Bachelor of Science in Software Engineering

KENNESAW STATE UNIVERSITY

This is a GATED PROGRAM
Catalog Year: 2019-2020

Updated 5/7/2019
Total Degree Credit Hours: 125

General Education Requirements (See Degreeworks for Prerequisites)

A-1	**ENGL 1101** Composition I	3	
	ENGL 1102 Composition II	3	
A-2	**MATH 1190** Calculus I	4	

Area A: Essential Skills (10 credit hours)
All Area A courses must be completed within the first 30 credit hours with a grade of C or higher.

B-1	**ECON 1000** Contemporary Economic Issues	2	
B-2	**COM 1100** Human Communication	3	

Area B: Institutional Options (5 credit hours)
COM 1100 is essential for Software Engineering majors.

C-1	**ENGL 2110, 2111, 2112, 2120, 2121, 2122, 2130, 2131, 2132,** *or* **2300**	3	
C-2	**ART 1107, MUSI 1107, DANC 1107,** *or* **TPS 1107**	3	

Area C: Humanities, Fine Arts, and Ethics (6 cr hrs)
Choose one course from each area.

D-1	**MATH 2202** Calculus II	4	
D-2	**Group 1: BIOL 1107/L, CHEM 1211/L,** *or* **PHYS 2211/L** **Group 2: BIOL 1108/L, CHEM 1212/L,** *or* **PHYS 2212/L**	8	

Area D: Science, Math, and Technology (12 cr hrs)
Software Engineering majors must complete a Science sequence. "L" denotes the corresponding Lab course.

E-1	**POLS 1101** American Government	3	
E-2	**HIST 2111** *or* **2112** US History	3	
E-3	**HIST 1100, 1111,** *or* **1112** World History	3	
E-4	**CRJU 1101, GEOG 1101, PSYC 1101, SOCI 1101, STS 1101, ANTH 1102,** *or* **ECON 2100**	3	

Area E: Social Sciences (12 credit hours)
Choose one course from each area for E-2, E-3, & E-4.

Area F Lower Division Major Requirements

	Prerequisites		
CSE 1321/L Programming & Problem Solving I	Co-req w/ MATH 1112, 1113, 1190 or CSE 1300	4	
CSE 1322/L Programming & Problem Solving II	Minimum grade of 'B' in CSE 1321/L	4	
MATH 2345 Discrete Mathematics *or* **CSE 2300** Discrete Structures for Computing	MATH 1112, 1113, or 1190 MATH 1113 & CSE 1321/L	3	
TCOM 2010 Technical Writing	ENGL 1102	3	
MATH 2332 Probability and Data Analysis	MATH 1190	3	
Carryover credit hour from Area D Math	See Area D Math requirement	*1*	

CSE 1321/L and CSE 1322/L must have a minimum grade of 'B.'

Upon completing CSE 1322/L with a minimum grade of 'B,' students should request to have their major changed to the fully admitted Software Engineering major.

Free Electives (5 credit hours)

CSE 1300 is highly recommended for students who are new to programming and have available free elective credits to complete.

Upper Division Major Requirements

	Prerequisites		
Math/Science Electives Make an appointment with a CCSE Academic Advisor to discuss the course options for this requirement	Varies	3 3	
Science Elective*** ***IF PHYS 2211/L WAS NOT COMPLETED IN AREA D, IT MUST BE COMPLETED HERE. IF PHYS 2211/L WAS COMPLETED IN AREA D, STUDENTS MAY TAKE EITHER BIOL 1107/L OR CHEM 1211/L TO MEET THIS REQUIREMENT.***	Varies	4	
CSE 3153 Database Systems	CSE 1322/L	3	
CSE 3801 Professional Practices and Ethics	CSE 1322/L	2	
CS 3305/L Data Structures	CSE 1322/L & (MATH 2345/CSE 2300)	4	
CS 3503/L Computer Organization & Architecture	CSE 1322/L	4	
CS 3502 Operating Systems	CS 3503/L & CS 3305/L	3	
SWE 3313 Intro to Software Engineering	CSE 1322/L	3	
SWE 3623 Software Systems Requirements	SWE 3313 & (MATH 2345/CSE 2300)	3	
SWE 3633 Software Architecture and Design	SWE 3313	3	
SWE 3643 Software Testing & Quality Assurance	SWE 3313	3	
SWE 4324 User-Centered Design	SWE 3313	4	
SWE 4663 Software Project Management	SWE 3313 & MATH 2332	3	
SWE 4713 SWE Application Domain	Three of the following: SWE 3623, SWE 3633, SWE 3643, SWE 4663	3	
SWE 4724 Software Engineering Project	TCOM 2010 & COM 1100 & Three of the following: SWE 3623, SWE 3633, SWE 3643, SWE 4324, SWE 4663	4	

All major courses must have a minimum grade of 'C,' except for CSE 1321/L and CSE 1322/L, which must have a minimum grade of 'B.'

(MATH 2345/CSE 2300) denotes either course will complete the 2nd part of the prerequisite requirement.

Upper Level Electives **(Choose 2 courses; at least one must be an SWE course)**

CSE 4983 may be used as your one non-SWE elective, even if it is a Software Engineering Internship.

	Prerequisites		
SWE 3683 Embedded Systems Analysis & Design	CS 3305/L	3	
SWE 3843 Embedded Systems Construction and Testing	CS 3502	3	
SWE 4633 Component-Based Software Development	CS 3305/L	3	
SWE 4743 Object-Oriented Development	CS 3305/L	3	
SWE 4783 User Interaction Engineering	SWE 3313 or SWE 4324	3	
CGDD 4003 Digital Media and Interaction	CGDD 3103	3	
CGDD 4203 Mobile and Casual Game Development	CGDD 4003	3	
CS 4504 Distributed Computing	CS 3502	3	
CS 4512 Systems Programming	CS 3502	3	
CS 4514 Real-Time Systems	CS 3502	3	
CS 4523 Programming Massively Parallel Processors	CS 3502	3	
CS 4622 Computer Networks	CS 3503/L	3	
CS 4722 Computer Graphics and Multimedia	CS 3305/L	3	
CS 4732 Machine Vision	CS 3305/L	3	
CSE 4983 Computer Science Internship	Varies	3	
IT 4123 Electronic Commerce	IT 3203 and CSE 3153	3	
IT 4823 Information Security Administration & Privacy	CSE 3153 & (MATH 2345/CSE 2300) & IT 3123 or CS 3503/L	3	
IT 4833 Wireless Security	CS 3502 or IT 4823	3	
IT 4843 Ethical Hacking for Effective Defense	IT 4323 or ECET 3400 or CS 4622	3	