Bachelor of Science in Software Engineering

KENNESAW STATE UNIVERSITY

Updated 2/17/2020

Catalog Year: 2020

Total Degree Credit Hours: 122

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	**AADS/AMST/ASIA/GWST/LAL/PAX/RELS 1102, COM 1100, FL 1002, LDRS 2300, PHIL 2200,** *or* **POLS 2401**	3	

Area B: Institutional Options (5 credit hours)
Choose 1 course from B-2. COM 1100 is recommended.

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	**BIOL 1107/L, BIOL 1108/L, CHEM 1211/L, CHEM 1212/L, PHYS 1111/L, PHYS 1112/L, PHYS 2211/L, PHYS 2212/L**	4 4	

Area D: Science, Math, and Technology (12 cr hrs)
Choose any two 4 credit hour science courses. A sequence is not necessary. "L" denotes the corresponding Lab course. Students **may not** take both PHYS 1111/L and PHYS 2211/L or PHYS 1112/L and PHYS 2212/L. PHYS 2211/L and 2212/L are recommended.

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	Lecture and Lab must be taken together	4	
CSE 1322/L Programming & Problem Solving II	Minimum grade of 'B' in CSE 1321/L & MATH 1113/1190/2202*	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 MATH 1190	MATH 1113	*1*	

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

* - can be taken before or at the same time

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 (8 hours total) Make an appointment with a CCSE Academic Advisor to discuss the course options for this requirement	Varies	4	
	Varies	4	
CSE 3153 Database Systems	CSE 1322/L	3	
CSE 3801 Professional Practices and Ethics	CSE 1322/L	2	
CS 3305 Data Structures	CSE 1322/L & (MATH 2345/CSE 2300)	3	
CS 3503 Computer Organization & Architecture	CSE 1322/L	3	
CS 3502 Operating Systems	CS 3503 & CS 3305	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	3	
SWE 4663 Software Project Management	SWE 3313 & MATH 2332	3	
SWE 4713 SWE Application Domain	SWE 3626, SWE 3643© & SWE 4663©	3	
SWE 4724 Software Engineering Project	SWE 3626, SWE 3643© & SWE 4663©	4	
+ 1 hour carried over from MATH 2202	MATH 1190	1	
+ 1 hour carried over from 2nd science lab in Area D-2	Varies	1	

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.

© = concurrent permitted

Upper Level Electives (Choose 2 courses, one from List 1 and one from List 1 or 2)

List 1 (Choose 1 or 2 courses)

	Prerequisites		
SWE 3683 Embedded Systems Analysis & Design	CS 3305	3	
SWE 4633 Cloud Software Development	CS 3305	3	
SWE 4723 Undergraduate Research Methods	SWE 3313 or instructor permission	3	
SWE 4743 Object-Oriented Development	CS 3305	3	
SWE 4783 User Interaction Engineering	SWE 3313 or SWE 4324	3	
SWE 4490 Special Topics	Varies	3	
SWE 4803 Independent Study	Varies	3	
CS 4720 Internet Programming	CS 3305 & CSE 3153	3	
CS 4524 Cloud Computing	CS 4504	3	
CS 4514 Real-Time Systems	CS 3502	3	
CS 4612 Software Security	CS 3502 & CS 3626	3	
CS 4632 Modeling and Simulation	CS 3305	3	
CS 4712 User Interface Engineering	CSE 1322/L	3	
CS 4308 Concepts of Programming Languages	CS 3305 & CS 3503	3	
CSE 4983 Computer Science Internship	Department Permission	3	

List 2 (Choose 0 or 1 courses)

	Prerequisites		
CS 4504 Distributed Computing	CS 3502	3	
CS 4523 Programming Massively Parallel Processors	CS 3502	3	
CS 4622 Computer Networks	CS 3503 & CS 3622	3	
CS 4722 Computer Graphics and Multimedia	CS 3305	3	
CS 4732 Machine Vision	CS 3305	3	
IT 4823 Info Security Admin & Privacy	(CSE 2300/MATH 2345) and CSE 3153 and CS 3503	3	