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1. What is the difference between civil/structural engineering and architecture?

Architects and civil/structural engineers often work closely together on many private and public sector projects. Architects primarily focus on designing the external “look and feel” of a structure along with its intended internal functionality. Civil/structural engineers design (size) the beams, columns, and other structural elements of the system to ensure that facility can withstand normal and extreme loading conditions. Both architects and civil/structural engineers often need to exhibit a high degree of innovation and creativity in accomplishing their respective goals. The design process employed by civil/structural engineers is much more mathematically and scientifically demanding than the process used by architects and this is reflected in the nature of the coursework found in the curriculum for each of these two fields of study.

2. Can SCU civil engineering majors study abroad?

Civil engineering students can study abroad and, with proper planning, still graduate in four years. The best time to study abroad is normally during the SCU fall term of the junior year. This allows students to go abroad for either a quarter or semester term overseas. Students will then return to SCU for the beginning of winter term. To stay on track in critical course sequences, students need to work with their academic advisors to select an appropriate institution and SCU-equivalent courses. Most SCU civil engineering students who choose to study abroad go to Australia, England, or El Salvador. Studying abroad provides civil engineering students with an excellent global perspective on the profession.

3. Are internships important?

Internships are becoming increasingly important in helping prepare civil engineering students for their professional careers. Internships allow students to see first hand how companies and their employees function on a day-to-day basis. Intern positions frequently serve as a bridge between the problem solving skills learned at school and the skills needed for professional practice. Employers often check a student’s resume to see if such experience has been

obtained prior to graduation. Many students receive full-time, post-graduation employment offers from the companies they have worked for as interns.

4. What is a free elective course and why does the SCU civil engineering program have only one such course in its curriculum?

Free elective courses are those courses offering students essentially complete freedom of choice. Such courses allow students to explore secondary academic interests or obtain additional background in a particular subject area. After satisfying national engineering accreditation requirements together with the broad University Core Curriculum, the SCU civil engineering program has room for just a single free elective course in a normal four-year program. Freshmen entering the University with approved AP credit or other college-level academic credit can often make room in their program of studies for additional free electives.

5. Do I need to write well to be an engineer?

Communications skills, including written communications skills, are very important in professional civil engineering practice. Civil engineers must prepare written cover letters, memos, resumes, proposals, technical reports, progress reports, and detailed project specifications on a regular basis. The accuracy and clarity of these documents is critical to overall project quality control. Students should take advantage of the composition and technical writing courses required in their engineering program to better master such skills prior to graduation.

6. Do I need to have my own computer?

Students need not have their own personal computer although having a computer will offer many conveniences. The University, School of Engineering, and Civil Engineering Department all provide computing facilities for student use. These computing labs allow students to access the technical software packages needed for course assignments, laboratory write-ups, and special projects. Since personal computers now serve so many functions, most students do own either a desktop or laptop system.

7. Do I need to declare civil engineering as my major before enrolling at SCU? How can I learn more about civil engineering after I start taking classes?

Students do not need to declare civil engineering as a major before enrolling in the University. As much as half of the entering freshman engineering class are undecided/undeclared engineering majors. Since most SCU engineering programs are nearly identical for the first year, students can learn more about each engineering discipline before formally declaring a major.

Students wishing to learn more about civil engineering can do so in ENGR 1 (Introduction to Engineering) during their first term at SCU. In addition, freshman students are encouraged to participate in activities sponsored by the SCU student chapter of the American Society of

Civil Engineers (ASCE). *Civil Engineering* magazine, a monthly publication of the national ASCE organization, offers easily readable descriptions of the types of projects civil engineers help plan, design, build, and operate.

8. Is civil engineering a good background for a career in construction?

A civil engineering education provides an excellent background for construction engineering. Elective courses offered through the Civil Engineering Department allow students to prepare for this career path. Each year between one-quarter and one-third of the graduating civil engineering majors at SCU accept full-time positions in the construction industry.

9. Why does the SCU civil engineering program require such a broad range of coursework?

The civil engineering curriculum at SCU has been designed to provide students with a comprehensive overview of the profession. Exposure to the sub-disciplinary areas within civil engineering allows students to ultimately select an area most consistent with their academic strengths and professional aspirations. The broad nature of the program also provides students with the background needed for the national exams required as part of the professional licensing process. Students seeking a greater degree of technical expertise in a particular sub-discipline of civil engineering are encouraged to pursue graduate studies. In addition, the University's Core Curriculum is intended to provide all graduates with the more non-technically oriented knowledge, skills and sensitivities needed to function in an ever more diverse, global professional environment.

10. Can undergraduate civil engineering students become involved with research projects?

SCU undergraduate civil engineering students are regularly involved with faculty research projects. Many faculty members actually depend heavily on undergraduate students to help conduct their research. Interested students should consult faculty members conducting research in a particular area of civil engineering to learn more about such opportunities.