth Year		
Fall		
CE A437	Project Planning	1
CE A461	Hydraulic Analysis and Design	3
Discipline-Specific course [3]		3
Discipline-Specific course [3]		3
GER Fine Arts		3
Upper Division Program Elective		3
	Credits	**16**
Spring		
CE A403	Arctic Engineering	3
CE A438	Design of Civil Engineering Systems	3
Discipline-Specific Course [3]		3
Discipline-Specific Course [3]		3
Upper Division Program Elective		3
	Credits	**15**
	Total Credits	**133-137**

[1] *MATH A251 or MATH A251F have prerequisites.*

[2] *Choose a course that also fulfills the Alaska Native-Themed GER or Diversity & Inclusion GER.*

[3] *Students must take one course in four out of the following five categories: Environmental, Water Resources, Transportation, Geotechnical, and Structural. See the section* Graduation Requirements *(*http://catalog.uaa.alaska.edu/undergraduateprograms/coeng/civilengineering/bs-civilengineering/Discipline-Specific Course/*): Discipline-Specific Courses for the list of approved courses.*