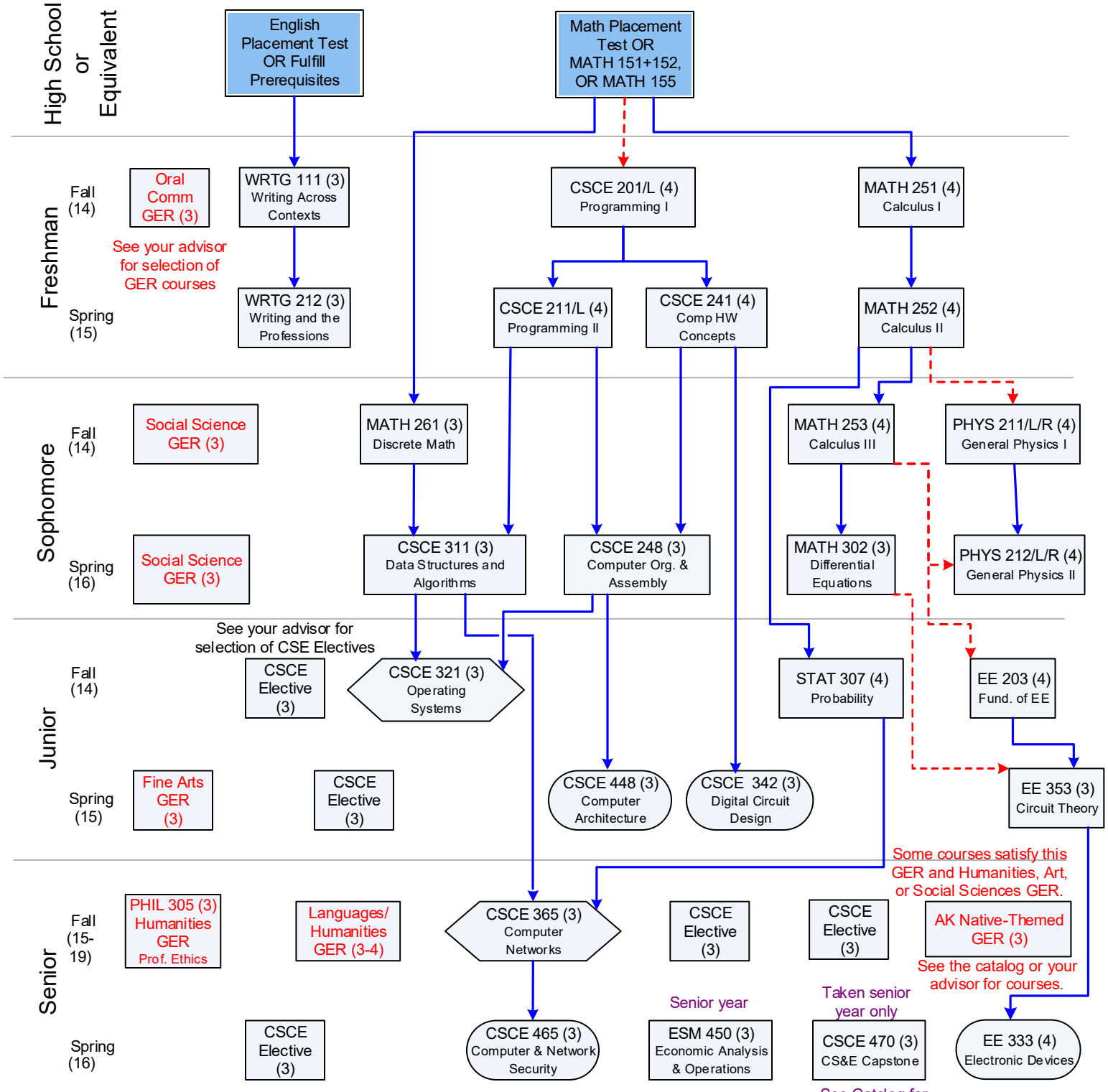




# Bachelor of Science in Computer Systems Engineering (BSCSE)

## Recommended Course Sequence & Prerequisites Flowchart



**Total Credits:**  
119-123

**Key:** Prerequisite →  
Prerequisite or Concurrent - - - - -



**120 Total Credits at the 100-Level or Higher Required for the Degree.**

**May need 1 additional open elective credit to reach 120 total credits**

Find more information on the web at <http://www.uaa.alaska.edu/collegeofengineering>

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# Computer Systems Engineering

Catalog Year 2019-2020

### Fall Year 1 (14 credits)

CSCE A201	Computer Programming I	4
WR TG A111	Writing Across Contexts	3
MATH A251	Calculus I	4
Oral Communications GER		3

### Fall Year 2 (14 credits)

PHYS A211/L/R	General Physics I with Laboratory	4
MATH A253	Calculus III	4
MATH A261	Intro to Discrete Math	3
Social Sciences GER		3

### Fall Year 3 (14 credits)

CSCE A321	Operating Systems	3
STAT A307	Probability & Statistics	4
EE A203	Fundamentals of Electrical Engr. I	4
** Upper Division CSCE Elective		3

### Fall Year 4 (15-16 credits)

CSCE A365	Computer Networks	3
PHIL A305	Professional Ethics	3
**Upper Division CSCE Elective		3
**Upper Division CSCE Elective		3
Languages/Humanities/AK Native-Themed GER		3-4

### Spring Year 1 (15 credits)

CSCE A211	Computer Programming II	4
CSCE A241	Computer Hardware Concepts	4
WR TG A212	Writing and the Professions	3
MATH A252	Calculus II	4

### Spring Year 2 (16 credits)

PHYS A212/L	General Physics II with Laboratory	4
MATH A302	Ordinary Differential Equations	3
CSCE A248	Computer Org. & Assembly	3
CSCE A311	Data Structures & Algorithms	3
Social Sciences GER		3

### Spring Year 3 (15 credits)

CSCE A342	Digital Circuits Design	3
CSCE A448	Computer Architecture	3
EE A353	Circuit Theory	3
GER Fine Arts		3
**Upper Division CSCE Elective		3

### Spring Year 4 (15-16 credits)

CSCE A465	Computer and Network Security	3
CSCE A470	CS&E Capstone Project	3
ESM A450	Economic Analysis & Operations	3
EE A333	Electronic Devices	3
**†Upper Division CSCE Elective		3-4

A total of 120 credits at the 100-level or higher is required for the degree, of which 42 must be upper division.

\*\* Students are required to take 15 credits from the following list of approved CSE electives. Of the 15, at least 6 credits must be from classes with a CSCE prefix. A maximum of 3 credits from CSCE A395, a maximum of 3 credits from CSCE A495, and a maximum of 6 credits from CSCE A498 may be applied toward this degree requirement.

†Students may need to take a 4-credit CSCE Elective, a 3-credit CSCE Elective plus 1 credit of research, or a 1-credit open elective to reach the 120 total credits required for the degree. Otherwise, students just need to take a 3-credit CSCE Elective (see above notation).

## Upper Division Computer Systems Engineering Electives

<u>Course</u>	<u>Number</u>	<u>Title</u>	<u>Course</u>	<u>Number</u>	<u>Title</u>
CSCE	A302	Object-Oriented Programming II	CSCE	A462	Data Mining
CSCE	A305	Android Programming	CSCE	A490	Topics in CS and CSE
CSCE	A331	Programming Language Concepts	CSCE	A495	Computing Internship Project
CSCE	A351	Automata, Algorithms and Complexity	CSCE	A498	Individual Research
CSCE	A360	Database Systems	EE/PHYS	A314	Electromagnetics
CSCE	A385	Computer Graphics	EE/PHYS	A324/L	Electromagnetics II with Lab
CSCE	A395	Internship in Computing	EE	A354	Engineering Signal Analysis
CSCE	A401	Software Engineering	EE	A441	Integrated Circuit Design
CSCE	A405	Artificial Intelligence	EE	A451	Digital Signal Processing
CSCE	A412	Evolutionary Computing	EE	A462	Communication Systems
CSCE	A415	Machine Learning	EE	A465	Telecommunications