

SOFTWARE DEVELOPMENT & ENGINEERING, MS

Campus: NYC, Westchester, Online

This program is one of the very few graduate programs in Software Development and Engineering in the entire New York City area. This 36-credit advanced program provides you with the opportunity to focus on the application of engineering principles to the development process and is distinguished by a rigorous, in-depth study of the problems of managing, designing, developing, delivering, and maintaining large software systems.

Students completing the MS in Software Development and Engineering program will be prepared to sit for the exam leading to the Certified Software Development Associate (CSDA) credential developed by the Computing Society of the IEEE, the world's leading organization of computing professionals. Students who successfully pass this exam will enter the field, or continue their careers, with both an impressive degree and a highly coveted certification; a powerful combination for professional advancement.

All incoming students are required to have an undergraduate or graduate degree in computer science or related experience.

Although competency in programming is required for admission into the program, any student lacking knowledge of the objectoriented paradigm will be required to take SE 602 Fundamental Computer Science I with Java. Credits taken for the preparatory course do not count toward the degree. However, the grade earned is computed into the student's GPA.

Code	Title	Credits
Preparatory Courses		
SE 602	Fundamental Computer Science I with Java	(4)
Core Requirements		
SE 616	Introduction to Software Engineering	4
SE 673	Software Design Methodologies	4
SE 675	Requirements Engineering	3
SE 677	Software Reliability & Quality Assurance	3
SE 679	Contemporary Software Engineering Theory and Practice	4
Recommended Electives		
Select 12 credits of the following:		12
<i>Software Engineering Electives</i>		
SE 700	Independent Study in Software Engineering	
SE 741	Formal Software Development	
SE 765	Distributed Software Development	
SE 770	Software Risk Management	
<i>Other Electives</i>		
IS 637	Information Systems Project and Change Management	
IS 639	Information Systems Planning and Policy	
CS 639	Mobile Application Development	
CS 653	Cryptography and Computer Security	
IT 660	Network Security	
IT 662	Web and Internet Security	
Capstone		
Select six credits from the following options:		6
<i>Option 1</i>		
SE 000	SE-Advanced Elective	
SE 785	Software Engineering Studio	
<i>Option 2</i>		
SE 701	Software Development Thesis I	
SE 702	Software Development Thesis II	
<i>Option 3</i>		
SE 000	SE-Advanced Elective	
IEEE 000	IEEE Certification ¹	
Total Credits		36

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¹ IEEE Certification is equivalent to 3 credits of graduate-level coursework.