CSCE 4910 CMPE Senior Design I

Instructor: David Keathly  
Semester: Fall 2011
Office: NTDP F201J  
Time: MWF 10:00 – 10:50 am
Office Hours: T/Th 2:00 – 3:30 pm  
Place: NTDP F260
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Course Catalog Description

This is the first course in the senior capstone design sequence. Focus is the application of techniques to the design of electronic systems that have digital hardware and software components. Students apply the theory acquired from numerous engineering courses to solve real-world design problems. The design will consider realistic constraints including economic, environmental, sustainability, manufacturability, ethical, social, safety.

Course Outcomes

1. Able to gather and refine user functional requirements and other functional and non-functional requirements and constraints for a large scale processor-based system and create a system requirements specification document.

2. Able to perform system analysis and design tasks using recognized software and systems engineering methods to create a preliminary design specification for a system based on a requirements specification.

3. Utilize project management principles, skills and tools in creating the requirements and preliminary design specifications.

4. Able to create a project management plan, including a schedule and budget for a large scale information systems project.

5. Able to create initial test and documentation plans for a project.

6. Utilize configuration management, project management and design tools in the course of a project.
Textbook:

Ford & Coulston, Design for Electrical and Computer Engineers, McGraw Hill

Prerequisites

CSCE 3612, EENG 3510

Course Requirements:

Attendance:  Optional, although student is responsible for all materials covered in lecture and class discussion
Exams:  None
Project:  The majority of the assignments in this course will relate to a large group project that will extend into the CSCE 4915 class in the Spring semester
Assignments:  There will be a few initial individual assignments and a number of group deliverables throughout the semester

For More information

Faculty Webpage:  www.cse.unt.edu/~dkeathly
Class Web Page:  moodle.cse.unt.edu

Topics

• The Nature of Design
• Project management
• Defining System Requirements
• Analysis Modeling
• Preliminary and Detailed design
• Implementation
• The project lifecycle
• Team Planning, Coordination and Survival
• System Testing
• Delivery
• Reliability
• Ethics and Social Responsibility

Course Calendar (subject to change)
<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Readings, Materials and Assignments</th>
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</table>
| Week 1 |Course Overview  
Setup Team Room  
Personal Assessment  
Nature of Design | see lecture notes on class web page |
| Week 2 |Lecture: Team and Project Management  
Determine Teams and Team Names  
IA -1 presentations  
Bi-weekly status report | see lecture notes on class web page |
| Week 3 |Lecture: Project Lifecycle  
brainstorm project ideas  
meet with client | see lecture notes on class web page |
| Week 4 |Project ID and Need  
Lecture: Development Methodologies  
Lecture: Requirements  
Bi-weekly status report | see lecture notes on class web page |
| Week 5 |RUP and Use Cases | see lecture notes on class web page |
| Week 6 |Lecture: Preliminary Design Overview  
Bi-weekly status report | see lecture notes on class web page |
| Week 7 |Work Week | see lecture notes on class web page |
| Week 8 |Review Preliminary Design details  
Bi-weekly status report | see lecture notes on class web page |
| Week 9 |Work Week | see lecture notes on class web page |
| Week 10 |Bi-weekly status report | see lecture notes on class web page |
| Week 11 |Lecture/Discussion Detailed Design | see lecture notes on class web page |
| Week 12 |Lecture: Testing  
Work Week  
Bi-weekly status report | see lecture notes on class web page |
| Week 13 |Lecture: Reliability and Delivery | see lecture notes on class web page |
| Week 14 |Work Week  
Bi-weekly status report | see lecture notes on class web page |
| Week 15 |Crunch Week! | |
| Week |Final Presentations | |
Grading Policy

The various components of your grade are weighted as follows:
Team Project Deliverables 40%
Individual Reports, Presentations and Editorships 15%
Team Presentations 15%
Peer and Instructor Performance Reviews 30%

Course Policies:

- ABSOLUTELY, NO LATE project assignments will be graded, unless specific arrangements are made with the instructor in advance.
- All assignments will be turned in by midnight on the date due. Assignments may be submitted in person at class, at person in my office (not at the front desk!) or via email unless otherwise instructed.
- ALL requests for extensions on assignments must be made prior to the due date, in person, and must be for a valid “emergency” reason. In extreme circumstances, contact after the due date may be accepted if there is a COMPELLING reason.
- Attendance is at your option. However, you are responsible for all discussion, lecture and other information disseminated during the lecture period, regardless of whether you attend or not.
- Lectures and Project assignments are included in this syllabus. However, you should regularly check the class website, as well as take note of in-class announcements for changes in the schedule or assignments.

Collaboration and Cheating:

Collaboration among students in class is most certainly encouraged, as it is my belief that it provides a better learning environment, and required for team assignments. For further details and clarifications regarding collaboration and cheating, view the university Student Rights and Responsibilities web page.

Student Evaluation of Teaching Effectiveness (SETE)

The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider the SETE to be an important part of your participation in this class

ADA:
UNT complies with all federal and state laws and regulations regarding discrimination including the Americans with Disability Act of 1990 (ADA). If you have a disability and need a reasonable accommodation for equal access to education or services please contact the Office of Disability Accommodation.