Computational Science and Engineering

**CERTIFICATE PROGRAM**

## The Certificate

This certificate program offers students in-depth study and research in computational science and engineering, including computational and applied mathematics, numerical simulation, scientific computation, and visualization.

The highlight of the program is the introduction of students to independent research on problems in computational science and engineering that have applications across broad areas of the university.

## Benefits

The program is administered by the Institute for Computational Engineering and Sciences (ICES). Upon completion of the course requirements, students receive certificate recognition on their University transcript and a letter from the director of ICES that describes the program and work completed.

These documents, plus supporting letters from faculty and graduate mentors, are valuable for students applying to graduate school and competitive job opportunities.

## What is it like?

In general, if you like the following, you will like computational science and engineering:

- Parallel computing
- Distributed systems
- Numerical algorithms
- Mathematical analysis, probability & statistics
- Data visualization
- Intense program design & coding
- Playing with big, big computers

## Prerequisites

Only two prerequisites exist: Calculus and GPA ≥3.00

To earn the certificate, students must complete 18 credit hours (≥12 credit hours upper division) and earn a grade of C or better in each certificate course. A student's overall GPA in certificate courses must be ≥3.00.

*On the Cover: A simulation of global mantle flow, a basic principle that has shaped the planet.*

## Course Requirements

Students must take at least one (1) course in each of the following areas: Upper Division Mathematics, Basic Programming, Numerical Applications, Advanced Computing, Electives, and a Scientific Computing Project.

For the full listing of approved certificate courses visit:www.ices. utexas.edu/programs/certificate.

## FAQs

Q: Can certificate courses also fulfill my degree requirements?
A: Courses that are required by the certificate often fulfill degree requirements established by a student's major department.

Q: Will the certificate appear on my transcript?
A: Yes. Your official UT transcript will state you completed the certificate program in Computational Science & Engineering.

## FAQs

Q: What is the Scientific Computing Project?
A: This is completed during the senior year, taken as a Research Methods/Individual Instruction course, and supervised by a member of the Computational Sciences, Engineering and Mathematics (CSEM) Graduate Program faculty. The research project may include mentoring by ICES post-doctoral fellows and CSEM graduate students.

## How to Get Started

Pick up an application in the ICES office (ACE 4.102) or download an application at: www.ices.utexas.edu/ices/programs/certificate.