Computer Engineering Design I
CSCE 4910, Section 001
Fall 2016

Class Timings: Tuesday and Thursday, 1:00 PM – 2:20 PM, NTDP F242

Instructor: Robin Pottathuparambil (Email: rpottath@unt.edu, Office: NTDP F263)

Office Hours: Tuesday 3:00 PM – 5:00 PM or by appointment

Course Webpage: All the course related material will be posted on the course webpage which is available through blackboard (https://learn.unt.edu).

Course Outcomes:

- 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.
- 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.
- Utilize project management principles, skills and tools in creating the requirements and preliminary design specifications.
- Create a project management plan, including a schedule and budget for a large-scale information systems project.
- Utilize configuration management, project management and design tools in the course of the project.

Text: *System Engineering Analysis, Design, and Development: Concepts, Principles, and Practices*, by Charles S. Wasson, Second Edition, ISBN: 978-1-118-44226-5. **Reference Text:** *Design for Electrical and Computer Engineers: Theory, Concepts, and Practice*, by Ralph M. Ford and Chris S. Coulston, First Edition, ISBN: 978-0-07-338035-3.

Catalog Description: Prerequisite: CSCE 3612 and EENG 3510. First course in the senior capstone design sequence. The focus of this class is the application of techniques to the design of electronic systems that have digital hardware and software components. Students will apply the theory acquired from numerous engineering courses to solve real-world design problems. The design will consider realistic constrains including economic, environmental, sustainability, manufacturability, ethical, social, safety.

Topics:

- Design Process and Requirements
- Project Management
- RUP and Use Cases
- Preliminary Design and Detailed Design
- Implementation and Testing
- Reliability and Delivery

Grading:

Attendance	5%
Individual Project Deliverables	20%
Team Project Deliverables	35%
Team Presentation (12/15/2016)	10%
Demonstrations	30%

Deliverables: There will be few individual deliverables and few team deliverables. Every deliverable will have sample template document which is required to be used by the team and the members to turn in the deliverables.

Demonstration: It is expected that you complete 1/3rd of your project requirements towards the end of the semester. The team members will equally divide the project requirements and take responsibility to complete the requirements. Instructor would evaluate team member's self-assigned requirements and recommend possible changes. At the end of the semester, each team member will demonstrate 1/3rd of the self-assigned project requirements.

Team Presentation: There will be a 15-minute presentation by the team. Attendance is required.

- Presentation: Thursday, December 8th, 2016 1:00 PM – 2:20 PM NTDP F223 and Thursday, December 15th, 2016 10:30 AM – 12:30 PM.

Attendance and Missing Classes: Attendance is required for all class periods. Throughout the semester, a student may miss classes due to many reasons. Most of the reasons will not be accepted as an "excused" absence. Late deliverables can be made-up only under extraordinary circumstances and only when notification is given to me before the due date. A no-show for a quiz or an exam without prior notification and a verifiable excuse (appropriate official documentation) results in a grade of zero for that quiz or exam.

Disputing Grades: If you have a disagreement with how a deliverable is graded, you should first get the comments/feedback from the Blackboard course page and examine it. If you really believe that your work is correct, contact the instructor and discuss it with him. Grades for deliverables are disputable for **one week** from the day the grades were assigned on Blackboard.

Syllabus Revisions: This syllabus may be modified as the course progresses. Notice of such changes will be by email or announcement in class.

Class Policies: Please note that portable phones, pagers, and late arrivals are disruptive to the instructor and to your peers. The use of cell phones, beepers, or communication devices is disruptive and is therefore absolutely prohibited during class. Turn off your cell phone while in class. If I catch you using these devices, your final grade will be reduced by 10% for each and every transgression and you will be asked to leave the class. Except in emergencies, students using such devices must leave the classroom for the remainder of the class period. I know that some of you may wish to take notes directly on your computer and I have no problem with that. If, however, you choose to access your email, search the web, play games, or instant messenger your friends during class, you will have 5% deducted from your final grade for each and every transgression. This penalty will be at the sole discretion of the instructor. If I am late arriving to class, it will be because of circumstances beyond my control. You are expected to remain for 20 minutes past the scheduled class start time while I attempt to communicate my situation and relay instructions.

Course Policies: You should track your own progress using Blackboard, and be aware of current grades throughout the term. Final grading will be done as follows. **A**: >= 90%, **B**: >= 80% and < 90%, **C**: >= 70% and < 80%, **D**: >= 60% and < 70% and **F**: < 60%. Grades will be curved if necessary. Grades cannot be changed after they have been electronically entered into the university's system except for instructor error. Any extenuating circumstances that may adversely affect your grade must be brought to my attention before the final course grades are recorded. To be considered, such circumstances must be unusual, unavoidable, and verifiable.

Disability Services/Special Needs: 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. Please initiate this process and inform me during the first two weeks of class.

Academic Dishonesty: All the provisions of the University code of academic integrity apply to this course. In addition, it is my understanding and expectation that signing or turning in any deliverable means that you neither gave nor received unauthorized aid. For most deliverables, while discussion is allowed, direct copying is not and students must turn in individual submissions wherever individual deliverables are required. All students are required to know, observe and help enforce the UNT Code of Student Academic Integrity. Cheating will result in disciplinary action according to UNT Policy 06.003. The penalty for a first offense can range from a formal warning to an 'F' for the course. Regardless of the penalty imposed, a record of the offense will be kept in the Office of the Dean of Students.

Student Perceptions of Teaching (SPOT): Student feedback is important and is an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. The short SPOT survey will be made available **November 21 – December 8** to provide you with an opportunity to evaluate how this course is taught.

Tentative Course Schedule:

Week	Lecture	Deliverables
08/29 – 09/02	Course Overview/Self-assessment	
09/05 – 09/09	Project Pitch Week	
09/12 – 09/16	Design Process/Teams	Determine Teams and Team Names **(1%)**
09/19 – 09/23	Brainstorming ideas/Requirements	Determine Projects **(1%)**/Status Report **(2%)**
09/26 – 09/30	Project Management	
10/03 – 10/07	RUP and Use Cases	Requirements Due **(5%)**
10/10 – 10/14	Preliminary Design Overview	Specifications Due **(5%)** **(5%)**
10/17 – 10/21	Detailed Design	Prelim. Design Due **(5%)** **(5%)**/Status Report **(2%)**
10/24 – 10/28	Implementation/Testing	Detailed Design Due **(5%)** **(5%)**
10/31 – 11/04	Reliability and Delivery	Parts and Service Orders due **(5%)** **(5%)**
11/07 – 11/11	Begin Prototype Development	
11/14 – 11/18	Continue Development	Status Report **(2%)**
11/21 – 11/25	Continue Development	
11/28 – 12/02	Continue Development	
12/05 – 12/09	Demonstrations	Demonstrations **(30%)**/Team Presentation **(10%)**
12/12 – 12/16		Team Presentation/Status Report **(2%)**