

# Bachelor of Science in Software Engineering



**KENNESAW STATE  
UNIVERSITY**

Catalog Year: 2025-2026

Updated 6/3/2025

Total Degree Credit Hours: 120

<b>I</b> Institutional Priority	<b>2 Classes</b> 5 credit hours	Complete the following course: ECON 1000	Complete <u>one</u> course from the following: AMST 1102, ASIA 1102, BLCK 1102, COMM 1100, GWST 1102, ISD 2700, LALS 1102, LDRS 2300, PAX 1102, POLS 2401, RELS 1102
<b>M</b> Mathematics & Quantitative Skills	<b>1 Class</b> 3 credit hours	Complete the following course: MATH 1190	
<b>P</b> Political Science & U.S. History	<b>2 Classes</b> 6 credit hours	Complete the following course: POLS 1101	Complete <u>one</u> course from the following: HIST 2111 or HIST 2112
<b>A</b> Arts, Humanities & Ethics	<b>2 Classes</b> 6 credit hours	Complete <u>one</u> course from the following: CHIN 1001, CHIN 1002, ENGL 2110, ENGL 2120, ENGL 2130, ENGL 2140, FREN 1001, FREN 1002, GRMN 1001, GRMN 1002, HEBR 1001, HEBR 1002, ITAL 1001, ITAL 1002, JAPN 1001, JAPN 1002, KOR 1001, KOR 1002, LATN 1001, LATN 1002, PHIL 2010, PORT 1001, PORT 1002, RUSS 1001, RUSS 1002, SPAN 1001, SPAN 1002, WLC 1001, WLC 1002, WLC 2209	Complete <u>one</u> course from the following: ART 1107, DANC 1107, MUSI 1107, TPS 1107
<b>C</b> Communication in Writing	<b>2 Classes</b> 6 credit hours	Complete the following course: ENGL 1101	Complete the following course: ENGL 1102
<b>T</b> Technology, Mathematics, & Science	<b>3 Classes</b> 12 credit hours	Complete the following course: MATH 2202	Select <u>two</u> course pairs from the following for a total of 8 credit hours: CHEM 1211 and CHEM 1211L CHEM 1212 and CHEM 1212L PHYS 1111 and PHYS 1111L PHYS 1112 and PHYS 1112L PHYS 2211 and PHYS 2211L PHYS 2212 and PHYS 2212L BIOL 1107 and BIOL 1107L BIOL 1108 and BIOL 1108L <i>Please note: You <u>CANNOT</u> take both PHYS 1111/L and PHYS 2211/L nor PHYS 1112/L and PHYS 2212/L</i>
<b>S</b> Social Science	<b>2 Classes</b> 6 credit hours	Complete <u>one</u> course from the following: HIST 1100, HIST 1111 or HIST 1112	Complete <u>one</u> course from the following: ANTH 1102, CRJU 1101, ECON 2105, ECON 2106, GEOG 1101, PSYC 1101, SOCI 1101, or STS 1101

## Core Field of Study (18 credit hours)

### Prerequisites

<b>CSE 1321/L</b> Programming & Problem Solving I	Lecture & Lab must be taken at the same time	4	
<b>CSE 1322/L</b> Programming & Problem Solving II	Min. grade of 'B' in CSE 1321/L & MATH 1113/1190/2202*	4	
<b>MATH 2345</b> Discrete Mathematics Or <b>CSE 2300</b> Discrete Structures for Computing	MATH 1113 or MATH 1190	3	
	CSE 1321/L & MATH 1113/1190		
<b>TCOM 2010</b> Technical Writing	ENGL 1102	3	
<b>STAT 2332</b> Probability & Data Analysis	MATH 1190	3	

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

\* - can be taken before or at the same time

+1 credit hour carried over from IMPACTS

## Free Electives


Select 5 credit hours of 1000-4000 level coursework from the University Catalog

## Major Requirements (47 credit hours)

Prerequisites				<p>All major courses must have a minimum grade of 'C', except for CSE 1321/L &amp; CSE 1322/L which must be min. 'B'</p> <p>* - can be taken before or at the same time</p> <p><b>+2 credits carried over from IMPACTS</b></p>
<b>Math/Science Elective Courses (8 credit hours)</b> Make an appointment with a CCSE Academic Advisor to discuss the course options for this requirement	Varies	4		
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CSE 3153 Database Systems	CSE 1322/L	3		
<b>CSE 3801</b> Professional Practices & Ethics	CSE 1322/L	2		
<b>CS 3305</b> Data Structures	MATH 2345 & CSE 1322/L	3		
<b>CS 3503</b> Computer Org & Architecture	CSE 1322/L	3		
<b>CS 3502</b> Operating Systems	CS 3305 & CS 3503	3		
<b>SWE 3313</b> Intro to Software Eng.	CSE 1322/L	3		
SWE 3623 Software Systems Requirements	SWE 3313 & (CSE 2300 or MATH 2345)	3		
SWE 3633 Software Architecture & 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 & STAT 2332	3		
SWE 4713 SWE Application Domain	SWE 3623, SWE 3643* and SWE 4663*	3		
SWE 4724 Software Engineering Capstone	SWE 3623, SWE 3643* and SWE 4663*	4		

## Major Electives (6 credit hours)

You must complete 2 of the following courses. At least 1 of these courses must be from List 1.

### List 1

Prerequisite			
<b>SWE 3683</b> Embedded Systems Analysis & Design	CS 3305	3	
<b>SWE 4633</b> Cloud Software Development	CS 3305	3	
<b>SWE 4723</b> Undergraduate Research Methods	SWE 3313	3	
<b>SWE 4743</b> Object-Oriented Development	CS 3305	3	
<b>SWE 4783</b> User Interaction Engineering	SWE 3313 or SWE 4324	3	
<b>SWE 4490</b> Special Topics	Varies	3	
<b>SWE 4803</b> Independent Study	Program coordinator & faculty approval	3	
<b>CSE 4983</b> CSE Computing Internship	Senior Standing	3	
<b>CS 4720</b> Internet Programming	CS 3305 & CSE 3153	3	
<b>CS 4524</b> Cloud Computing	CS 4504	3	
<b>CS 4612</b> Software Security	CS 3502 & CS 3626	3	
<b>CS 4632</b> Modeling and Simulation	CS 3305	3	
<b>CS 4712</b> User Interface Engineering	CSE 1322/L	3	
<b>CS 4514</b> Real-Time Systems	CS 3502	3	
<b>CS 4308</b> Concepts of Programming Languages	CS 3305 & CS 3503	3	

### List 2

Prerequisite			
<b>CS 4504</b> Parallel & Distributed Computing	CS 3502*	3	
<b>CS 4523</b> Programming Massively Parallel Processors	CS 3305 & CS 3502	3	
CS 4622 Computer Networks	CS 3622	3	
CS 4722 Computer Graphics & Multimedia	CS 3305	3	
CS 4732 Machine Vision	CS 3642	3	
IT 4823 Information Security Administration & Privacy	CS 3503 & (CSE 2300 or MATH 2345)	3	
4000-Level courses with the IT, CS, or CGDD prefix with coordinator approval			