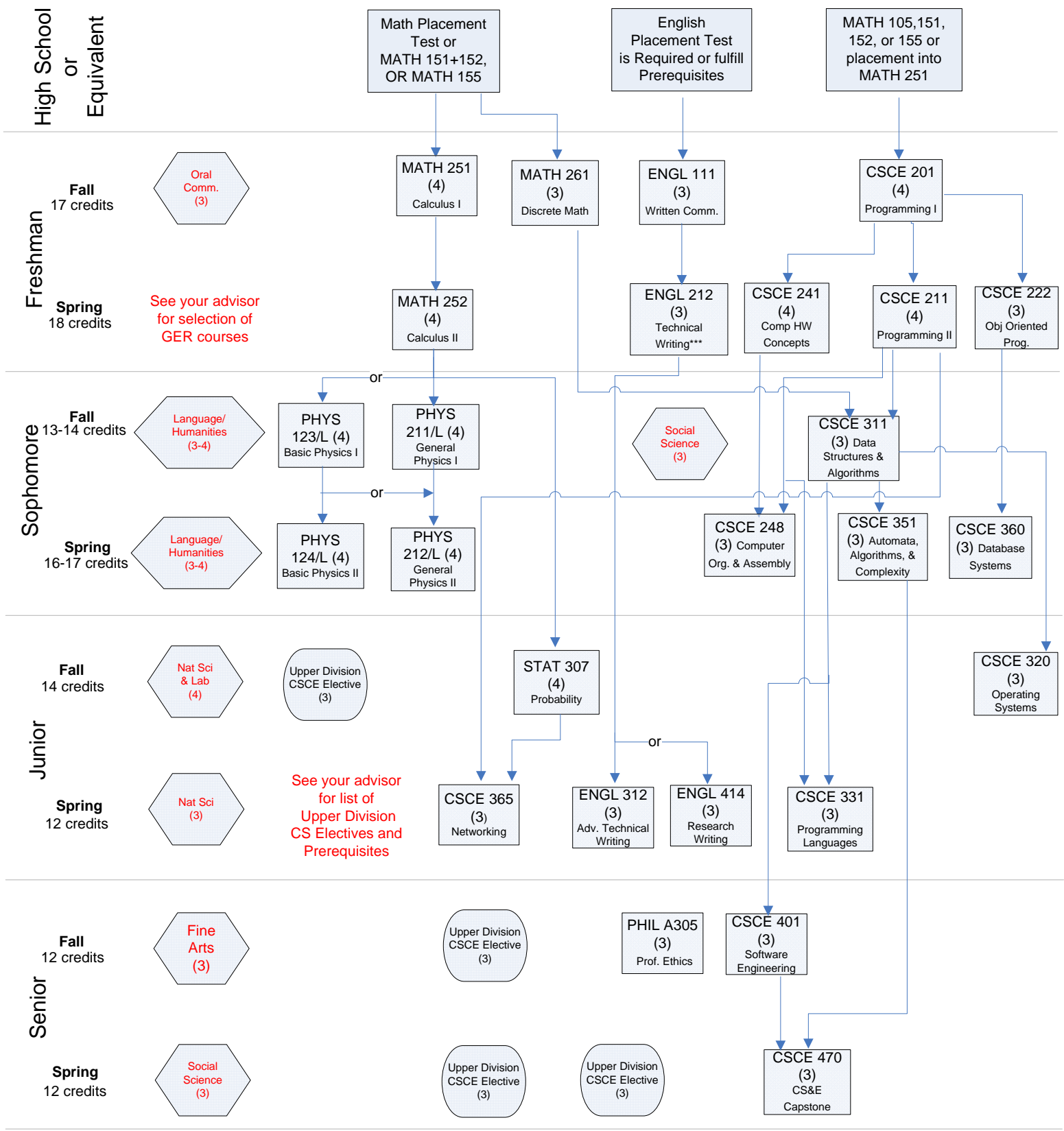


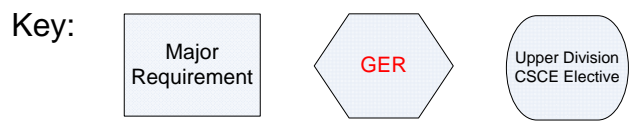
UAA Bachelor of Science in Computer Science Recommended Course Sequence & Prerequisites Flowchart

2016/2017



120 Total Credits Required for the degree, of which 42 must be upper division.

***Students may substitute ENGL A211, 213, or 214 for ENGL A212



Bachelor of Science in Computer Science

Catalog Year 2016-2017

Fall Year 1 (17 credits)

CSCE A201	Computer Programming I (Java)	4
ENGL A111	Methods of Written Comm.	3
MATH A251	Calculus I	4
MATH A261	Intro to Discrete Math.	3
COMM A111, 235, 237 or 241		3

Spring Year 1 (18 credits)

CSCE A222	Object Oriented Programming	3
CSCE A211	Computer Programming II	4
***ENGL A212	Technical Writing	3
CSCE A241	Computer Hardware Concepts	4
MATH A252	Calculus II	4

Fall Year 2 (13-14 credits)

CSCE A311	Data Structures & Algorithms	3
Social Sciences GER		
PHYS A123/L (or PHYS A211/L)	Basic Physics I with Laboratory (or General Physics I with Lab)	4
Humanities/Foreign Language		3-4

Spring Year 2 (16-17 credits)

CSCE A248	Computer Org. & Assembly	3
CSCE A351	Automata, Algorithms, & Complexity	3
PHYS A124/L (or PHYS A212/L)	Basic Physics II with Laboratory (or General Physics II with Lab)	4
CSCE A360	Database Systems	3
Humanities/Foreign Language		3-4

Fall Year 3 (14 credits)

STAT A307	Probability & Statistics	4
CSCE A320	Operating Systems	3
*Natural Science 1 and Lab		4
**Upper Division CSCE Elective		3

Spring Year 3 (13 credits)

CSCE A331	Programming Language Concepts	3
ENGL A312	Advanced Technical Writing	3
*Natural Science 2		3
CSCE A365	Computer Networks	3

Fall Year 4 (12 credits)

CSCE A401	Software Engineering	3
PHIL A305	Professional Ethics	3
**Upper Division CSCE Elective		3
Fine Arts GER		3

Spring Year 4 (12 credits)

CSCE A470	CS&E Capstone Project	3
**Upper Division CSCE Elective		3
**Upper Division CSCE Elective		3
Social Sciences GER		3

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

*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 ENGL A211, A213, or A214 for ENGL A212.

Upper Division Computer Science Electives

<u>Course</u>	<u>Number</u>	<u>Title</u>	<u>Course</u>	<u>Number</u>	<u>Title</u>
CSCE	A302	Design Patterns	CSCE	A446	Digital Media & Interactive Systems
CSCE	A305	Android Programming	CSCE	A448	Computer Architecture
CSCE	A385	Computer Graphics	CSCE	A450	Mobile Robotics
CSCE	A395	Internship in Computing	CSCE	A460	Advanced Database Systems
CSCE	A411	Artificial Intelligence	CSCE	A462	Data Mining
CSCE	A412	Evolutionary Computing	CSCE	A485	Computer & Machine Vision
CSCE	A415	Machine Learning	CSCE	A490	Topics in Computer Science
CSCE	A431	Compilers	CSCE	A498	Individual Research