Beginning in the Fall of 2012, the School of Systems and Enterprises will offer a Minor in Systems Engineering open to all undergraduate engineering students enrolled in a major other than Engineering Management. (Non-engineering majors are not eligible for the SE Minor.)

OBJECTIVES

The objectives of the SE Minor are to enhance the ability of graduate engineers from traditional engineering disciplines to:

- Understand the larger system in which the elements provided by their discipline are a part
- Understand the context in which such systems operate, the customers they serve and the stakeholder needs they must satisfy
- Work across the boundaries between traditional disciplines to ensure that the system as a whole fulfills its purpose
- Appreciate the importance of interfaces and understand how to effectively work across them
- Collaborate with others of different disciplines and backgrounds as members of diverse teams

COURSE REQUIREMENTS

The Systems Engineering minor requires a total of 18 credits, six-courses, two of which must be in addition to those required to complete a student’s major degree program. Required courses for the minor are as follows:

1. Four required Systems Engineering/Engineering Management courses (to provide a broad understanding of complex systems and the activities required to develop them)
   - EM 275 Program Management
   - EM 385 Innovative System Design
   - EM 457 Elements of Operations Research
   - EM 585 Introduction to System Architecture and Design

2. One required humanities course (which may be taken using a humanities elective):
   - HPL 455 Ethical Issues in Science and Technology

3. One approved course from the major department that requires students to think beyond technology and individual components to address the interrelationships between the elements of a complex system (as specified in the table below):

   Approved Courses from the Major by Department are:
   (These courses may also satisfy requirements within the major department. Some may have prerequisites, which must be taken within the requirements for the major or as overload.)

   - **ELECTRICAL ENGINEERING**
     - EE 441 Introduction to Wireless Systems
     - EE 478 Control Systems
   - **COMPUTER ENGINEERING**
     - CPE 441 Introduction to Wireless Systems
   - **ENVIRONMENTAL ENGINEERING**
     - CHE 462 Chemical Process Control
   - **MECHANICAL ENGINEERING**
     - ME 421 Energy Conversion Systems
     - ME 483 Control Systems
   - **BIOMEDICAL ENGINEERING**
     - BME 504 Medical Instrumentation & Imaging
   - **CHEMICAL ENGINEERING**
     - CHE 462 Chemical Process Control
   - **CIVIL ENGINEERING**
     - CE 410 Transportation Engineering Design
   - **NAVAL ENGINEERING**
     - OE 524 Introduction to Ship Design & Ship Building

4. Students in the Systems Engineering Minor are also required to complete an interdisciplinary Senior Design Project, with their Minor Advisor serving as a co-advisor for the project.

ACADEMIC REQUIREMENTS

Entry to the minor will not be automatic - it will be by application only. Students who wish to apply must do so in writing and must:

- Possess a cumulative GPA of at least 3.3
- Have Practical Experience: At least one co-op assignment or one relevant summer internship approved by the SE Minor advisor
- Develop interdisciplinary Perspective: Students must complete an interdisciplinary Senior Design Project

Download and submit the completed application to SEminor@stevens.edu