

CSCI 479: Computer Science Design Project

Syllabus

Fall 2012

General Information

Meeting time	MWF 3:00 - 3:52 p.m.
Meeting place	B 165 (or in a lab when appropriate)
Professor Xiannong Meng	Dana 212, x. 71214, xmeng@bucknell.edu
	Office Hours: M 10-11 a.m. , W 8-10 a.m., R 3-4 p.m., F 9-11 a.m.
Textbook	No required textbooks.

Websites

Course website: <http://www.eg.bucknell.edu/~cs479/>

Course SVN site: <https://svn.eg.bucknell.edu/cs479/f12/>

Course Catalog Description

Students in teams use software engineering methodology to design and implement a semester-long project. Written reports and presentations are required. Prerequisites: CSCI 205 and senior standing in the College of Arts and Sciences.

Course Learning Objectives

The objectives of the course are to enable students to

- function effectively in a project team;
- use knowledge from previous courses in designing, implementing, and evaluating a culminating computing project;
- organize, write, and deliver technical written document(s) and oral presentation(s) about the project.

CSAB Student Outcomes Addressed:

- **CSAB (b)** An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
- **CSAB (c)** An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
- **CSAB (d)** An ability to function effectively on teams to accomplish a common goal
- **CSAB (f)** An ability to communicate effectively with a range of audiences

Course Structure

This is a project based course. You will develop a large piece of software using the software engineering principals you have learned in class.

The course meets three hours a week with a mix of lectures, collaborative learning activities, customer meetings, and team meetings. When necessary, we may move our meetings to a computer laboratory.

Since this is a W-2 course, students are expected to have substantial amount of writing and presentation.

During the semester (the software development process) we will set a number of *milestones* (short term goals) for the project that each team needs to meet. We will meet with our customer on a weekly basis (Fridays) to discuss the project. The goal of meeting with the customer is to get feedback from the customer and to clarify details of the project. We will also discuss and investigate technical issues associated with the project.

The project will be implemented on three platforms, the iOS platform (iPhone and iPad), the Android platform, and the HTML 5 platform. The class will be divided into three teams, each team implements the project on one platform. The team responsible for a platform will also need to deliver a tutorial for the rest of the class so other students will have a basic understanding of the two platforms on which they will not implement their project.

Expected Work

The ultimate goal of the course is for student teams to design, implement, test, and release a software project that is to be used by real customers on a mobile phone. Though the final product is important, the process of reaching the goal is equally important.

We will employ an agile software development process. Students are expected to accomplish a number of tasks to produce a product.

Attendance and participation: CSCI 479 is a project course. While we will have three meetings a week at the specified hours, we will not have regular lectures. Instead we will discuss various issues and explore technologies needed to complete the product as a class and as a project team. Attendance and participation in these meetings are critical.

Team assessment: A number of tasks throughout the semester, including the final project, be completed in teams. Contribution to team work is an essential part of the course. Team work includes design, coding, testing, writing document, technical presentations, and research. At the end of each major team task, each member of the team will evaluate the performance of their teammates (see the form at <http://www.eg.bucknell.edu/~cs479/2012-fall/peer-rating-form.pdf>). This peer evaluation becomes a part of the grade.

Project journals: Each student is asked to keep an individual weekly journals. Each journal should contain a summary of what happens during the week and a reflection (your thoughts). The expected length is somewhere between one and two pages (400 to 600 words). There is a total of 14 weeks during the semester. Each student is required to turn in 10 sets of journals. The journals are to be graded as *check*, *check+*, and *check-*. The instructor will provide feedback to the journal as appropriate.

Literature survey and presentation: Student teams will conduct a literature survey and present the result to the class early in the semester. This survey should contain two major sections, one is mobile programming in general, the other is platform specific technology, e.g., HTML5, Android, and iOS. A written report and an oral presentation by the team is required. The report is expected 5-7 pages (2,000 to 2,500 words). The presentation is expected to be 10 to 15 minutes.

Project progress report and presentations: While we will exchange information about the project at each of our meetings and the weekly meeting with the customer, two formal progress reports and presentations are required during the

semester (sometimes during the 5th week and the 10th week). The reports are expected to be 3-5 pages (1,200 to 1,500 words) and presentations about 10 minutes each.

Platform tutorial: Each team is to develop (and present if time permitting) a tutorial on their platform such that a college computer science student can follow the tutorial and create a simple working program.

Final project report and presentation: Each team will write a final report and make a final presentation about their project at the final exam time, as specified by the university calendar.

Individual reflection: Because CSCI 479 is designed to be a culminating experience for students, each student is required to write an individual paper to reflect on their Bucknell education. Contents should include, but not limited to, your experiences as a student at Bucknel, your computer science education, your general education, and your extra-curriculum activities that help you grow intellectually. General length of the paper should be 2,000 to 2,500 words.

Grades

The course assessment is based on the following distribution of the grade.

Attendance and participation	10%
Team assessment	10%
Project journals	10%
Literature survey and presentation	10%
Project progress report and presentations	20%
Platform tutorial	10%
Final project delivery, presentation, and report	20%
Individual reflection paper	10%
Total	100%

Academic Responsibility

Please read the **Computer Science Department policy** and **Bucknell's Academic Responsibility policy** carefully. The Computer Science Department policy is posted on the department website at <http://www.bucknell.edu/Documents/Engineering/ComputerScience/student-conduct-policy.pdf>. Students are also expected to read and abide by Bucknell's policy in the Student Handbook at <http://www.bucknell.edu/x1324.xml>.