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, and it can be completed on-campus or online (https://online.pace.edu/graduate-programs/ms-in-software-development-engineering/). 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 object-oriented 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.

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>SE 602</td>
<td>Fundamental Computer Science I with Java</td>
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### Preparatory Courses

**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

### Core Requirements

**Recommended Electives**

Select 12 credits of the following: 12

**Software Engineering Electives**

**SE 700** Independent Study in Software Engineering

**SE 741** Formal Software Development

**SE 765** Distributed Software Development

**SE 770** Software Risk Management

**Other Electives**

**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

**Option 1**

**SE 000** SE-Advanced Elective

**SE 785** Software Engineering Studio

**Option 2**

**SE 701** Software Development Thesis I

**SE 702** Software Development Thesis II

**Option 3**

**SE 000** SE-Advanced Elective

**IEEE 000** IEEE Certification

Total Credits 36
IEEE Certification is equivalent to 3 credits of graduate-level coursework.