KENNESAW STATE UNIVERSITY
COLLEGE OF COMPUTING AND SOFTWARE ENGINEERING

Master of Science in Software Engineering

Catalog Year: 2022 Total Degree Credit hours: 30

For students who are interested in this program but do not have the required prerequisite knowledge, completion of the Graduate Certificate in Software Engineering Foundations is required prior to admission to the MSSWE program.

Software Engineering Foundation Courses (12 Credit Hours)

	Prerequisites		
CS 5000 Foundations of Programming	None	3	
SWE 5003 Software Engineering and Computational Thinking	None	3	
CS 5040 Data Structures and Algorithms	CS 5000	3	
SWE 5063 Foundations of Database and Web Development Technologies	CS 5000	3	

Core Software Engineering Courses (15 Credit Hours)

Based on student admission evaluation, students should take either SWE 6623 or SWE 6733 and all students must take the other 4 courses listed.

	Prerequisites		
SWE 6623 Software Engineering OR **SWE 6733** Emerging Software Engineering Processes	SWE 5003 & Concurrent: CS 5040 SWE 6623	3	
SWE 6613 Requirements Engineering	Concurrent: SWE 5003	3	
SWE 6633 Software Project Planning & Management	Concurrent: SWE 5003	3	
SWE 6653 Software Architecture	CS 5040 & SWE 5003 & SWE 5063	3	
SWE 6673 Software Testing and Verification	SWE 6623	3	

Program Options – Select One (15 Credit Hours)

Capstone Option

	Prerequisites		
SWE 7903 Software Engineering Capstone	SWE 6613 & SWE 6633 Concurrent: SWE 6673	3	

12 Credit hours of 6000 or 7000-level Software Engineering, Computer Science, Information Technology, or Systems Engineering courses. At least 2 must be from Software Engineering and at most 2 from either CS, IT or SYE.

_____	Varies	3	
_____	Varies	3	
_____	Varies	3	
_____	Varies	3	

Thesis Option

	Prerequisites		
SWE 7803 Master's Thesis	*	6	

9 Credit hours of 6000 or 7000-level SWE, CS, IT, or SYE courses. At least 2 must be from SWE or from the approved list of CS/CSE courses.

_____	Varies	3	
_____	Varies	3	
_____	Varies	3	

**Prerequisite: GPA 3.0 or above; completed all transition courses (if any were assigned at the admission evaluation process), nine credit hours in the MS SWE program and permission of program coordinator.*

Elective Software Engineering Courses

	Prerequisites		
SWE 6733 Emerging Software Engineering Processes	SWE 6623	3	
SWE 6753 Game Design & Development	Concurrent: SWE 6623 or permission	3	
SWE 6763 Software Evaluation and Measurement	SWE 6623	3	
SWE 6783 User Interaction Engineering	Concurrent: SWE 6623 or permission	3	
SWE 6813 Web Service Engineering	SWE 6623	3	
SWE 6823 Embedded Systems	SWE 6623	3	
SWE 6853 Design Patterns	SWE 6623	3	
SWE 6863 Software Engineering Ethics and Legal Issues	Concurrent: SWE 5003	3	
SWE 6883 Formal Methods in Software Engineering	SWE 6623 & SWE 6613; or by permission	3	
SWE 6903 Special Topics	Varies	1-3	
SWE 6803 Independent Study	Department permission	1-3	
CS 7125 Cloud Computing	CS 5020	3	
CS 7455 Mobile App Development	CS 5000	3	
CS 7535 Software and OS Security	CS 6025 or BSCS	3	
CS 7827 Real Time Systems	CS 5030	3	
CS 7385 Human Factors	Program admission or permission	3	
CSE 7983 Graduate Internship	9 CCSE graduate credit hours & good standing	3	

Approved Systems Engineering Electives			
SYE 6005 Introduction to Systems Engineering	*	3	
SYE 6025 Economic Decision Analysis	*	3	
SYE 6035 Modeling and Simulation	*	3	

*** Students interested in taking Systems Engineering, Information Technology or Computer Science electives should contact the graduate coordinators for those programs to register for them.**

Depending on whether students take the capstone or the thesis option, they are required to complete 4 or 3 elective courses, respectively. In addition to the software electives listed, students can take any 6000 and 7000-level courses in Computer Science (CS) or Information Technology (IT), or approved courses in Systems Engineering (SYE), which are listed here. **At least 2 electives must be in Software Engineering or the listed CS/CSE courses.**

Students who took SWE 6733 as a required course cannot use it also as elective. The course may only be used once towards the 30 credit hours required for the degree.