ENGINEERING GRADUATE OPTION PROGRAM
COMPUTATIONAL SCIENCE AND ENGINEERING

Computational Science and Engineering Certification for Mechanical Science and Engineering

The Computational Science and Engineering certificate program is designed to provide MechSE undergraduate students an opportunity to develop a solid base in problem solving using computation as a major tool for modeling complicated problems in science and engineering.

This CSE Certificate option is not an academic major or minor, but an additional credential only available to students currently enrolled in the Mechanical Science and Engineering undergraduate degree program at the University of Illinois Urbana-Champaign. The program is designed so that students can fit it within the required courses in the student's home department, without the need of taking any additional hours that are distinct from already-required coursework. To receive a certificate in "**Computational Science and Engineering**", students must complete the **required** courses listed below. The Application courses are strongly recommended to be in the student's primary field of study. The minimum coursework required is 12 hours and this fulfills the prerequisite for a CSE certification.

REQUIRED COURSEWORK:

Topic	Course Number	Hours
Programming	CS 101, CS 125, or equivalent	3
Core /Application Coursework (minimum of three)	CS 357, TAM 470, ME 471, ME 412, TAM/ME 497*, or any 400-level CSE course listed in: http://cse.illinois.edu/courses	9 (minimum)

*TAM/ME 497 (Independent Study) may be used to fulfill one of the required application courses. Engaging in undergraduate research will help hone both your personal and professional growth and advancement by allowing you to develop research skills and experiences that are in demand by both graduate schools and employers. The main requirement is for you to apply the computational skills you have gained to solve real problems. Experimental research is also encouraged but the research must comprise sufficient computational work. In order for TAM 497 or ME 497 to fulfill the certification requirement, the **proposed research must be approved by the CSE steering committee representative of the MechSE department**** or one of the CSE affiliated Mechanical Science and Engineering faculty listed on the Computational Science and Engineering website: http://cse.illinois.edu/directory/faculty-affiliates

**List of Steering Committee Representatives: http://cse.illinois.edu/directory/administration