
CSE 481I Capstone Software Design: Sound

Credits

5.0 (3 hrs lecture, 2 hrs+ meeting times)

Lead Instructor

Bruce Hemingway

Textbook

None

Course Description

Students work in teams to design and implement a software project involving multiple areas of the CSE curriculum. Emphasis is placed on the development process itself, rather than on the product.

Prerequisites

CSE 331 or CSE 341; CSE 326 or CSE 332; CSE 351 or CSE 378; substantial programming experience such as CSE 451 or CSE 457.

CE Major Status

Selected Elective

Course Objectives

Students will work in teams to design, implement, and release a software project utilizing some of the techniques listed in Course topics.

ABET Outcomes

- (a) an ability to apply knowledge of mathematics, science, and engineering
- (b) an ability to design and conduct experiments, as well as to analyze and interpret data
- (c) 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

(d) an ability to function on multi-disciplinary teams

(e) an ability to identify, formulate, and solve engineering problems

(f) an understanding of professional and ethical responsibility

(g) an ability to communicate effectively

(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context

(i) a recognition of the need for, and an ability to engage in life-long learning

(j) knowledge of contemporary issues

(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Course Topics

The course participants will design and build projects utilizing computer audio techniques for human interfacing, sound recording and playback, encoding and decoding, synchronization, sound synthesis, recognition, and/or analysis/resynthesis.