

CSI 4999: Senior Capstone Project

Credits Hours: 4 credits, 3.57 contact hours/week.

Instructor: Nilesh Patel, Ph.D.

Text book: D. A. Patterson and J. L. Hennessy, Computer Organization and Design: The Hardware/Software Interface, Fifth Edition, Morgan Kaufmann, 2014 (ISBN: 978-0-12-407726-3).

Specific course information

Team oriented senior project to synthesize the knowledge and skills gained in the CS/IT curricula. Written and oral reports are required in addition to working demonstration. The course is cross listed.

Prerequisites: CSI 3640, CSI 3370, CSI 3450. Requires a major standing

Required course for CS and IT major

Course Objectives: Upon successful completion of this course, students should be able to

- Demonstrate an ability to apply knowledge of mathematics, science, and engineering [ABET CS: (a), IT: (a)]
- Demonstrate an ability to design and conduct experiments, as well as to analyze and interpret data [ABET CS: (b), IT: (b)]
- Demonstrate an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability [ABET CS: (c), IT: (c, k, m, n)]
- Demonstrate an ability to function on multidisciplinary teams [ABET CS: (d), IT: (d)]
- Demonstrate an ability to identify, formulate, and solve engineering problems [ABET CS: (j, k), IT: (j, l)]
- Demonstrate an understanding of professional and ethical responsibility [ABET CS: (e), IT: (e)]
- Demonstrate an ability to communicate effectively [ABET CS: (f), IT: (f)]
- Demonstrate the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context [ABET CS: (g), IT: (g)]
- Demonstrate a recognition of the need for, and an ability to engage in lifelong learning [ABET CS: (h), IT: (h)]
- Demonstrate a knowledge of contemporary issues [ABET CS: (e), IT: (e)]
- Demonstrate an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice [ABET CS: (i), IT: (i)]

List of Topics:

- Project scope and software requirements

- Software engineering tools
- Ethics of work
- Communicating the project idea