DIFFERENCES BETWEEN THE COMPUTER SCIENCE AND SOFTWARE ENGINEERING PROGRAMS

The Computer Science and Software Engineering undergraduate programs at Concordia University both provide excellent career opportunities as a computing technology creator and curator in many diverse fields with high impact on society such as telecommunications, health care, aerospace, automotive industries, banking, and internet. As fields of study, they both include basic components of mathematics, programming, algorithms, and data structures and during the first year of study, they both provide the same foundation of core computing technologies.

**Software Engineering (120 credits)** is a four-year program leading to the degree of Bachelor of Engineering (Software Engineering). It is accredited by the Canadian Engineering Accreditation Board, which makes it easy for you to become a Professional Engineer (P.E.) after graduating. As a P.E., you will have opportunities to participate in large projects and be given extra responsibilities. The software engineering program contains technical material, including programming, but also trains you to be an engineer. Many courses focus on various aspects of large-scale software development: processes, specification, architecture, design, implementation, maintenance, and project management. Other courses address the “soft skills” that engineers must possess, such as technical writing, communicating, working in a team and leadership. A number of courses involve working as a member of a team, and the program culminates with the Capstone Project, a large-scale software development project completed during the fourth year by a team of six students. As part of the program, you choose a group of technical electives, which may be taken from one of our specialization lists. The specialization lists include real-time, embedded and avionics software, computer games, data engineering, and web services and applications.

**Computer Science (90 credits)** is a three-year program leading to the degree Bachelor of Computer Science. Computer Science is a discipline with many areas including the theory and practice of programming, algorithms, data structures, distributed systems, databases, networks, artificial intelligence, numerical analysis, and computer graphics. After completing the required core that will build the foundation of your education, you will have diverse choices of technical elective courses from the topics mentioned above allowing you to tailor your academic program based on your interests. Students can also choose a specially curated Bachelor of Computer Science focused on trendy disciplines such as Health and Life Sciences, Computation Arts or Data Science. Top students can qualify for the Honors program, a more advanced track that requires a more in-depth look at some foundational topics as well as a project.

For more information, please visit the Department of Computer Science and Software Engineering (CSSE):

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