People Depend on Software

Software is ubiquitous and central to our lives. We interact daily with software systems—at home through computer games, at the office through on-line services and in the car through embedded control systems. We expect software to be reliable, efficient and effective in safety critical systems as well as desktop computers.

Software Engineering is concerned with the design, implementation, testing and maintenance of software applications and software dependent systems. Software Engineering covers not only the technical aspects of building software systems, but also management issues. Today Software Engineering, as a discipline, is a cornerstone of the information technology sector and a significant factor in our economy.

An undergraduate degree in Software Engineering offers a multitude of career opportunities—a career that potentially benefits people in all walks of life.

The BSENG Program

The Bachelor of Software Engineering has been designed to prepare you for a successful career in the software industry and the information technology sector by teaching you a breadth and depth of knowledge of software engineering that combines theory and practice of Computer Science and Engineering. You will also acquire communication skills and become proficient in engineering design, particularly as it applies to software development and software systems.

Co-op is an integral component of the degree program. This work experience is critical to providing you the opportunity to practise and apply knowledge and skills acquired throughout your studies in industrial settings and to sample different job prospects.

The BSENG program includes eight academic terms with 16-months of co-op terms intermixed. While it takes a little longer to complete a co-op degree, it is well worth it. You graduate with significant work experience for the job market.

The first year is common to our engineering programs and features an introduction to the role of software in the context of physical systems and real-world applications and emphasizes fundamental skills, including communication, programming, engineering design, and basic science.

The second and third year courses constitute the core of the BSENG program and develop software engineering, computer science and engineering knowledge and skills.

The fourth academic year provides an opportunity to specialize with technical electives and culminates with a significant design experience project based on the knowledge and skills acquired throughout the program.

The final course in the BSENG program covers the legal, social and professional issues that arise in software engineering practice.

Knowledge and Skills

The knowledge and skills you are expected to acquire during the BSENG program include:

- an understanding of all aspects of software development and the software development process from the early design stages to long-term software maintenance and evolution;
- the ability to construct and evaluate software in the context of physical systems and real-world applications;
- the ability to apply software and engineering design principles to software development and system design including trade-off analyses;
- an understanding of software quality criteria and assurance and the ability to assess the quality of a software system;
- the ability to plan and manage large software projects;
- the ability to work independently and collaboratively;
- an understanding of engineering economics and entrepreneurship in software practice;
- the ability to understand the underlying principles on which physical systems and real-world applications are built;
- the ability to integrate and participate in the design process of these systems and applications;
- the capability to communicate effectively both orally and in writing; and a breadth of background, knowledge, and skills in software engineering, as well as related areas of engineering, computer science, mathematics and complementary studies, that will provide you with a base for life-long learning.

Co-operative Education

The UVic BSENG degree includes a mandatory co-operative education component that combines practical on-the-job experience with your university studies. Not only do you gain experience, this is a great way to help finance your education and to determine your long term career plans. Many students receive permanent job offers from their former co-op employers.

The BSENG co-op program is very flexible with respect to the lengths of work terms. In addition, students with extensive technical work experience or co-op work terms completed at other post-secondary institutions may apply for credit for up to eight months.

How to Apply

Application information and on-line registration is available on the Web at **web.uvic.ca/adms**. Detailed admission requirements are also available at this site.

The early admittance application deadline is February 28. Applications will be considered until June 30, but you are strongly encouraged to submit your application as soon as possible.

You can enter the BSENG program directly in first year or you can switch from other engineering or computer science programs to the BSENG program. You can also transfer from a university college to the BSENG program.

Scholarships and Financial Aid

Each year the University awards over 400 entrance scholarships worth over 1 million dollars. Information regarding scholarships and bursaries are available at **web.uvic.ca/safa** or from your school counseling office.

University of Victoria

Consistently ranked as one of Canada's top comprehensive universities, UVic is known for the academic excellence and accessibility of its faculty, its extensive co-operative education and professional programs, and for its friendly atmosphere.

UVic has earned a reputation for commitment to research, scholarship and work-integrated learning. The university is widely recognized for its innovative and responsive programs and its interdisciplinary and international initiatives. Here, more than 18,000 undergraduate and graduate students from around the world enjoy a campus community that offers outstanding social, cultural, artistic, environmental and athletic opportunities. A full schedule of concerts, plays, exhibitions, films, lectures and athletics events attracts more than 600,000 community visits a year to our campus.

The University's goals and aspirations are outlined in the Strategic Plan, *A Vision for the Future*, at **web.uvic.ca/univsec/strategicplan**

Faculty of Engineering

The Faculty of Engineering is an exciting place to study and provides a unique learning environment. In addition to the BSENG program, the Faculty offers Bachelor's, Master's and Doctoral degrees in Computer Science as well as Computer, Electrical and Mechanical Engineering.

Contact Information

To learn more about our programs and life at UVic, please visit us on the Web or contact us.

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Faculty of Engineering

Bachelor of Software Engineering

www.bseng.uvic.ca