

Stevens Institute of Technology 2006-2007 Catalog

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Introduction to Stevens



THE STEVENS MISSION

Stevens Institute of Technology educates and inspires students to acquire the knowledge needed to lead in the creation, application, and management of technology and excel in solving problems in any profession.

The undergraduate curriculum is built on a multidisciplinary core in the applied sciences, computer science, business, engineering, and the liberal arts, stressing the fundamental concepts, techniques, and attitudes that underlie different branches of technology. This exposes students to a broad knowledge of several disciplines while giving them the opportunity to focus on a special interest, as well as adhere to a long-standing honor system. The graduate programs educate professionals to advance in industries increasingly influenced by technology and enable scholars to explore the frontiers of their disciplines. Research at Stevens strengthens education, and a scholarly and supportive community of faculty, students, staff, alumni, trustees, and other friends fulfills the mission.

An extension of this collaboration is the concept of **Technogenesis**, the educational frontier wherein faculty, students, and colleagues in industry jointly nurture the process of conception, design, and marketplace realization of new technologies. The implementation of Technogenesis enables the Institute to enter a new direction in the twenty-first century and to add a third dimension to the structure of higher education.

LOCATION

Since 1870, Stevens' residential, park-like campus has been located atop Castle Point on Hudson in Hoboken, New Jersey, overlooking the Hudson River and the entire New York City skyline. This close proximity enables students to easily interact with working professionals through cooperative education, internships, and industry mentorships. Undergraduates also take advantage of the multitude of cultural and social opportunities not found on any other college campus.

ACADEMIC APPROACH FOR UNDERGRADUATES

Stevens is committed to preparing its graduates to excel in any career of their choosing. Twenty-first century careers are increasingly rooted in ever-changing technologies and Stevens graduates - with a strong and versatile background in engineering, the sciences, business, and technology - have a significant advantage in achieving leadership roles. This advantage results from Stevens' continual efforts to integrate the essentials of liberal and professional studies in order to educate highly-resourceful students who excel with concepts and ideas, as well as with facts and quantitative skills.

All curricula are continuously updated to coincide with the Stevens mission, as well as the university's leadership role within the rapid technological changes taking place in the world. The science program is built on a solid foundation that is common to all of the sciences and prepares undergraduates to work at the frontiers of discovery and contribute to the well-being of humanity. The required sequence of humanities courses emphasizes the importance of being able to reason clearly and analytically and to write effectively. Our unique business program answers the call from leading corporations for talented graduates who understand the languages of business, as well as science and technology. It also exemplifies our goal to prepare and educate leaders of the twenty-first century.

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THE OFFICE OF GRADUATE ADMISSIONS

The mission of the Office of Graduate Admissions is to provide high-quality education beyond the Bachelor's degree in specific areas of engineering, science, and management. The Office of Graduate Admissions promotes a rigorous, scholarly environment with strong, cross-disciplinary links supporting world-class education, research, and technical applications. It strives to assure the continual relevance of its programs and keeps the community keenly aware of national and international needs, developments, and trends in education, research, and technology.

At the Master's level, a strong emphasis is placed on providing the flexibility required for responding to a rapidly changing technological environment. In addition to reaching the boundaries of current technological practice, the rigor necessary for more advanced studies in Ph.D. and Engineer programs is provided.

At the Ph.D. level, students are prepared to make important contributions at the frontiers of their disciplines in leading universities, industrial and governmental laboratories, and production facilities. Engineering graduates are equipped to work at the leading edge of engineering design, development, and management.

The Office of Graduate Admissions also provides outstanding Continuing Professional Development programs in order to assist industry in competitive national and international markets, to be of service to the professional community, and to help government fulfill its responsibilities.

The Office of Graduate Admissions is committed to continually assuring the quality and availability of resources required to support excellence in departmental and interdisciplinary educational and research programs. It certifies the quality of its programs with respect to admissions, content and level of instruction, and establishes standards of excellence for those completing its programs.

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A HISTORY OF LEADERSHIP IN TECHNOLOGY

In 1982, Stevens was the first institution to require all undergraduates to own and use a personal computer. In the mid 1980s, Stevens provided network access from all residence hall rooms to the campus network and the Internet, and in the late 1990s Stevens completely replaced all networking within its residence halls to support gigabit-speed networking.

Building on those bold, technologically-advanced initiatives, Stevens began providing all new, first-year undergraduates with a notebook computer in 1999. The use of networked notebook systems, as well as the availability of an extensive quantity of desktop PCs and server systems, the web server, high-speed connections to the Internet, and the comprehensive campus-wide wired and wireless network, are part of the infrastructure that supports the integration of technology throughout courses and campus life.

Today, Stevens is among the [25 Most Connected Campuses](#), according to Forbes.com and The Princeton Review. Stevens students have unlimited access to a broad range of information technology and resources, including the Internet. During class, as part of their instruction with faculty, and afterwards, while working on assignments with peers or surfing the Web from Café on the Hudson, our cybercafé, Stevens students can communicate via networked computers with other students, professors, and experts from Stevens and around the world. Students can also apply for admission, register for classes, review course information and assignments, conduct research, view their grades, transcripts and account status, and pay their bills electronically. Stevens students can tap directly into the network from campus residence halls and locations throughout the campus, including the kiosks in the modern Student Service Center, or via a modem from off-campus.

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THE COMPUTER-INTEGRATED CURRICULUM

Upon matriculation to Stevens, all entering students are encouraged to attend workshops to learn about the Stevens network and how to access networked resources from their personal computer. Assistance using a notebook or desktop computer and other campus computing and networking resources is provided by Information Technology User Services via phone, e-mail, in person, or by residence hall technology assistants. In addition, the Computer Center offers extensive seminars to learn how to use new technologies available on campus.

Personal computers enable our students to have a clearer vision of, and deeper insight into, course content without sacrificing fundamental knowledge and concepts. Simultaneously, students receive unlimited, unimpeded access to a wide variety of information resources. In addition to the personal computers, server systems, and notebook-networked classrooms on campus, each academic department has its own specialized computer laboratory for research and instruction. These consist of workstations, midrange computers, and specialized equipment from many vendors. The result is a seamless and essentially transparent web of computing and information systems at one's fingertips. As a result, Stevens graduates are exceptionally well prepared to thrive and flourish in the networked professional world.

ALUMNI AND SUCCESS

Stevens students have a history of gaining great success upon graduation.

- A Virginia Military Institute survey based on Standard & Poor's and The National Center for Education Statistics ranks Stevens 11th among the top 550 colleges that have produced presidents, vice presidents, and directors of U.S. companies, in proportion to their number of graduates.
- Stevens graduates have extraordinary success passing the rigorous New Jersey Engineer-in-Training Exam (EIT), the first step toward professional registration.
- Further evidence of Stevens' success is the overwhelmingly high acceptance rate, 90 percent, for graduates who apply to medical schools, compared to the national rate of only 50 percent.
- The percentage of Stevens undergraduate engineering alumni who go on to earn their Ph.D. ranks third to those of MIT and Cal. Tech.

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ACCREDITATION

Stevens has earned numerous accreditations. These include engineering accreditations in the following disciplines: chemical, civil, computer, electrical, environmental, and mechanical engineering, engineering management, and computer science, from the Accreditation Board for Engineering and Technology. In addition, the American Chemical Society accredits the chemistry program. The Commission on Higher Education of the Middle States Association of Colleges and Schools, an institutional accrediting agency recognized by the U.S. Secretary of Education and the Commission on Recognition of Postsecondary Accreditation, accredits Stevens Institute of Technology.

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