



STEVENS

INSTITUTE of TECHNOLOGY

School of Systems & Enterprises

MASTER OF SCIENCE
GRADUATE CERTIFICATES



SOFTWARE ENGINEERING

*Agile Thinkers.
Innovative Designers.
21st Century Builders.*

The 21st century is all about software. From our phones, to our cars, to our search engines, software is the building material of choice in today's computer-centric world.

At Stevens, our graduate program in software engineering combines the fundamentals of computing, design and engineering to give our students the foundation to envision, design and build the software systems of the future.



STEVENS.EDU/Software



MASTER OF SCIENCE

With businesses and institutions rapidly integrating new technologies, there is an enormous demand for software engineers who are cognizant of the latest techniques in computing and are armed with the skillset to construct reliable, responsive, safe and secure software systems.

The Master of Science in Software Engineering was designed to build the next generation of skilled and innovative software engineers and architects. It provides students with a strong foundation in all aspects of software creation, from envisioning new products, through design and build, testing and maintenance, and overall project management. Because technology keeps changing, students learn how to select and adopt new technology, in order to stay current and relevant in their professional careers.

Our graduates are exceptionally well prepared for careers of increasing responsibility across a broad range of companies including software, healthcare, technology, aerospace, finance, manufacturing, information systems and, of course, tech start-ups.

The master's degree consists of 8 required core courses and 2 electives. Students with extensive experience may be able to place out of SSW 540, with advisor permission.

Required Core Courses

SSW 540 Fundamentals of Software Engineering

SSW 564 Software Requirements Engineering

SSW 565 Software Architecture and
Component-Based Design

SSW 695 Software Engineering Studio
(Capstone - Phase 2)

SSW 555 Agile Development Methods

SSW 567 Software Testing and Quality Assurance

SSW 533 Software Estimation and Measurement

SSW 690 Software Engineering Studio (Phase 1)

“Getting a master’s degree from Stevens has been an outstanding investment towards my career as a software engineer in IT services. The program’s theoretical and practical structure has helped me better understand concepts involved in managing software projects and products end-to-end. The faculty’s industry understanding and academic knowledge provided a real-time, up-to-date learning experience for me. I would definitely recommend the program to anyone looking for a top-notch education and opportunities beyond what you ever expected.”

Adam Platt

MS, Software Engineering, 2012

“Employment of software developers is projected to grow 30 percent from 2010 to 2020, much faster than the average for all occupations.”

— U.S. Bureau of Labor Statistics

CAREERS ►

Software Developer
Systems/Software Architect
Requirements Engineer
Software Applications Engineer
Application Developer
Testing Engineer
Project Manager
Software Engineer

TOP HIRING FIRMS ►

Accenture
AT&T
Cisco
IBM
Lockheed Martin
Rockwell Collins
Verizon

GRADUATE CERTIFICATES (Four-course, 12 credits)

Stevens offers graduate certificates for practitioners interested in improving their understanding of specific areas of software and for students considering new career paths. All courses taken as part of a graduate certificate can be applied toward a master's degree.

Course listings for graduate certificates can be found at stevens.edu/sse/graduate-certificates.

INTENDED AUDIENCE ▶

Whether you are a current software engineer looking to advance your career or someone who wants to become one, the software engineering program at Stevens is designed to meet your educational and skill needs.

No Formal Computing Background?

There have always been different pathways to careers in computing. Some of the best programmers have been music majors or philosophy majors, or, like Steve Jobs, calligraphy students. At Stevens, because of our industrial experience, we know that successful software engineers come from diverse backgrounds. We offer a unique opportunity for those without an engineering degree or a computing background. All you need are good GRE scores and quantitative skills. You may need to take some programming ramp courses and possibly a summer bridge.



Already Have a Computer Science Degree or Working in the Industry?

The master's program is designed to accelerate your career and enable you to take on increasing leadership and management responsibilities. You'll get the chance to envision, design and build systems that are better, faster and cheaper. The program will prepare you to be among the leading architects and project managers of 21st century software systems.

Interested in Cybersecurity?

Security is one of the top concerns in our software systems today. Security can never be "added on" a system. It must be designed and built in from the beginning. Our program is one of the first to implement the Department of Homeland Security's Master's of Software Assurance curriculum recommendations, and we did it by incorporating it into our core courses. For those students who wish to specialize in security and trusted systems, we offer in-depth electives* and concentrations.

**Selection of electives must be approved and coordinated with a faculty advisor.*

The Stevens Software Engineering Advantage

- **Our Program:** Rigorous hands-on, project- and team-based program that exceeds the IEEE/ACM software engineering curriculum standards
 - Strong theoretical basis with studio courses and internships for real-world experience
 - Ramp courses for those with little computing backgrounds
 - Small classes for interaction with faculty and other students
- **Our Faculty:** Distinguished, experienced faculty from both industry and academia
- **Our Location:** Located in Hoboken, NJ, on the Hudson River across from New York City, the world's financial hub and home to thousands of tech companies
- **Our Industrial Relationships:** Internships and graduate placements at major institutions such as Accenture, AT&T, Cisco, IBM and Verizon

Scholarships and financial aid for qualified applicants



RELEVANT CURRICULUM

Stevens graduate courses are designed by researchers and practitioners for practitioners. Utilizing an Open Academic Model, the School of Systems and Enterprises (SSE) leverages global partnerships with industry and government to provide highly relevant and engaging curriculum tailored to the real-world education and skill competency needs of practitioners.

UNIQUELY QUALIFIED FACULTY

Stevens brings together institute-wide faculty who are industry experts and practitioners, researchers and academics, with students who are committed to learning in a dynamic, diverse and engaged community. Stevens faculty possess a wealth of industry and government experience, and expertise across diverse domains, including aerospace, information technology, security, telecommunications, finance and defense.

FLEXIBLE DELIVERY OPTIONS

Stevens Institute of Technology delivers its courses in convenient, flexible delivery formats including:

- Traditional semester courses held one evening a week for 15 weeks
- Online via our award-winning Stevens WebCampus
- On-site at industry and government sponsor locations worldwide

ADMISSION REQUIREMENTS

Applicants may apply online at stevens.edu/applications

- Completed application for admission
- \$60 non-refundable fee
- An undergraduate degree with a “B” average or better from an accredited college or university
- Official transcripts from all institutions attended
- Two letters of recommendation
- GREs for full-time students and for students without an undergraduate degree in engineering or computer science.



CONTACT

DR. GREGG VESONDER
INDUSTRY PROFESSOR; PROGRAM MANAGER,
SOFTWARE ENGINEERING
EMAIL: GVESONDE@STEVENS.EDU

STEVENS INSTITUTE OF TECHNOLOGY

CASTLE POINT ON HUDSON
HOBOKEN, NEW JERSEY 07030
PHONE: 800.496.4935
FAX: 201.216.8044
E-MAIL: SSE.ASSIST@STEVENS.EDU



STEVENS.EDU/Software