**MSSWE** **Program Requirement 2020 – 2021**

## SWE Foundation Courses1 (If required, up to 12 Credit Hours2)

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| CS 5000 Foundations of Programming (3 hours) |  | CS 5040 Data Structures & Algorithms (prereq CS 5000) (3 hours) |
| SWE 5003 Software Engineering and Computational Thinking (3 hours) |  | SWE 5063 Foundations of Database and Web Development Technologies (prereq CS 5000) (3 hours) |

1 If the student's transcript evaluation determines foundational coursework is not recommended, students may begin required MSSWE coursework.

2 Students who complete all four foundation courses may obtain the Software Engineering Foundations, Graduate Certificate.

## Required Core Courses (15 Credit Hours)3

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| SWE 6613 Requirements Engineering (prereq SWE 5003) (3 hours) |  | SWE 6653 Software Architecture (prereqs CS 5040, SWE 5003, SWE 5063) (3 hours) |
| SWE 6633 Software Project Planning & Management (prereq SWE 5003) (3 hours) |  | SWE 6733 Software Testing and Verification (prereqs SWE 6623, SWE 6613) (3 hours) |

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| Based on student admission evaluation, students should take the recommended course from the choices below:  SWE 6623 Software Engineering (prereqs SWE 5003 and CS 5040) (3 hours)  or  SWE 6733:Emerging Software Engineering Processes (prereqs SWE 6623) (3 hours) |

## Electives3 (15 hours)

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| A. Capstone OptionSWE 7903 Software Engineering Capstone (prereqs SWE 6613, SWE 6633, SWE 6673 – SWE 6673 can be taken concurrently) (3 hours)12 Credit Hours of 6000-level and 7000-level SWE, CS, IT or SYE courses (at least 2 courses must be from SWE or the approved list of CS/CSE courses and at most 2 can be chosen with no constraints from either CS and IT, or the approved SYE) |

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| B. Thesis OptionSWE 7803 Master's Thesis (prereqs) (6 Credit Hours over two semesters)Choose 9 Credit Hours of 6000-level and 7000-level SWE, CS, IT, or SYE courses (at least 2 courses must be from SWE or from the approved list of CS/CSE courses and at most 1 can be chosen with no constraints from either CS and IT, or the approved SYE) |

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| SWE electives4 |  | Approved CS courses4 |
| SWE 6733 Emerging Software Engineering Processes5 |  | CSE 6983 Graduate Internship |
| SWE 6753 Game Design & Development |  | CS 7125 Cloud Computing |
| SWE 6763 Software Evaluation and Measurement |  | CS 7455 Mobile App Development |
| SWE 6783 User Interaction Engineering |  | CS 7535 Software and OS Security |
| SWE 6813 Web Service Engineering |  | CS 7827 Real Time Systems |
| SWE 6823 Embedded Systems |  | CS 7385 Human Factors |
| SWE 6863 Software Engineering Ethics and Legal Issues |  |  |
| SWE 6853 Design Patterns |  | Approved SYE coursesy |
| SWE 6883 Formal Methods in Software Engineering |  | SYE 6005 Introduction to Systems Engineering |
| SWE 6903 Special Topics |  | SYE 6025 Engineering Economic Analysis |
| SWE 6803 Independent Study |  | SYE 6035 Modeling and Simulation |

3 Students who were not assigned transition courses or were recommended to take SWE 6733 instead of SWE 6623 can take all the courses that have 5000-level courses and SWE 6623 as prerequisites (please contact [gradccse@kennesaw.edu](mailto:gradccse@kennesaw.edu) and cc [pspoleti@kennesaw.edu](mailto:pspoleti@kennesaw.edu) for assistance in registering

4 Please refer to <http://catalog.kennesaw.edu/preview_program.php?catoid=50&poid=5768&returnto=3635> to check the prerequisites of elective courses. Notice that each elective is 3 credit hours

5 SWE 6733 cannot count both as core course and elective

## Program Total 30 - 42 hours