In today’s space community, change is the only constant. There is growing demand for professionals who can develop management and engineering solutions for today’s complex space systems challenges. Our space engineering master’s degree program prepares students to work effectively at the space-project level, ensure delivery of space projects and leverage a value-added systems-engineering approach to problem solving.

Graduates develop analytical and technical competencies, as well as the managerial skills needed to impact areas such as space and mission systems design, engineering, verification, validation and integration, providing them with the edge they need to excel in the dynamic space industry.
Master of Engineering in Space Systems Engineering

Knowledgeable professionals in government and industry are needed to design cutting edge space missions, systems and solutions to help solve the unique challenges faced by today’s increasingly evolving space community. Stevens offers a master’s degree in space systems engineering to equip graduates with technical knowledge, hands-on experience and a holistic understanding of systems engineering principles, tools and processes.

The master’s degree consists of ten courses, six required core courses and four electives, for a total of 30 credits.

Required Courses:

SYS 625 Systems Engineering Fundamentals
SYS 650 System Architecture and Design
SYS 632 Designing Space Missions and Systems
  or SYS 635 Human Spaceflight
SYS 633 Mission and System Design Verification and Validation
  or SYS 605 Systems Integration
EM 612 Project Management of Complex Systems
SYS 800 Master’s Project

Elective Courses:
Students choose a total of four courses from the two concentrations below:

Space Concentration Electives
SYS 632 Designing Space Missions and Systems
SYS 635 Human Spaceflight
SYS 636 Space Launch and Transportation Systems
SYS 637 Cost-Effective Space Mission Operations
SYS 638 Crew Exploration and Vehicle Design Exercise

Systems Concentration Electives
SYS 611 Modeling and Simulation
SYS 645 Design for System Reliability, Maintainability and Supportability
SYS 660 Decision and Risk Analysis
SYS 635 Human Spaceflight
World-Class Space Systems Engineering Education

Stevens Institute of Technology is a recognized provider of space systems engineering education to NASA employees and space industry professionals worldwide. Taught in partnership with Teaching Science and Technology, Inc., the Stevens School of Systems and Enterprises (SSE) offers a high-caliber graduate education that equips professionals with the tools needed to become technical leaders within the aerospace industry.

Graduate Certificates (4 courses, 12 credits)

For practitioners interested in improving their skills and technical competencies, and for students considering new career paths, Stevens offers graduate certificates. All courses taken as part of a graduate certificate can be applied toward a master’s degree.

Full course listings for graduate certificates can be found at: stevens.edu/sse/graduate-certificates

Space Systems Engineering

Space systems engineers with a holistic systems engineering and architecture perspective are able to integrate crucial activities spanning the entire life cycle. This program provides the backbone for space systems engineers to effectively contribute to space system and mission design with a focus on: operations, concept development, space system architecture, verification and validation, as well as key system engineering processes and tools.

- SYS 625 Fundamentals of Systems Engineering
- SYS 650 System Architecture and Design
- SYS 632 Designing Space Missions and Systems
  (or) SYS 635 Human Spaceflight
- SYS 633 Mission and System Design Verification and Validation
  (or) SYS 605 Systems Integration

Systems Engineering

Meeting customer needs requires systems engineers to leverage an interdisciplinary approach based on an “entire view” of missions and operational environments. This program prepares professionals with the capabilities of platforms, systems, operators and support to develop solutions paramount to an evolving industry.

- SYS 625 Fundamentals of Systems Engineering
- SYS 650 System Architecture and Design
- Electives: (select two courses from the following)
  - EM 612 Project Management of Complex Systems
  - SYS 605 Systems Integration
  - SYS 750 Adv. System & Software Architecture Modeling & Assessment
  - SYS 645 Design for Systems Reliability, Maintainability & Supportability
    (or) SYS 660 Decision & Risk Analysis
    (or) SYS 611 Modeling and Simulation
RELEVANT CURRICULUM

Stevens graduate courses are designed with a theory and implementation perspective. Utilizing an Open Academic Model, the School of Systems and Enterprises (SSE) leverages global partnerships with industry and government to provide a highly relevant and engaged curriculum tailored to the real world and the skill competency needs of practitioners.

UNIQUELY QUALIFIED FACULTY

Stevens Institute of Technology 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 experience and expertise across diverse domains, including aerospace, information technology, security, telecommunications, finance and defense.

ADMISSION REQUIREMENTS

Applicants may apply online at stevens.edu/applications

• Completed application for admission
• $60 non-refundable fee
• An undergraduate degree in engineering or in computer science or in a related discipline, with a “B” average or better from an accredited college or university
• Official transcripts from all institutions attended
• Two letters of recommendation

CONTACT

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