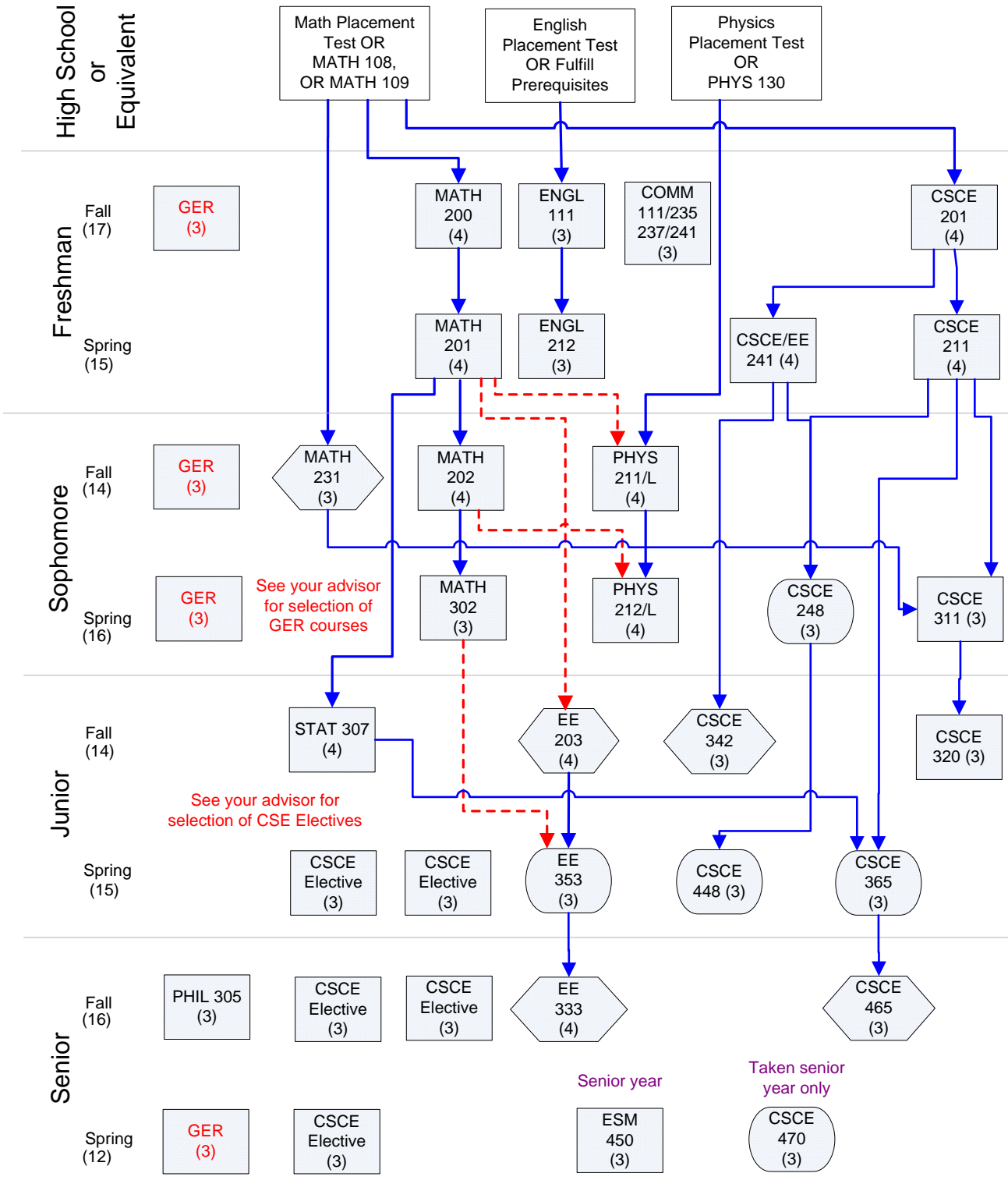


# UAA Bachelor of Science in Engineering (BSE) Computer Systems Engineering Specialization Recommended Course Sequence & Prerequisites Flowchart

2014/2015

"Pre - Major"  
Preparatory  
Coursework  
To Obtain "Major"  
Status

"Major" Status Courses  
Students with "Pre-Major" or "Major" Status are considered accepted  
& members of the BSE Program



**Key:** Prerequisite (solid blue arrow), Prerequisite or Concurrent (dashed red arrow), Either Class as Prerequisite (dotted black arrow).  
 Offered EVERY Semester (box), Offered FALL only (hexagon), Offered SPRING only (circle).

120 Total Credits Required for the Degree

### Fall Year 1 (17 credits)

CSCE A201	Computer Programming I (Java)	4
ENGL A111	Methods of Written Comm.	3
MATH A200	Calculus I	4
COMM A111, 235, 237 or 241		3
GER (Humanities)		3

### Fall Year 2 (14 credits)

PHYS A211/L	General Physics I with Laboratory	4
MATH A202	Calculus III	4
MATH A231	Intro to Discrete Math	3
GER (Social Sciences)		3

### Fall Year 3 (14 credits)

CSCE A342	Digital Circuits Design	3
CSCE A320	Operating Systems	3
STAT A307	Probability & Statistics	4
EE A203	Fundamentals of Electrical Engr. I	4

### Fall Year 4 (16 credits)

EE A333	Electronic Devices	4
CSCE A465	Computer and Network Security	3
PHIL A305	Professional Ethics	3
**Upper Division CSCE Elective		3
**Upper Division CSCE Elective		3

### Spring Year 1 (15 credits)

CSCE A211	Computer Programming II	4
CSCE A241	Computer Hardware Concepts	4
ENGL A212	Technical Writing	3
MATH A201	Calculus II	4

### Spring Year 2 (16 credits)

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

### Spring Year 3 (15 credits)

CSCE A365	Computer Networks	3
EE A353	Circuit Theory	3
CSCE A448	Computer Architecture	3
**Upper Division CSCE Elective		3
**Upper Division CSCE Elective		3

### Spring Year 4 (12 credits)

CSCE A470	CS&E Capstone Project	3
ESM A450	Economic Analysis & Operations	3
GER (Fine Arts)		3
**Upper Division CSCE Elective		3

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

\*\* 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.

## 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	Design Patterns	CSCE	A462	Data Mining
CSCE	A305	Android Programming	CSCE	A485	Computer & Machine Vision
CSCE	A385	Computer Graphics	CSCE	A490	Topics in Computer Science
CSCE	A395	Internship in Computing	CSCE	A498	Individual Research
CSCE	A411	Artificial Intelligence	EE/PHYS	A314	Electromagnetics
CSCE	A412	Evolutionary Computing	EE/PHYS	A324/L	Electromagnetics II with Lab
CSCE	A415	Machine Learning	EE	A354	Engineering Signal Analysis
CSCE	A431	Compilers	EE	A441	Integrated Circuit Design
CSCE	A446	Digital Media & Interactive Systems	EE	A451	Digital Signal Processing
CSCE	A448	Computer Architecture	EE	A462	Communication Systems
CSCE	A450	Robotics	EE	A465	Telecommunications
CSCE	A460	Advanced Database Systems			