

Enrichment Options

Our distinctive undergraduate engineering program allows our students to incorporate one of four exceptional enrichment options without extending the time required to graduate.

Co-op and Internship Programs

Located in Silicon Valley, a mecca of innovation and entrepreneurship, SCU offers students unsurpassed opportunities for corporate internships and cooperative education. Co-op students are employed in a paid and discipline-related engineering position for six months in the spring and summer of their junior year.

Study Abroad

Studying in a foreign country provides an unmatched opportunity for undergraduates to experience life from a different perspective. Students can even take all electives while studying abroad during the fall of their junior year.

Combined B.S./M.S.

Many students opt to participate in our department's combined B.S./M.S. program to earn both a bachelor's and a master's degree in as little as five years, while saving one-third the cost of tuition for the M.S.

Individualized Study

Working with their advisors, students may craft their own unique program of study, taking 12 or more units tailored to their own particular educational objectives.

After Graduation

SCU's mix of practical and theoretical experiences and our commitment to academic and ethical excellence cultivates outstanding engineers who are highly sought-after candidates for higher education and employment. Our students are well prepared to enter graduate programs in computing at SCU or any school across the country. Employers, both locally in Silicon Valley and globally, provide a wealth of opportunities for our graduates in a variety of career paths.

Computer Engineering Faculty

Darren Atkinson, associate professor, Ph.D.,
University of California San Diego

Ronald Danielson, associate professor, Vice
Provost, and Chief Information Officer, Ph.D.,
University of Illinois at Urbana-Champaign

Ruth Davis, professor and Associate Dean
for Undergraduate Studies, Ph.D., University
of California Santa Cruz

Silvia Figueira, associate professor, Ph.D.,
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JoAnne Holliday, associate professor, Ph.D.,
University of California Santa Barbara

Daniel Lewis, associate professor, Ph.D.,
Syracuse University

Qiang Li, associate professor, Ph.D., Florida
International University

Nam Ling, professor and Associate Dean for
Research and Faculty Development, Ph.D.,
University of Louisiana at Lafayette, IEEE Fellow

Rani Mikkilineni, lecturer, Ph.D., Santa Clara
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Web Design and Engineering



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Web Design and Engineering



“...understanding the Web and being able to engineer its future requires not only an understanding of the Web as a computational structure, but also how it interacts with, and supports the interaction of, people.”¹

In little more than a decade, the Internet has become pervasive in our lives, competing with the television as a medium for presenting news and entertainment and changing the way we communicate, how we shop, and how we learn. The technology that enables the Web is complicated and extensive, yet most of us think of it in terms of how convenient, intuitive, and pleasing we find our online experience to be. As it evolves and matures, those who design and develop the technology require a better understanding of the relationship between the infrastructure and the experience it creates, of how the Web affects society, and of how the new and innovative ways in which society uses the Web often create new demands on its technology.

Our Program

The bachelor's degree in Web Design and Engineering offers an interdisciplinary education that blends the technology of computing with preparation in the aesthetics of graphic design and user interface design to effectively deliver engaging multimedia content for the Web. Relevant material from communication, sociology, and applied ethics is included, empowering our students with an understanding of the relationship between the Web and those who use it.

At SCU, students have access to all the tools they need to be successful, including uncommonly accessible mentors, small classes, and state-of-the-art computer laboratory facilities. Our students work with engaged, passionate faculty members who are leaders in their fields. A solid theoretical foundation, hands-on laboratory experience, and a curriculum that challenges students to think and act ethically help prepare our graduates to either continue with advanced study or enter the workforce, ready to make real contributions to society.

Educational Objectives

The Web Design and Engineering program is designed to achieve three objectives:

- To produce graduates who can analyze, design, and improve the computational infrastructure of the World Wide Web
- To produce graduates who can develop interactive multimedia content that is appealing, engaging, effective, and easy to use
- To produce graduates whose work is guided by an understanding of, and sensitivity to, the social, political, ethical, and legal relationships between their work and those that it affects



Curriculum

The computer engineering department takes the University's mission to “educate the whole person” seriously. Our curriculum is design-oriented and laboratory-intensive, with an emphasis on hands-on experience and teamwork that is crucial to success in a competitive workplace. In addition to providing an outstanding engineering education, we also teach students to communicate effectively and prepare them to work in a global economy.

Program Requirements

Computing

- Programming and Data Structures
- Web Programming
- Computer Networks
- Web Infrastructure
- Web Usability

Graphic Arts

- Computer Imaging
- Graphic Design
- Constructing Web Sites

Communication

- Introduction to Mass Communication
- Technology and Communication
- Visual Communication

Sociology, English, and Ethics

- Computers, the Internet, and Society
- Internet Culture in the Internet Society
- A discipline-related ethics course approved by the student's advisor

Senior Capstone Project

- A comprehensive and intensive project in which students apply skills learned in the preceding years, taking a project from initial concept development through analysis, design, and report writing, replicating the process demanded of engineers in practice. Students receive the benefit of mid-year design reviews and present their completed projects before a panel of alumni and other industry judges.



¹ J. Hendler, N. Shadbolt, W. Hall, T. Berners-Lee, and D. Weitzner, “Web Science: An Interdisciplinary Approach to Understanding the World Wide Web,” *Communications of the ACM*, 51, no. 7 (July 2008): 60-69.