Bachelor of Science in Mechanical 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.

Title	Credits
General Chemistry I	3
General Chemistry I Laboratory	1
Introduction to Engineering	1
	Title General Chemistry I General Chemistry I Laboratory Introduction to Engineering

MATH A251	Calculus I	4-6
or	or F.A.T. Calculus I	
MATH A251F	7	
WRTG A111	Writing Across Contexts	3
GER Oral Comm	unication Skills	3
	Credits	15-17
Spring		
ES A106	Engineering Graphics	2
MATH A252	Calculus II	4-6
or	or F.A.T. Calculus II	
MATH A252F	7	
PHYS A211	General Physics I ¹	3
PHYS A211L	General Physics I Laboratory	1
GER Humanities	2	
GER Written Con	mmunication Skills (200-level)	3
	Credits	13-15
Second Year		
Fall		
ES A209	Statics	3
ES A261	Introduction to Engineering Computation	3
MATH A253	Calculus III	4
PHYS A212	General Physics II	3
PHYS A212L	General Physics II Laboratory	1
GER Social Scien	nces	3
	Credits	17
Spring		
ES A210	Dynamics	3
ES A331	Mechanics of Materials	3
ES A346	Introduction to Thermodynamics	3
MATH A302	Ordinary Differential Equations	3
ME A203	Machine Design I	3
111211203	Crodits	15
Third Voor	creatis	15
Fall		
	Elements of Electrical Engineering	2
es A309	or Fundamentals of Electrical	3
01 EE A205	Engineering I	
ME A303	Machine Design II	3
ME A306	Dynamics of Systems	3
ME A334	Materials Science	3
ME A334L	Materials Science Laboratory	1
STAT A307	Probability and Statistics	4
	Credits	17
Spring	creatis	17
ES A 2/1	Eluid Mechanics	2
ME 4208	Instrumentation and Massurament	2
ME A300	Eluid Machanics Lab	3
ME A 402	Machine Design III	1
WIE A403	Machille Design III	3

GER Humanities²

	Credits	13
Fourth Year		
Fall		
ME A414	Thermal System Design	3
ME A414L	Thermal System Design Lab	1
ME A441	Heat and Mass Transfer	3
Program Elective	e (Advanced Engineering)	3
Program Elective	e (Advanced Engineering)	3
GER Social Scie	nces	3
	Credits	16
Spring		
ESM A450 or BA A300	Economic Analysis and Operations or Organizational Theory and Behavior	3
ME A438	Design of Mechanical Engineering Systems	3
Program Elective	e (Advanced Engineering)	3
Program Elective	e (Advanced Engineering)	3
GER Fine Arts		3
	Credits	15
	Total Credits	121-125

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¹ In addition to mathematics prerequisites, this course requires completion of either PHYS A130 Survey of College Physics or a minimum score of 18 on UAA's Physics Placement Exam. Students who have had physics in high school should consider the Physics Placement Exam and can get more information from an advisor.

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