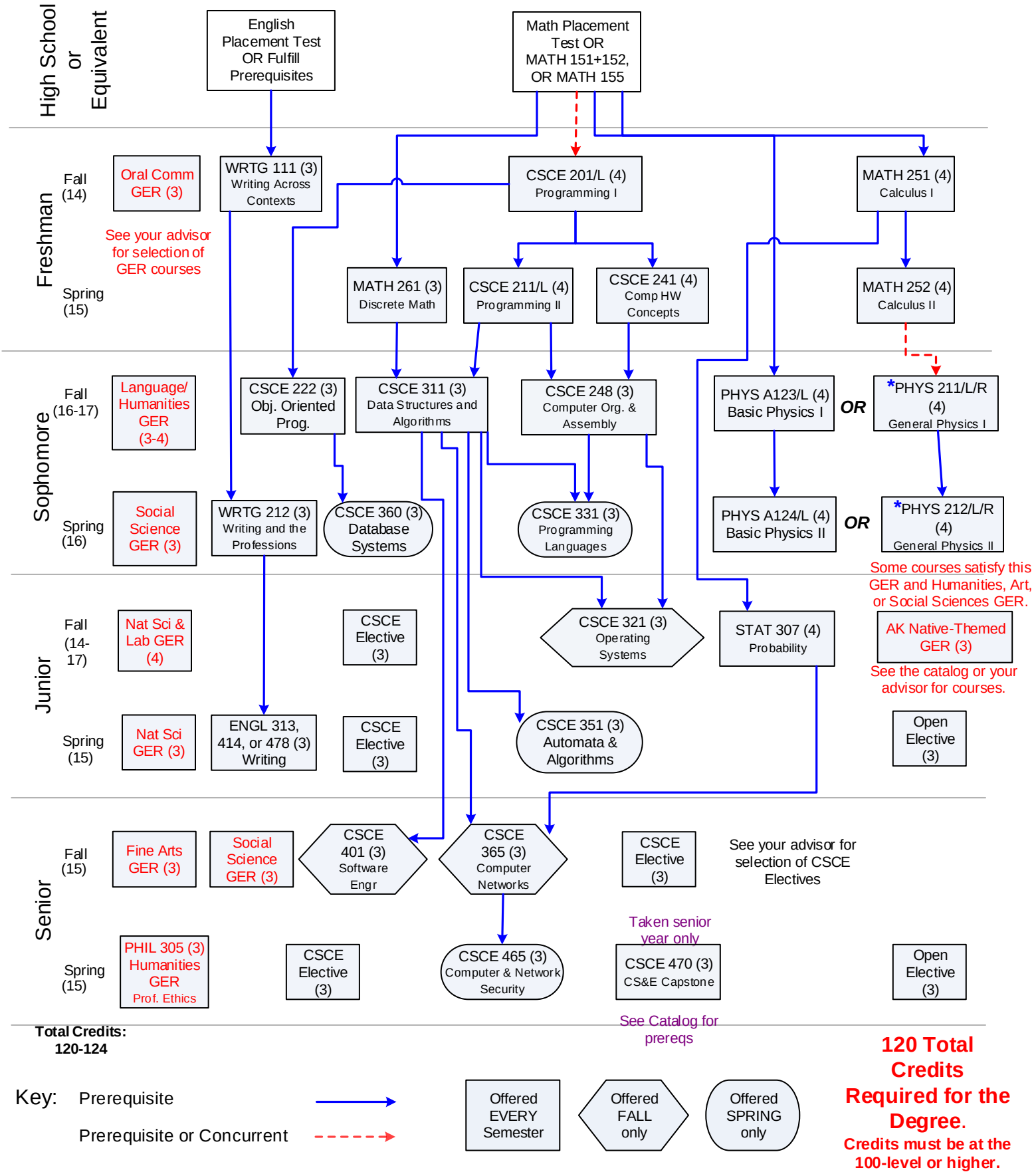
UAA Bachelor of Science in Computer Science

Recommended Course Sequence & Prerequisites Flowchart

2018/2019



Total Credits: 120-124

Key: Prerequisite

Prerequisite or Concurrent

Offered EVERY Semester

Offered FALL only

Offered SPRING only

120 Total Credits Required for the Degree.

Credits must be at the 100-level or higher.

***If you choose the PHYS A211 track, you must take MATH A253 prior to or concurrently with PHYS A212.**

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

v. 8-16-18 KM

Bachelor of Science in Computer Science

Catalog Year 2018-2019

Fall Year 1 (14 credits)		
CSCE A201	Computer Programming I	4
WRTG A111	Writing Across Contexts	3
MATH A251	Calculus I	4
Oral Communications GER		3

Spring Year 1 (15 credits)		
CSCE A211	Computer Programming II	4
CSCE A241	Computer Hardware Concepts	4
MATH A252	Calculus II	4
MATH A261	Discrete Math	3

Fall Year 2 (16-17 credits)		
CSCE A222	Object-Oriented Programming	3
CSCE A248	Computer Organization & Assembly	3
CSCE A311	Data Structures & Algorithms	3
PHYS A123/L (or PHYS A211/L/R)	Basic Physics I with Laboratory (or General Physics I with Lab)	4
Humanities/Foreign Language/AK Native-Themed GER		3-4

Spring Year 2 (16 credits)		
CSCE A331	Programming Languages	3
CSCE A360	Database Systems	3
***WRTG A212	Writing and the Professions	3
PHYS A124/L (or PHYS A212/L/R)	Basic Physics II with Laboratory (or General Physics II with Lab)	4
Social Science GER		3

Fall Year 3 (14 credits)		
STAT A307	Probability & Statistics	4
CSCE A321	Operating Systems	3
*Natural Science GER and Lab		4
**Upper Division CSCE Elective		3

Spring Year 3 (15 credits)		
CSCE A351	Automata & Algorithms	3
ENGL A313 or A414 or 478	Professional/Research/Public Writing	3
*Natural Science GER		3
** Upper Division CSCE Elective		3
Open elective		3

Fall Year 4 (15 credits)		
CSCE A365	Computer Networks	3
CSCE A401	Software Engineering	3
** Upper Division CSCE Elective		3
Fine Arts GER		3
Social Science GER		3

Spring Year 4 (15 credits)		
CSCE A465	Computer & Network Security	3
CSCE A470	CS&E Capstone Project	3
**Upper Division CSCE Elective		3
PHIL A305	Professional Ethics	3
Open elective		3

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

*The total natural science requirement of each student includes 15 credits (8 credits of physics as part of the major requirements and 7 non-physics credits from the General Education natural science requirement).

**Students completing the Bachelor of Science need an additional 12 upper division credits in CSCE, Mathematics (excluding MATH A420 and MATH A495), or Statistics. Nine of these credits must be in courses with a CSCE prefix. A maximum of 3 credits of CSCE A395, a maximum of 3 credits of CSCE A495, and a maximum of 6 credits of CSCE A498 may be applied to degree requirements.

***Students may substitute WRTG A211, A213, or A214 for WRTG A212.

Upper Division Computer Science Electives

Course	Number	Title
CSCE	A302	Object-Oriented Programming II
CSCE	A305	Android Programming
CSCE	A342	Digital Circuits Design
CSCE	A385	Computer Graphics
CSCE	A395	Internship in Computing
CSCE	A405	Artificial Intelligence
CSCE	A412	Evolutionary Computing

Course	Number	Title
CSCE	A415	Machine Learning
CSCE	A448	Computer Architecture
CSCE	A462	Data Mining
CSCE	A490	Topics in Computer Science
CSCE	A495	Computing Internship Project
CSCE	A498	Individual Research