GRADUATE PROGRAMS IN
ENTERPRISE AND CLOUD COMPUTING

MASTER OF SCIENCE
DOCTORAL DEGREE
GRADUATE CERTIFICATES

STEVENS.EDU/GRAD-ECC
Enterprise and cloud computing is a burgeoning field that’s changing the way information technology is managed across industries. Many companies have moved their software operations into the cloud. The cloud provides the backbone for mobile apps, supplying the remote services that such apps depend on. And “big data” processing platforms such as Hadoop and distributed “NoSQL” databases such as Bigtable, Dynamo and Cassandra are forming the basis of an emerging operating system for the cloud.

Stevens’ Master of Science in Enterprise and Cloud Computing program prepares you to develop and deploy enterprise applications in the cloud and to understand the security and privacy aspects of these applications and their interaction with mobile computing. You’ll learn how to take a leadership role in using the cloud to provide greater scalability and manageability over traditional approaches. And you’ll gain hands-on experience developing front-end applications that use cloud-based services and back-end applications that gather and process data from mobile and web applications.

Stevens provides an in-depth understanding of enterprise computing from both the reliability and the security points of view. You will learn enterprise computing “in the large,” including enterprise application integration, domain-driven design, software architectures (e.g., SOA, EDA, REST) and advanced distributed architectures such as peer-to-peer. You will understand the role of virtualization and distributed systems in underpinning cloud infrastructure. You will learn the technical, management and legal aspects of enterprise security and privacy.
CAREER OPPORTUNITIES

- Computer Systems Analyst
- Enterprise Software Architect
- Cloud Architect
- Cloud Big Data Specialist
- Information Systems Manager
- Software Engineer
- Web Developer
- Mobile App Developer

TOP HIRING ORGANIZATIONS

- Amazon
- JPMorgan
- Nomura
- Google
- Salesforce
- VMware
- Adobe
- Cisco Systems
The program requires the completion of at least 30 credits at the graduate level. This includes four core courses. Remaining elective courses may be selected from computer science and free electives from other disciplines, with a maximum of three courses outside of computer science.

**CORE COURSES INCLUDE**

- Enterprise and Cloud Computing*
- Distributed and Cloud Computing
- Enterprise Software Architecture
- Enterprise and Cloud Security
- Mobile Systems and Applications*
* Either or both may be selected.

**ELECTIVE COURSES INCLUDE**

**Security and Privacy**
- Privacy in a Networked World
- Fundamentals of Cybersecurity
- Database Security

**Data Management**
- Knowledge Discovery and Data
- Data Mining II: Advanced Algorithms for Big Data
- Data Management and Exploration on the Web

**Mining**
- Web Programming
- Database Management Systems

These are suggested electives. Students may select other electives, including up to three free electives, with the permission of their academic advisor.

**DOCTORAL PROGRAM IN COMPUTER SCIENCE**

The Ph.D. program in computer science is designed for those who want to make an impact on the future of computer science or advance it in academia. As a doctoral student, you will work in world-class research labs with acclaimed faculty members who will advise you in research areas such as security, programming languages, computer graphics and vision, software engineering and computer networking. Stevens offers a number of federally supported research programs, allowing some doctoral candidates to be fully funded.
The Center for the Advancement of Secure Systems and Information Assurance (CASSIA)

A centerpiece of cybersecurity research at Stevens is the Center for the Advancement of Secure Systems and Information Assurance. CASSIA’s mission is to foster collaboration and act as a catalyst for research, education and entrepreneurship in information assurance and cybersecurity. It is a nexus for:

- Basic and applied research in secure, dependable and sustainable computing and communications systems
- Exploration of the implications for information assurance and cybersecurity of ubiquitous computing and other visionary scenarios
- Anticipation of cultural evolution resulting from the inception of innovative technologies such as social networking
- Public-private partnerships for threat assessment, response and technology development and deployment
- Education of professionals in security technologies, policy and commerce
- Education of non-technical users – children, parents, teachers and small-business owners

RESEARCH

Stevens offers 12-credit graduate certificate programs in engineering and science for those who want to improve their skills, make a career change or resume an academic path. Courses may be applied toward a master’s degree. Certificates are available in:

- Databases
- Cybersecurity
- Enterprise Security and Information Assurance
- Enterprise and Cloud Computing
- Distributed Systems
- Health Informatics

GRADUATE CERTIFICATE PROGRAMS
WHO SHOULD APPLY

We welcome applicants who are interested in pursuing careers in the development and support of cloud-based applications, including enterprise, mobile and big data applications. You can apply with an undergraduate degree in computer science.

Application requirements include:
- Bachelor’s degree, with a minimum GPA of 3.0, from an accredited institution
- Official college transcripts
- Two letters of recommendation
- TOEFL/IELTS scores (for international students)
- A competitive GRE or GMAT score*

* GRE/GMAT is not required for part-time students.

ABOUT STEVENS INSTITUTE OF TECHNOLOGY

Stevens Institute of Technology, The Innovation University®, is a premier, private research university situated in Hoboken, N.J. overlooking the Manhattan skyline. Founded in 1870, technological innovation has been the hallmark and legacy of Stevens’ education and research programs for more than 145 years. Within the university’s three schools and one college, 6,600 undergraduate and graduate students collaborate with more than 290 full-time faculty members in an interdisciplinary, student-centric, entrepreneurial environment to advance the frontiers of science and leverage technology to confront global challenges. Stevens is home to three national research centers of excellence, as well as joint research programs focused on critical industries such as healthcare, energy, finance, defense, maritime security, STEM education and coastal sustainability.

ABOUT SCHAEFER SCHOOL OF ENGINEERING & SCIENCE

The Charles V. Schaefer, Jr. School of Engineering & Science (SES) is dedicated to preparing the next generation of technology leaders by offering a multi-disciplinary, design-based education. With eight departments and an intensive curriculum for undergraduates, master’s and doctoral candidates, SES is dedicated to supporting hands-on learning, research and technology transfer that provides each student with invaluable, experiential knowledge. SES is globally recognized for its world-class faculty and leading-edge research facilities.

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