Graduate Programs - I

List of Programs

Program areas are in italics; Concentrations are indented below the programs.

THE CHARLES V. SCHAEFER, JR. SCHOOL OF ENGINEERING

Chemical, Biomedical and Materials Engineering Department

- Chemical Engineering, M.Eng., CH.E., Ph.D.
  - Chemical Engineering
  - Polymer Engineering

- Materials Engineering, M.Eng., Ph.D.
  - Microelectronics and Photonics Science and Technology (Interdisciplinary)

Civil, Environmental and Ocean Engineering Department

- Civil Engineering, M.Eng.*, C.E.*, Ph.D.*****
  - Geotechnical/Geoenvironmental Engineering
  - Structural Engineering
  - Water Resources Engineering

- Construction Management, M.S. (Interdisciplinary)*

- Environmental Engineering, M.Eng.*, Ph.D.*****
  - Environmental Process
  - Groundwater and Soil Pollution Control
  - Inland and Coastal Environmental Hydrodynamics

- Maritime Systems, M.S.*
  - Environmental Engineering
  - Structural Engineering
  - Management
  - Marine Transportation

- Ocean Engineering M.Eng.*, Ph.D.*****
  - Coastal Engineering
  - Hydrodynamics
  - Naval Architecture
  - Oceanography

Electrical and Computer Engineering Department

- Computer Engineering, M.Eng., CP.E., Ph.D.
  - Computer Systems
  - Data Communications and Networks
  - Digital Systems Design
  - Image Processing and Multimedia
  - Software Engineering

- Electrical Engineering, M.Eng., E.E., Ph.D.
  - Computer Architecture and Digital System Design
  - Microelectronics and Photonics Science and Technology (Interdisciplinary)
— Signal Processing for Communications
— Telecommunications Engineering
— Wireless Communications

• Networked Information Systems, M.Eng.
  — Data Communication Networks
  — Information Networks
  — Multimedia Information Systems
  — Multimedia Technologies
  — Network Systems Technologies
  — Networked Information Systems: Business Practices
  — Business Practices
  — Secure Network Systems

Mechanical Engineering Department

• Mechanical Engineering, M.Eng.**, M.E.**, Ph.D.**
  — Manufacturing Systems
  — Product Design
  — Thermal Engineering

• Integrated Product Development, M.Eng.**
  — Armament Engineering
  — Electrical and Computer Engineering
  — Manufacturing Technologies
  — Systems Reliability and Design

• Product Architecture and Engineering, M.Eng.**

Systems Engineering and Engineering Management

• Engineering Management, M.Eng., Ph.D.

• Systems Engineering, M.Eng., Ph.D.

THE ARTHUR E. IMPERATORE SCHOOL OF SCIENCES AND ARTS

Chemistry and Chemical Biology Department

• Chemical Biology, M.S.
  — Bioinformatics

• Chemistry, M.S., Ph.D.
  — Analytical Chemistry
  — Chemical Biology
  — Organic Chemistry
  — Physical Chemistry
  — Polymer Chemistry

Computer Science Department

• Computer Science, M.S.***, Ph.D.****
  — CyberSecurity
  — Quantitative Software Engineering

• Quantitative Software Engineering, M.S.*
Mathematical Sciences Department

- *Applied Mathematics, M.S.*
- *Mathematics, M.S., Ph.D.*****
- *Stochastic Systems Analysis and Optimization, M.S.*

Physics and Engineering Physics Department

- *Engineering Physics, M. Eng.**
  - Engineering Physics
  - Engineering Physics (Applied Optics)
  - Engineering Physics (Solid State)
  - Microelectronics and Photonics Science and Technology (Interdisciplinary)

- *Physics, M.S.**, Ph.D.**
  - Physics

THE WESLEY J. HOWE SCHOOL OF TECHNOLOGY MANAGEMENT

- *Executive Master of Business Administration in Technology Management, E.M.B.A. in TM*
- *Executive Master of Technology Management, E.M.T.M.*

- *Master of Business Administration in Technology Management, M.B.A. in TM*
  - Engineering Management
  - Financial Engineering
  - Global Technology Management
  - Information Management
  - IT in Financial Services Industry
  - IT in Pharmaceutical Industry
  - Project Management
  - Telecommunications Management

- *Management, M.S.****
  - General Management
  - Global Innovation Management
  - Human Resource Management
  - Information Management (also Ph.D.****)
  - Project Management
  - Technology Management (also Ph.D.****)

- *Information Systems, M.S.****
  - Computer Science (Interdisciplinary)***
  - E-Commerce***
  - Entrepreneurial IT***
  - Financial Services
  - Global Innovation Management
  - Human Resource Management
  - Information Management (also Ph.D.****)
  - Information Security
  - Integrated Information Architecture (Interdisciplinary)
  - Pharmaceuticals
  - Project Management
  - Quantitative Software Engineering (Interdisciplinary)
  - Systems Engineering (Interdisciplinary)
  - Telecommunications Management

- *Telecommunications Management, M.S.*
— Business Track
— Global Innovation Management
— Management of Wireless Networks
— On-line Security, Technology and Business
— Project Management
— Technical Management Track

INTERDISCIPLINARY

*Interdisciplinary, M.S.**, M. Eng.**, Ph.D.**
All Interdisciplinary students select two Program Areas.
* GRE is only required for international students and those applying for a fellowship or assistantship.
** GRE is recommended but not required.
*** GRE is required for international students, those applying for a fellowship or assistantship and those without an academic Computer Science background.
**** GMAT or GRE is required for Ph.D. students, international students and those applying for a fellowship or assistantship.
***** GRE is required.

Graduate Certificate Programs

All credits earned toward Graduate Certificates may be applied toward a Master's degree. Most Graduate Certificates are four graduate courses.

THE CHARLES V. SCHAEFER, JR. SCHOOL OF ENGINEERING

Chemical, Biomedical and Materials Engineering Department
Customized programs are available.
— Biomedical Engineering
— Microdevices and Microsystems (Interdisciplinary)
— Microelectronics (Interdisciplinary)
— Pharmaceutical Manufacturing Practices (Interdisciplinary)
— Photonics (Interdisciplinary)

Civil, Environmental and Ocean Engineering Department
— Atmosphere and Environmental Science and Engineering
— Construction Accounting/Estimating
— Construction Engineering
— Construction Law/Disputes
— Construction/Quality Management
— Environmental Compatibility in Engineering
— Environmental Hydrology
— Environmental Process
— Geotechnical Engineering
— Hydraulics
— Inland and Coastal Environmental Hydrodynamics
— Soil and Groundwater Pollution Control
— Structural Engineering
— Surface Water Hydrology
— Water Resources Engineering
— Water Quality Control

Electrical and Computer Engineering Department
— Computer and Communications Security
— Digital Signal Processing
— Digital Systems and VLSI Design
— Information Networks
— Information Systems Security
— Microdevices and Microsystems (Interdisciplinary)
— Microelectronics (Interdisciplinary)
— Multimedia Technologies
— Networked Information Systems
— Photonics (Interdisciplinary)
— Satellite Communications Engineering (Interdisciplinary)
— Secure Network Systems Design
— Wireless Communications
— Wireless Computing

**Mechanical Engineering Department**
— Advanced Manufacturing
— Air Pollution Technology
— Computational Fluid Mechanics and Heat Transfer
— Design and Production Management
— Ordinance Engineering
— Pharmaceutical Manufacturing Practices (Interdisciplinary)
— Power Generation
— Product Architecture and Engineering
— Robotics and Control
— Structural Analysis and Design
— Vibration and Noise Control

**Systems Engineering and Engineering Management Department**
— Agile Systems Engineering and Design
— Economic Systems
— Engineering Management
— Systems and Supportability Engineering
— Systems Design and Operational Effectiveness
— Systems Engineering and Architecting
— Telecommunications Systems Engineering
— Value Chain Enterprise Systems

**THE ARTHUR E. IMPERATORE SCHOOL OF SCIENCES AND ARTS**

**Chemistry and Chemical Biology Department**
— Analytical Chemistry
— Bioinformatics
— Biomedical Chemistry
— Chemical Biology
— Chemical Physiology
— Laboratory Methods in Chemical Biology
— Polymer Chemistry

**Computer Science Department**
— Computer Architecture and Software Design
— Computer Graphics
— CyberSecurity
— Database Systems
— Distributed Systems
— Elements of Computer Science ‡
— Quantitative Software Engineering
— Software Design
— Theoretical Computer Science

**Humanities and Social Sciences Department**
— Professional Communications

**Mathematical Sciences Department**
— Applied Statistics
— Financial Engineering
— Stochastic Systems

**Physics and Engineering Physics Department**
— Applied Optics
— Microdevices and Microsystems (Interdisciplinary)
— Microelectronics (Interdisciplinary)
— Photonics (Interdisciplinary)
— Satellite Engineering (Interdisciplinary)
— Surface Physics
THE WESLEY J. HOWE SCHOOL OF TECHNOLOGY MANAGEMENT
— E-Commerce
— Engineering Management
— Entrepreneurial IT
— Global Innovation Management
— Human Resource Management
— Information Management
— Information Security
— IT for Financial Services Industry
— IT for Pharmaceutical Industry
— Management of Wireless Networks
— Project Management
— Technology Management
— Telecommunications Management

‡ No credit is given toward the Master of Science in Computer Science for CS 550, CS 580, CS 590 and Ma 502.

Corporate Site Graduate Programs

ADP - Parsippany, NJ
(99 Jefferson Rd.)
M.S. in Information Systems (MS/IS)

ADP - Parsippany, NJ
(15 Waterview Blvd.)
Project Management* (Graduate Certificate)

BAE Systems, CNI - Wayne, NJ
Electrical Engineering (M. Eng. in Electrical Engineering) †
Project Management (Graduate Certificate)
Systems Engineering (Graduate Certificate)

BASF - Mt. Olive, NJ
M.S. in Information Systems* (MS/IS)

Boeing – All Boeing Locations
Project Management* (M.S. in Management with Project Management Concentration)

Bristol-Myers Squibb - Skillman, NJ (and Merrill Lynch employees)
M.S. in Information Systems* (MS/IS)

Citigroup – New York, NJ
M.S. in Information Systems* (MS/IS)

Ethicon – Somerville, NJ
Engineering Management (Graduate Certificate)

Fort Monmouth - Eatontown, NJ
Computer Engineering* (M.Eng. in Computer Engineering)
CyberSecurity* (Graduate Certificate)
Electrical Engineering* (M.Eng. in Electrical Engineering) †
Networked Information Systems* (M.Eng. in Networked Information Systems)
Systems Engineering* (Graduate Certificate/M. Eng. in Systems Engineering)

Foster Wheeler - Clinton, NJ
Project Management (Graduate Certificate/M.S. in Management)

General Dynamics – Florham Park, NJ
Interdisciplinary Master’s Degree in Physics* (MS)

GlaxoSmithKline - Parsippany, NJ
Project Management (M.S. in Management)

Hanover Marriott – Whippany, NJ
M.S. in Information Systems* (MS/IS)

Headquarters Plaza Hotel – Morristown, NJ
Executive Master of Technology Management (EMTM)

Holiday Inn – Tinton Falls, NJ
Executive Master of Technology Management (EMTM)

Intel - Parsippany, NJ
Computer Architecture and Software Design* (Graduate Certificate)
Computer Science* (M.S. in Computer Science)

ITT - Clifton, NJ
Computer Science* (M.S. in Computer Science)
Digital Signal Processing* (Graduate Certificate)
Project Management* (Graduate Certificate)
Systems Engineering* (Graduate Certificate)

Johnson & Johnson - New Brunswick, NJ
M.S. in Information Systems* (MS/IS)

Lockheed Martin - Moorestown, NJ
CyberSecurity* (Graduate Certificate)
Information Management* (Graduate Certificate/M.S. in Management)
Project Management* (Graduate Certificate/M.S. in Management)
Quantitative Software Engineering* (Graduate Certificate)
Software Design* (Graduate Certificate/M.S. in Computer Science)

Merck & Co. – Rahway, NJ and Whitehouse Station, NJ
M.S. in Information Systems* (MS/IS)

National Security Agency (NSA) – Columbia, MD
Systems Design and Operational Effectiveness*

Naval Air Engineering Station - Lakehurst, NJ
Systems Engineering (Graduate Certificate/M.Eng./Ph.D. in Systems Engineering)

NECA (National Exchange Carrier Association) - Whippany, NJ
Telecommunications Management (Graduate Certificate/M.S. in Telecommunications Mgmt.)

Patuxent River Naval Base – Patuxent River, MD
Systems Design and Operational Effectiveness*

Picatinny Arsenal - Dover, NJ
Integrated Product Development (M.Eng. in IPD)
Mechanical Engineering (Graduate Certificate/M.Eng. in Mechanical Engineering)
Quantitative Software Engineering (MS in QSE)

Prudential - Newark, Roseland, NJ
M.S. in Information Systems* (MS/IS)

PSE&G - Newark, NJ
M.S. in Information Systems* (MS/IS)

Ramsey Middle School - Ramsey, NJ
M.S. in Information Systems (MS/IS)

Raritan Valley Community College - North Branch, NJ
Pharmaceutical Manufacturing Practices (Graduate Certificate)

Schering-Plough – Kenilworth, NJ
Pharmaceutical Manufacturing Practices* (Graduate Certificate)

UBS/PaineWebber - Weehawken, NJ
M.S. in Information Systems* (MS/IS)

Unilever Bestfoods North America - Englewood Cliffs, NJ
M.S. in Information Systems* (MS/IS)

Verizon - Thousand Oaks, CA; Marlboro, MA and Manchester, NH; Baltimore, MD and Silver Spring, MD; Freehold, NJ; New York, NY; Patchogue, NY; Philadelphia, PA; Irving, TX; Everett, WA
Telecommunications Management* (Graduate Certificate/M.S. in Telecommunications Mgmt.)

Verizon Wireless – Bedminster, NJ
Telecommunications Management* (M.S. in Telecommunications Management)

Verizon Wireless - Warren, NJ
M.S. in Information Systems* (MS/IS)

Program without asterisk - open to all Stevens students.
* Program at this site is open only to employees of this company.
† Entire degree is not offered at this site.