College of Engineering and Computing

Department Website (http://www.engr.sc.edu/)

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The College of Engineering and Computing offers programs leading to the degrees of Master of Engineering, Master of Science, and Doctor of Philosophy in the following disciplines: biomedical engineering, chemical engineering, civil and environmental engineering, computer science and engineering, electrical engineering, mechanical engineering, and nuclear engineering. The College also offers the degree of Masters of Health Information Technology.

Graduate study in the College of Engineering and Computing has two objectives: to deepen the student’s knowledge in a particular field of specialization and to expose the student to a broad range of educational experiences that build upon and complement the undergraduate education. A graduate program of study normally consists of a combination of course work and independent study or research. Small class sizes and participation in independent study or research promote the goal of close student-faculty contact throughout the program. As early as possible, each student prepares a program of study, in collaboration with a departmental graduate director or research advisor, that is tailored to meet the student’s specific needs, interests, and career objectives.

In addition to serving students through on-campus courses and research, the college offers many courses via its distance education program, APOGEE, which uses Internet video-streaming. Through APOGEE, students may earn graduate degrees and graduate certificates while maintaining full-time employment. Interested persons should request a special APOGEE brochure and application packet directly from the College of Engineering and Computing.

Fields of Specialization

For students pursuing the Master of Engineering degree, a field of specialization may be developed through selection of courses having an appropriate focus, as well as an optional program of independent study. Each student should prepare a formal program of study as early as possible. Plans for independent study must be proposed and approved before the work is initiated.

The Master of Science degree develops a field of specialization through a focused program of courses plus directed thesis research. Each student should consult with the departmental graduate director in order to identify and select a research advisor. The student, in collaboration with the research advisor, prepares a program of study and defines a thesis research project as early as possible.

The Masters of Health Information Technology is an interdisciplinary program with the Arnold School of Public Health. The program is housed within the Integrated Information Technology Department in the College of Engineering and Computing. This professional degree program prepares students with expertise in management of both health care systems and information technology. It is designed to create a workforce of highly skilled IT experts and managers in healthcare, and to provide leadership and know-how as the USA moves toward a more technologically advanced and efficient healthcare system.

The Doctor of Philosophy degree emphasizes independent dissertation research in a chosen field of specialization, together with preparatory course work. Each department has its own procedures for matching doctoral students with research advisors; the departmental graduate directors should be consulted for details. As soon as students are assigned to research advisors, they should prepare a program of study and develop initial plans for their dissertation research.

The subject areas of independent study programs, thesis research, and dissertation research depend on the mutual interests of the student and the research advisor. Prospective students should consult with departmental graduate directors to obtain information on the current research interests of the faculty and the availability of research projects in various fields of specialization within each department.

The college also encourages cross-disciplinary research through four centers: the Center for Electrochemical Engineering, the Center for Industrial Research, the Center for Information Technology, and the Center for Mechanics of Materials and Nondestructive Evaluation. These centers use faculty and student expertise from all departments to pursue research and development projects in areas of interest to industry, government, and academe.

Departments

- Biomedical Engineering (https://academicbulletins.sc.edu/graduate/engineering-computing/biomedical-engineering/)
- Chemical Engineering (https://academicbulletins.sc.edu/graduate/engineering-computing/chemical-engineering/)
- Civil and Environmental Engineering (https://academicbulletins.sc.edu/graduate/engineering-computing/civil-environmental-engineering/)
- Computer Science and Engineering (https://academicbulletins.sc.edu/graduate/engineering-computing/computer-science-engineering/)
- Electrical Engineering (https://academicbulletins.sc.edu/graduate/engineering-computing/electrical-engineering/)
- Integrated Information Technology (https://academicbulletins.sc.edu/graduate/engineering-computing/integrated-information-technology/)
- Mechanical Engineering (https://academicbulletins.sc.edu/graduate/engineering-computing/mechanical-engineering/)