

# Bachelor of Science in Computer Systems 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 (<https://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 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 (<https://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
<b>First Year</b>		
<b>Fall</b>		
CSCE A101	Introduction to Computer Science	3
MATH A251	Calculus I <sup>1</sup>	4
WRTG A111	Writing Across Contexts	3

GER Oral Communication Skills	3
<b>Credits</b>	<b>13</b>

### Spring

CSCE A201	Computer Programming I	4
MATH A252	Calculus II	4
MATH A261	Introduction to Discrete Mathematics	3
GER Written Communication Skills (200-level)	3	
<b>Credits</b>	<b>14</b>	

### Second Year

#### Fall

CSCE A211	Computer Programming II	4
CSCE A241	Computer Hardware Concepts	4
MATH A253	Calculus III	4
PHYS A211 & A211L	General Physics I and General Physics I Laboratory	4
<b>Credits</b>	<b>16</b>	

#### Spring

CSCE A248	Computer Organization and Assembly Language Programming	3
CSCE A311	Data Structures and Algorithms	3
PHYS A212 & A212L	General Physics II and General Physics II Laboratory	4
STAT A307	Probability and Statistics	4
GER Social Sciences	3	
<b>Credits</b>	<b>17</b>	

### Third Year

#### Fall

CSCE A342	Digital Circuits Design	3
EE A203	Fundamentals of Electrical Engineering I	4
MATH A302	Ordinary Differential Equations	3
GER Humanities <sup>2</sup>	3	
GER Social Sciences	3	
<b>Credits</b>	<b>16</b>	

#### Spring

CSCE A321	Operating Systems	3
CSCE A448	Computer Architecture	3
EE A353	Circuit Theory	3
ESM A450	Economic Analysis and Operations	3
Upper Division Program Elective	3	
<b>Credits</b>	<b>15</b>	

### Fourth Year

#### Fall

CSCE A365	Computer Networks	3
PHIL A305	Professional Ethics	3
GER Fine Arts	3	
Upper Division Program Elective	3	
Upper Division Program Elective	3	
<b>Credits</b>	<b>15</b>	

**Spring**

CSCE A465	Computer and Network Security	3
CSCE A470	Computer Science and Engineering Capstone Project	3
EE A333	Electronic Devices	4
Upper Division Program Elective		3
<b>Credits</b>		<b>13</b>
<b>Total Credits</b>		<b>119</b>

<sup>1</sup> *MATH A251 has prerequisites.*

<sup>2</sup> *Choose a course that also fulfills the Alaska Native-Themed GER.*