Engineers touch our lives every day in an unprecedented way. From the iPhone in your pocket to the jetliner that carries you to your London vacation, engineers are responsible for a whole host of innovations which make our lives easier and more fulfilled. As the capacity for technology continues to advance at a quantum pace and new tools like nanotechnology are developed and commercialized, opportunities in the field of engineering are more abundant, exciting and rewarding than ever before.

Electrical Engineering
The College of Staten Island (CSI) has launched the Bachelor of Science in Electrical Engineering as a new degree offered by the Department of Engineering Science and Physics as of the Spring 2014 semester. CSI is the only school on Staten Island, the second institution within the City University of New York (CUNY) and one of only a handful in the greater metropolitan area offering this prestigious degree.

Calling the BS in Electrical Engineering “one of the classic and perhaps most prestigious of all engineering degrees,” CSI Professor and Associate Provost Dr. Syed Rivzi noted that “the high-tech field of Electrical Engineering has historically exhibited steady growth and has been the breeding ground for modern advances in telecommunications, automation and networking, among other technologies.” Students who earn their Bachelors of Science in Electrical Engineering are likely to earn excellent job placements in careers that offer both personal satisfaction and steady growth potential.

Job opportunities include positions with Con Edison, the Mass Transit Authority, National Grid, PSE&G, Verizon, IBM, the entire telecommunications industry and a host of high-tech startups. This degree also opens up a great path for CSI students planning on applying to graduate school.

Additionally, our students have an opportunity to obtain a double major in Engineering Science and Electrical Engineering.

Engineering Science
In today’s fast-changing technological world, engineering solutions to technical problems have a significant impact on every aspect of our lives. Most engineering projects involve a combination of electrical, computer and mechanical systems. At CSI, we understand how important it is for a practicing engineer to have strong backgrounds in each of these areas of engineering as well as to understand the impact an engineering solution has on different aspects of life, in general. Therefore, our approach to an undergraduate engineering education is unique. The first two years of the curriculum are designed to provide a solid foundation in the basic sciences, mathematics and general engineering fundamentals. Also provided is a solid foundation in the humanities and social sciences. The next two years of the curriculum develop more advanced principles of general engineering, instilling an understanding of complex systems and provide an opportunity for students to specialize in one of three engineering fields: electrical, computer or mechanical engineering. Our students are well-prepared to enter the job market, thanks to their ability to handle projects that span the range of electrical, computer and mechanical engineering. Additionally, the solid foundations established in electrical, computer and mechanical engineering enable our graduates to change job positions and industries in response to changing market conditions or personal interest.

CSI engineering students study in state-of-the-art laboratories. The program has several high-tech research laboratories that can provide opportunities for undergraduate students to participate in innovative research programs with faculty mentors. In our experience, we have found that students who qualify for research programs are also more highly employable in today’s engineering marketplace.

The engineering science program offers three specializations, each of which is usually taken in the senior year of the program, for students to explore and prepare for particular areas of engineering or to prepare for graduate work in a specialized field.

CSI is the only school on Staten Island, the second institution within the City University of New York (CUNY) and one of only a handful in the greater metropolitan area offering the prestigious B.S.E.E. degree.
These three specializations are:

- **Computer Engineering**: Computer Communications and Networking, Image and Video Processing, Multimedia Applications, Operating Systems
- **Electrical Engineering**: Electronics, Communications, Control Systems
- **Mechanical Engineering**: Elasticity, Energy Systems, Fluids and Heat Transfer

**Specialization in Computer Engineering**
The courses in the Computer Engineering specialization allow engineering science students to become proficient in the design, testing and evaluation of computer systems. These systems include microprocessors, signal processors, networks, telecommunication systems and telemedicine equipment.

In the capstone Engineering Design course given in the last two semesters of the four year sequence, students formulate, solve and properly document the solution of a real-world computer engineering problem.

**Specialization in Electrical Engineering**
The courses in the Electrical Engineering specialization allow our engineering science students to become proficient in the design, testing and evaluation of electrical/electronic systems. Lasers, fiber optics, microwaves, microprocessors, signal processors, control systems and communications technology are some examples of the systems studied within this specialization. In the capstone Engineering Design course given in the last two semesters of the four year sequence students formulate, solve and properly document the solution of a well-engineered real-world electrical engineering project.

**Specialization in Mechanical Engineering**
The courses in the Mechanical Engineering specialization allow our engineering science students to become proficient in the design, testing and evaluation of mechanical, energy and environmental systems. These systems are often found in automobiles, aircraft, marine vessels and spacecraft; as well as in manufacturing equipment, including numerically controlled machine tools, automated assembly lines and robotics. Energy systems studied are found in power plants, turbo-machinery, nuclear plants, automobile engines, turbojets and rockets. In the capstone Engineering Design course given in the last two semesters of the four year sequence, students formulate, solve and properly document the solution of a well-engineered real-world mechanical engineering project.

Students interested in environmental engineering work together with graduate students in environmental science studying water pollution, air pollution, risk analysis and modeling and optimization of environmental systems. We also offer a joint major between Engineering Science and Physics. We encourage Physics majors who share much of their course work with Engineering Science to take this option to improve their employability in case they do not go on to graduate school.

The department also has a state-of-the-art Astrophysical Observatory that performs many new exciting astrophysical experiments with students contemplating the physics or aerospace fields. Student-faculty ratios are kept small for all our majors, ensuring that students receive personal attention in their education. The department encourages students to develop mentoring relationships with faculty members, many of whom are internationally recognized scholars and researchers.

**Scholarship Opportunities**
In addition to the many benefits of CSI's engineering program, the College is also pleased to offer CSI scholarships and tuition support funding for students majoring in the field of engineering. Similarly, the state of New York funds the Collegiate Science and Technology Entry Program (C-STEP), which seeks to increase enrollment among underrepresented students in undergraduate and graduate programs leading to careers in the fields of science, technology and education.

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**Department of Engineering Science**
• Building 1N, Room 226

The Chairperson of the Department of Engineering Science and Physics at the College of Staten Island is Dr. Neophytos (Neo) Antoniades. The department may be reached by calling (718) 982-2800. Students requiring more information about the new Electrical Engineering program should contact the Department of Engineering Science and Physics at (718) 982-2825 or Dr. Neo Antoniades at (718)982-3291 or by e-mail at neo.antoniades@csi.cuny.edu.