COMPUTATIONAL SCIENCE AND ENGINEERING

Associated Departments, Centres and Schools
Biochemistry, Biology, Chemical Engineering, Chemistry, Civil Engineering, Community Health & Epidemiology, Computing, Economics, Electrical & Computer Engineering, Geography, Geological Sciences and Geological Engineering, Mathematics & Statistics, Mechanical & Materials Engineering, Mining, Neuroscience Studies, Physics, Engineering Physics and Astronomy, Psychology

Please refer to the QCSE website (http://qcse.queensu.ca/) for an up-to-date list of associated faculty members from within each department listed above.

Overview

Designed to enhance the value of your master's degree, the specialization in Computational Science and Engineering (CSE) teaches you the latest methods for applying the power of high-performance computing to scientific problems in your area of study. From advanced numerical analysis, mathematical modelling and simulation, and parallel programming, these methods support and enhance more traditional approaches based on theory and experimentation.

Students accepted to one of the associated ("home") departments Master's degree programs will have the option of completing their degree with a specialization in Computational Science and Engineering. Students who complete this specialization will have their transcript amended to read that their degree was earned "with a specialization in computational science and engineering."

Registration and Program Requirements

Students interested in completing the specialization should contact the Graduate Coordinator in their "home" department and complete an enrollment form.

To complete a specialization in computational science and engineering students must satisfy the following five requirements:

1. Complete the coursework, thesis and other requirements of the associated ("home") program in which they enroll. Note that each participating department determines how the Computational Science and Engineering courses relate to their particular master's degree course requirements.
2. Pass the new "Fundamentals of Computational Science" (QCSE 810 Fund. Of Computational Science) graduate course.
3. Pass the new "High Performance Computing and Its Applications" graduate course (QCSE 811 High Performance Computing).
4. Participate in the new Computational Science Colloquium (QCSE 888 Computational Science Seminar).
5. Undertake a thesis or Pattern II project or essay that applies or contributes to the computational approach in their home discipline.

Completion of the home department's requirement for the research project (and notification by the Graduate Coordinator) is necessary but not sufficient to satisfy this requirement. In addition, a faculty member associated with the Queen's CSE must write a letter confirming that the research project does contribute to the computational approach in the discipline. Normally the thesis/project/essay would be supervised by an associated faculty member. If not, the student and their supervisor can identify a faculty member familiar with the work to confirm the contribution to Computational Science and Engineering.

Faculty

Director A. Pollard, Mechanical and Materials Engineering