FOR FURTHER INFORMATION
Visit our website: http://sse.stevens.edu/sse/BEEM
Or contact:
Dr. Kathryn Abel
Director, Undergraduate Academics
School of Systems and Enterprises
Stevens Institute of Technology
Castle Point on Hudson
Hoboken, NJ 07030
Phone: 201-216-8647
E-mail: Kathryn.Abel@stevens.edu

Program Location
Classes are held at the Stevens campus. Stevens is a private university located on the banks of the Hudson River in Hoboken, New Jersey. Hoboken is "precociously hip" and one of the Top 25 Towns in New Jersey according to New Jersey Monthly magazine.

EN ENGINEERING MANAGEMENT AT STEVENS
The Engineering Management program at Stevens provides an interdisciplinary blend of engineering management, systems engineering, information systems and management science subjects affording the engineer with formal education in the mathematical, human, financial, and management skills necessary to develop high quality, cost efficient, technically complex systems, products and processes.

High-technology companies in consulting, financial services, information technology, manufacturing, pharmaceutical, telecommunications, and other industries utilize the concepts and tools of Engineering Management (EM) such as project management, quality management, engineering economics, modeling and simulation, systems engineering and integration, and statistical tools. These technology-based companies recruit EM graduates for their expertise in these tools and techniques and to fill a critical need of integrating engineering and business operations.

Bachelor of Engineering in Engineering Management
at STEVENS INSTITUTE OF TECHNOLOGY

SCHOOL OF SYSTEMS AND ENTERPRISES
What is Engineering Management

A major portion of the engineers’ role has changed from solely performing technical operations to being involved in the integration of engineering, technology and business operations. With this shift in the engineering/business environment, the education of engineers must reflect this changing demand as well. The Engineering Management discipline fills this critical education need by graduating engineers who understand the increasing demand for efficiency, effectiveness, and integration in engineering and business operations across varied industries.

Engineering Management offers a great combination of:

- Engineering and technical skills which are the same as all other engineers
- Human skills of communicating, teaming, leading and managing
- Business skills of process management, systems, integration, and analysis

Engineering Management is a Bachelor of Engineering degree which provides the same engineering courses as all other engineers. Plus it is designed to provide additional learning in the necessary skill areas such as:

- Engineering design and analysis
- Systems Engineering
- Logistics and Supply Chain Management
- Accounting and Business Analysis
- Management of Information Networks
- Quality, Process and Project Management
- Business Process Reengineering
- Operations Research
- Operational Effectiveness

By combining courses in systems, engineering, and management, we provide the right mix of technical and management content to prepare engineers and scientists to assume positions of increasing responsibility. The information age has produced problems that are complex, interdisciplinary, and economically driven. More companies require their engineering personnel to obtain the skills that can increase and improve efficiency and effectiveness within a product, process or a system. Our Engineering Management program is designed by industry to meet these challenges. Through the use of multiple delivery methods, we have developed a program that is on the leading edge of engineering education.
The Bachelor of Engineering in Engineering Management (BEM) program, within the School of Systems and Enterprises (SSE), provides an education based on a strong engineering core complemented by studies in business. The BEM program requires 46 Courses (equivalent to 139 credits) and is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). Most EM students choose to pursue concentrations and/or minors.

**Concentrations**

EM students can select their concentration elective courses among technical electives and three general electives to maintain a strong engineering core. Some of the students may wish to cluster their electives in ways that would help them gain expertise in a specific area of specialization within Engineering Management. The following groupings are possible concentration areas that students can select from within the EM program.

* Financial Engineering
  - FE 530 - Intro to Financial Engineering
  - EE 460 - Financial Risk Management
  - Electives
  * Students in the Financial Engineering concentration should take E243 and E364 in place of E365.

**Minors**

Students that wish to gain more exposure to topics outside of the core EM curriculum may choose to enroll in a minor. Popular options include Economics, Entrepreneurship, Green Engineering.

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**Bachelor of Engineering in Engineering Management**

**Curriculum**

**Freshman Year**

**Term I**
- General Chemistry I (3-0-3
- Science Elective (3-0-3

**Term II**
- General Chemistry Lab I (0-3-1
- Physics I (3-0-3
- Differential Calculus (2-0-2
- Calculus of Two Variables (2-0-2
- Eng Experiences I (1-0-0
- Engineering Graphics (0-2-1
- Intro to Programming (1-1.5-2
- Writing and Communication (3-0-3
- Knowledge, Nature, Culture (3-0-3

**Sophomore Year**

**Term III**
- Differential Equations (4-0-4
- Engineering Design IV (2-3-3
- Mechanics of Solids (4-0-4
- Engineering Design III (0-3-2
- Circuits & Systems (2-3-3
- Informatics (3-0-3
- Humanities (3-0-3
- General Elective (3-0-3

**Term IV**
- Multivariate Calculus (3-0-3
- Engineering Design V (0-3-2
- Materials Processing (3-0-3
- Accounting & Business Analysis (3-3-4
- Process Quality & Management (3-0-3
- General Elective (3-0-3

**Junior Year**

**Term V**
- Fluid Mechanics/Transport (3-3-4
- Engineering Design VI (1-3-2
- Mechanical Calculus (3-3-3
- Economic Analysis (3-3-4
- Project Management (3-0-3
- Knowledge, Nature, Culture (3-0-3

**Term VI**
- Introduction to System Architecture & Design (3-0-3
- Financial Engineering (3-0-3
- Systems Engineering (3-0-3
- Engineering Graphics (3-0-3
- Internship (16-16-11)

**Senior Year**

**Term VII**
- Engineering Design VII (1-7-3
- Data Mining & Risk Analysis (3-0-3
- Logistics & Supply Chain Management (3-0-3
- General Elective (3-0-3
- Knowledge, Nature, Culture (3-0-3

**Term VIII**
- Operations Research (3-0-3
- Writing and Communication (3-0-3
- Knowledge, Nature, Culture (3-0-3
- General Elective (3-0-3
- General Elective (3-0-3

**Total Hours**
- Freshman Year: 12-9.5-16
- Sophomore Year: 16-3-16
- Junior Year: 15-10.5-20
- Senior Year: 16-7-18
- Total: 60-26.5-66

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Employment and Career Options

Stevens Engineering Management education is viewed by alumni and employers alike as the key to a breadth of career options and job advancement due to its focus on systematic, strategic decision making. By combining business, engineering, management, and technology, the Engineering Management degree provides the optimum set of skills needed to solve the interdisciplinary challenges of today's technological companies. The New York / New Jersey metropolitan area is a center for the financial services, pharmaceutical, manufacturing, defense information technology, and telecommunications industries of the world. The Stevens Engineering Management degree is designed to provide the necessary skills for graduates to be successful in these technology driven industries or as entrepreneurs in the 21st century economy.

"Management is the typical career path of engineers. Over two-thirds of engineers will spend two-thirds of their careers as managers."

Daniel Babcock
American Society for Engineering Management

Starting Salary
The average starting salary for Engineering Managers normally is one of the higher starting salaries for engineers at Stevens consistently averaging above $61,000 for the past five years. A survey was conducted to identify Engineering Management Undergraduate Student employment in 2011 and 2012. At the time of graduation a range of 74% - 76% of Engineering Management graduates have employment offers and six months after graduation, the range increases to 92% - 93%.

Potential Employers
Engineering Management graduates are in demand in varied industries such as the following: services, technology, manufacturing, research and development. Within these arenas are listed companies that have hired Stevens Engineering Management graduates within the past five years:

Financial Services – Alliance Bernstein, Barclays Capital, Deutsche Bank, Ernst & Young, Fidessa, Goldman Sachs, Jones Lang LaSalle, RBC Capital Markets, Standard & Poors, UBS
Consulting – Accenture, Avanade, Booz Allen Hamilton
Pharmaceutical/Chemical/Health – Becton Dickinson, Johnson & Johnson, Novartis Pharmaceuticals, Sun Chemical
Defense/Government – Hamilton Sundstrand, Picatinny Arsenal, United States Army, FAA, MTA
Energy – Constellation Energy, Creston Electronics, ExxonMobil, Mosto Technologies, Solexis
Telecom – IBM, Verizon
Manufacturing/Engineering – Anheuser Busch, BMW, Brisk Waterproofing, C&G Pipecoaters, Hertz, Hunter Douglas, InteSoft Technology Corp, Menshen, Pacific Controls, Pepsi
Logistics – The Children’s Place, Toys R Us, UPS

Job Titles
Engineering Management graduates have varying interests and skills. These include manufacturing, financial services, logistics, engineering, technical sales, project planning and management and quality management and control. Typical job titles of recent graduates of the EM program are:

Financial Analyst
Investment Banking Analyst
Project Manager/Project Engineer
Industrial Engineer
Construction Manager
Technical Sales Representative
Consultant
Manufacturing Engineer
Production Supervisor
Supply Chain/Logistics Manager
Systems Engineer/Systems Analyst
Account Executive
Quality Engineer

2013 Average Starting Salary

Jobs by Industry (2008-'13)
Advanced Degrees Program

The School of Systems and Enterprises offers a unique “4+1 program” designed for Stevens undergraduate engineering students, of junior standing, who wish to jointly pursue a masters degree concurrently with their undergraduate degree. These students can enroll in either the Masters of Engineering in Engineering Management (MEEM) or a Masters of Engineering in Systems Engineering (MESE). The Master’s Degree in Systems Engineering or Engineering Management provides students with an interdisciplinary approach to the design of complex systems that will be effective, reliable and supportable throughout their operational life.

*Requires a formal interview and a grade point average (GPA) of at least 3.2.

Cooperative Education

The Cooperative Education program at Stevens provides “real-world experience” to students while they pursue their education. The success of the program is built on the capabilities and enthusiasm of the co-op students and the challenging work assignments provided by the co-op employers. About 50% of EM students are enrolled in the Cooperative Education Program.

At Stevens, we believe that cooperative education is first and foremost a powerfully effective educational process. Co-op is built on a theory/practice model of learning that unfolds through five increasingly sophisticated work assignments. In addition to the educational benefits, co-op helps students clarify and test their career goals and earn money to pay part of their college expenses.

Senior Design

Senior Design is the culmination of an engineering management education, typically spanning the three semesters in junior and senior year. The scope of the project is decided in discussion between a sponsor and the Stevens senior design coordinator. A suitable project is one that provides value to the sponsor, is appropriate to the time scale, and meets the academic requirements of the program.

Sponsorship provides a context for the project that can afford the students a meaningful bridge to the “real world” of professional work. In keeping with this, our goal is to have students work on cross-disciplinary teams so that they gain experience in the type of environment that they will experience in their careers.

Sponsored Senior Design can significantly benefit both the students and the sponsoring organization. Recent Industrial sponsors have included, the Federal Aviation Administration, the Department of Defense, Lockheed Martin, the Systems Engineering Research Center, United States Department of Energy, City of Hoboken (NJ), and the MTA.

Engineering Management Honor Society

Stevens Institute of Technology is the Beta chapter of Epsilon Mu Eta, the Engineering Management Honor Society. In addition to being eligible for engineering honor societies such as Tau Beta Pi, excellent academic and community service allows consideration for membership into the Engineering Management Honor Society as well.

American Society for Engineering Management

The American Society for Engineering Management (ASEM) exists to help its members to develop and improve their skills as practicing managers of engineering. Stevens has a chapter of ASEM which holds regular events for students on campus. Some of these events include resume writing workshops, career panel discussions, and visits with the US Military Academy at West Point’s chapter of ASEM.

Graduate Certificates

The School of Systems and Enterprises offers several four course, 12 credit Graduate Certificate programs geared to students who are interested in improving their current skills and technical competencies or who are considering multiple career paths. Graduate Certificate programs can also be used as a stepping-stone toward a Masters degree in Engineering Management, Enterprise Systems, Financial Engineering, and Systems Engineering.

Certificate Options

- Engineering Management
- Financial Engineering
- Logistics and Supply Chain Analysis
- Pharmaceutical Manufacturing Practices
- Project Management
- Systems Engineering and Architecting
- Systems Engineering Management
- Systems Supportability and Engineering
- Professional Development

Graduate Certificate programs provide a foundation for interested students to take certification exams in Project Management, Quality Management, and Systems Engineering or the prestigious Fundamentals of Engineering (FE) Exam (part of the Professional Engineer License). Students can also join professional organizations like the American Society of Engineering Management (ASEM), International Council on Systems Engineering (INCOSE), and the Engineering Management Honor society.
Awards and Accolades for the EM Program

Stevens Engineering Management Program is the second oldest ABET (Accreditation Board for Engineering and Technology) accredited program in the country and has received several awards in the past few years:

**Excellence in Leadership of Engineering Management Undergraduate Education** — (3 time winner & 2 time 1st runner up since 2001) – National Award in recognition of Stevens’ exemplary leadership in Engineering Management

**Founders Award** — (5x time winner since 2001) – National Award in recognition of Stevens’ student chapter of the American Society for Engineering Management can trace its roots at Stevens back to the formation of a Department of Business Engineering in 1902.

**Society for Engineering Management**
- **Bernard Sarchet Award** — (2 time winner since 2002) - Highest faculty award from the American Society for Engineering Management
- **Merli Baker Award** — (2 time winner since 2004) - Second highest award from the Engineering Management Division of the American Society for Engineering Education (ASEE) honoring those who have given exemplary service

**Engineering Management**

**FAA Design Competition** — In 2012, a Stevens Engineering Management Senior Design Team won first place nationally among all universities in the Airport Environmental Interactions category. The 2013 team placed 3rd among all universities in the Runway Safety category.

**Scholarships and Prizes** — Several scholarships and awards are available to Engineering Management students as listed below:
- Virginia and Kevin Ruesterholz $10,000 Scholarship
- The John Mihalasky Award — for Senior Design
- The Frederick Winslow Taylor Award — for a graduating senior
- The Humphreys/ Ennis/ Lesser Award — for a graduating senior
- Hans J. Lang Award — for a member of the Junior Class
- EIF Communications Prize — for senior design
- Office of Academic Entrepreneurship Technogenesis Prize

**In a 2012 Wall Street and Technology issue, capital markets executives listed Stevens Institute of Technology as one of their top 10 favorite schools for hiring engineering graduates.**

Stevens ranks 11th in the country in the percent of graduates who are serving as executives in Fortune 500 companies. Stevens also ranks 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.

**National Ranking**

Stevens Institute of Technology ranked among the top 25 universities in the nation for ROI for students in a study conducted by Bloomberg Business Week in 2011 and 2012, and ranked among the top 10 in 2013 by Payscale.com. These rankings are intended to help students and parents evaluate the “payback” value of a student’s undergraduate degree.

Frederick W. Taylor, class of 1883, and a Professor of Engineering Practice until 1915, is known as the “Father of Scientific Management.” Along with Taylor, Alexander C. Humphreys, Henry L. Gantt, and Hans J. Lang are just some of the Professors who have taught in the area of Engineering Management at Stevens.