Computational Science Program (CMP)

In many scientific disciplines, direct computation has become the tool of first choice for studying and simulating phenomena. Adequate preparation for graduate study in the sciences now includes a background in computation. Moreover, undergraduates seeking employment with corporations involved in applying science often find themselves confronted with day-to-day use of computational methods.

The minor in computational science provides students an opportunity to distinguish themselves by augmenting their scientific studies with a background in computation. Similarly, computer science and mathematics students will be provided a new option to study scientific applications of their fields. The computational science minor is highly interdisciplinary, combining the study of computer science and mathematics with the study of specific problems in the sciences and the computational methods required for their solution. This minor is one of a handful in the U.S. at this time.

Minor

- Computational science minor (http://catalog.uwlax.edu/undergraduate/computationalscience/computationalscienceminor/)

Courses

CMP 390 Cr.3
Survey of Computational Science
This course will survey the computational and mathematical tools and techniques currently being applied to problems in the sciences. Specific problems drawn from biology, chemistry, meteorology and physics will be explored in detail. Computational tools such as Mathematica, Explorer and PVM will be introduced and used to solve problems. In addition to small projects, students will be required to complete a larger project selected from their major discipline. Prerequisite: CS 120, CS 220; MTH 207. Offered Occasionally.

CMP 490 Cr.2-3
Senior Computational Science Project
This course is a capstone course for students pursuing a computational science minor. The student is expected to pursue a project that integrates a problem(s) from their major scientific discipline together with computation. Such work should demonstrate the student's ability to apply the tools and techniques acquired from prerequisite study in science and computation. The work must be performed under the direction of a faculty member from the student's major department. The student is also expected to submit a paper and an oral presentation on the project results to the computational science committee. Prerequisite: CMP 390; consent of project supervisor and project approval by the computational science committee. Consent of department. Offered Occasionally.