Course Description

This is a sequence of two-semester course in which each team completes the definition, planning, design, implementation, testing and deployment phases of a real world software development project provided by industry, organization and university faculty. The projects are under the supervision of course instructor and members of the sponsoring organization.

The objectives of this course are:
- To provide a significant real-world type team experience in software development.
- To improve students’ ability to work in a team setting.
- To allow students to put into practice the diverse skills and problem solving abilities acquired during the students' undergraduate education.
- To improve communication skills through written reports and group discussion.
- To improve research and technical writing skills through the development of formal documentation for the team project.
- To foster presentation skills through presentations of selected project management topics as well as intermediate and final work of the team project.

Prerequisites

Senior status in Computer Science, including completion of or concurrent enrollment in at least two other 400-level Computer Science courses.

Textbook

None

Instructor

Michelle Zhu
Office: Faner 2142
Email: mzhu@cs.siu.edu
Tel: (618) 453-6057
Office Hours: 9am to 11am and 2:00pm – 4:00pm MWF

Team Project

- Each student will participate in a software development project team of at most four students. To help assign students to suitable projects, each student is required to
submit her/his up-to-date resume at the beginning of the course, detailing her/is education, skills and experience.

- The team project must be a team effort. All students must work on every aspect of the project (specification, design, implementation, testing, documentation, presentation).
- Each team must have a leader responsible for coordinating the activities of the other members. The project leader should have a clear picture of what the team plan is and how each member of the team is contributing.
- Teams should meet with their clients on a regular basis and keep in contact with their clients, getting feedback and agreements about design decisions and functionality.
- Team members will review themselves and each other member of their team at the end of the course. Individuals will be graded based on the quality of their peer reviews, as defined by how differentiating, analytical, honest, and detailed they are.
- Team members in the same team will be graded independently. Your grade will only reflect your own contribution to the project.

**Documentation**

- Each team’s documentation must be standardized in terms of both format and vocabulary. All written material must use professional language and, as much as possible, be free of spelling and grammatical errors.
- Each document submitted must include the author’s name and the date of submission. In those cases where there are multiple contributors to a document, indicate the authors of each section as well as the person primarily responsible for the compilation of the document. A hard copy of every required document must be submitted before the due date.
- Each team is required to submit the following documents in this course:
  1. **Project Specification.** This document defines the client’s problem, identifies the intended users, and specifies system functional and non-functional requirements.
  2. **Project Plan.** This document specifies scheduling, individual responsibilities, foreseeable risks, and platforms, as well as tentative test, review, documentation, and installation plans.
  3. **Project Design.** This document specifies the project’s architecture design, UML class diagram and class relationship, main user interfaces, use cases, UML sequence diagram for object interaction, UML state diagram and algorithms, etc., being used by the project software. Emphasis should be placed on how well the design meets the client’s requirements.
  4. **Testing Specification.** This document describes all test cases used for testing the implementation of the software, including Unit testing for methods or object classes, component testing for component interfaces when individual units are integrated to create composite components, system testing when components in a system are integrated.
  5. **User Manual.** This document specifies how to use the software and its functionalities. It will be given to the client upon completion of the project.
**Journals**

1. During Thursday class in each even semester week, each team is expected to provide an oral or written **status report** of activities and accomplishments of each team member over the previous two weeks and expected plan of activities for the next two weeks. Beginning with the project leader, each team member will give a brief description of what s/he has accomplished since the last status report, what s/he is currently working on, and any problem s/he is encountering. Displaying actual work results, documentation or code and project demo are strongly encouraged.

2. Each team is encouraged to use subversion control system located at the department server or Github for code repository.

**Project Website**

- Each team will design and maintain a website about the team and the project. The website is both advertising for the project and for a means for the instructor and all team members to have access to the latest information on the project. The website will be graded on both design and content.
- The website also serves as an archive for all the project documentation. The most up-to-date version of all project documentations must be easily accessible via the website.
- The website will be graded on both design and content.

**Presentations**

- On March 19\(^{th}\), each team will give a formal **mid-term presentation** on the status of the project including actsives and accomplishments during the first half of the semester and detailed plan of activities for the remainder of the semester. The first release of the software is expected to be available by that date.
- On April 28\(^{th}\), each team will give a formal **final presentation** on the project, which must be completed by that date. Computer Science faculty as well as undergraduate students will attend this presentation.
- These presentations must not be shorter than 30 minutes but not longer than an hour. They should be complete and clear, and must use appropriate audio-visual aids.

**Grading**

Grades will be calculated based on all the required documents, website and presentations.
IMPORTANT DATES *
Semester Class Begins .............................................................. 01/19/2016
Last day to add a class (without instructor permission): ............... 01/24/2016
Last day to withdraw completely and receive a 100% refund: ...... 01/31/2016
Last day to drop a course using SalukiNet: ................................ 04/03/2016
Last day to file diploma application (for name to appear in Commencement program): ......................................................... 02/12/2016
Final examinations: ........................................................................... 05/09–05/13/2016

Note: For outreach, internet, and short course drop/add dates, visit Registrar’s Academic webpage http://registrar.siu.edu/

SPRING SEMESTER HOLIDAYS
Martin Luther King, Jr.’s Birthday Holiday 01/18/2016
Spring Break 03/12—03/20/2016

WITHDRAWAL POLICY – Undergraduate only
Students who officially register for a session may not withdraw merely by the stopping of attendance. An official withdrawal form needs to be initiated by the student and processed by the University. For the proper procedures to follow when dropping courses and when withdrawing from the University, please visit http://registrar.siu.edu/catalog/undergraduatecatalog.html

INCOMPLETE POLICY – Undergraduate only
An INC is assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments. An INC must be changed to a completed grade within one semester following the term in which the course was taken, or graduation, whichever occurs first. Should the student fail to complete the course within the time period designated, that is, by no later than the end of the semester following the term in which the course was taken, or graduation, whichever occurs first, the incomplete will be converted to a grade of F and the grade will be computed in the student’s grade point average. For more information please visit:
http://registrar.siu.edu/grades/incomplete.html

REPEAT POLICY
An undergraduate student may, for the purpose of raising a grade, enroll in a course for credit no more than two times (two total enrollments) unless otherwise noted in the course description. For students receiving a letter grade of A,B,C,D, or F, the course repetition must occur at Southern Illinois University Carbondale. Only the most recent (last) grade will be calculated in the overall GPA and count toward hours earned. See full policy at http://registrar.siu.edu/catalog/undergraduatecatalog.html

GRADUATE POLICIES
Graduate policies often vary from Undergraduate policies. To view the applicable policies for graduate students, please visit

DISABILITY POLICY
Disability Support Services provides the required academic and programmatic support services to students with permanent and temporary disabilities. DSS provides centralized coordination and referral services. To utilize DSS services, students must come to the DSS to open cases. The process involves interviews, reviews of student-supplied documentation, and completion of Disability Accommodation Agreements.
http://disabilityservices.siu.edu/

PLAGIARISM
Student Conduct Code http://srr.siu.edu/student_conduct_code/

MORRIS LIBRARY HOURS
http://www.lib.siu.edu/about

SAFETY AWARENESS FACTS AND EDUCATION
Title IX makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources here: http://safe.siu.edu

SALUKI CARES
The purpose of Saluki Cares is to develop, facilitate and coordinate a university-wide program of care and support for students in any type of distress—physical, emotional, financial, or personal. By working closely with faculty, staff, students and their families, SIU will continue to display a culture of care and demonstrate to our students and their families that they are an important part of the community. For Information on Saluki Cares: (618) 453-5714, or siucares@siu.edu,
http://salukicares.siu.edu/index.html

EMERGENCY PROCEDURES
Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. We ask that you become familiar with the SIU Emergency Response Plan and Building Emergency Response Team (BERT) programs. Emergency response information is available on posters in buildings on campus, available on BERT’s website at www.bert.siu.edu, Department of Safety’s website at www.dps.siu.edu (disaster drop down) and the Emergency Response Guideline pamphlet. Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.

INCLUSIVE EXCELLENCE
SIU contains people from all walks of life, from many different cultures and sub-cultures, and representing all strata of society, nationalities, ethnicities, lifestyles, and affiliations. Learning from and working with people who differ is an important part of education as well as an essential preparation for any career. For more information please visit: http://www.inclusiveexcellence.siu.edu/

LEARNING AND SUPPORT SERVICES
Help is within reach. Learning support services offers free tutoring on campus and math labs. To find more information please visit the Center for Learning and Support Services website:
Tutoring: http://tutoring.siu.edu/
Math Labs http://math.siu.edu/courses/course-help.php

WRITING CENTER
The Writing Center offers free tutoring services to all SIU students and faculty. To find a Center or Schedule an appointment please visit http://write.siu.edu/

AFFIRMATIVE ACTION & EQUAL OPPORTUNITY
Our office’s main focus is to ensure that the university complies with federal and state equity policies and handles reporting and investigating of discrimination cases. For more information visit:
http://diversity.siu.edu/

Additional Resources Available:

SALUKINET: https://salukinet.siu.edu/cp/home/displaylogin

ADVISEMENT: http://advisement.siu.edu/

PROVOST & VICE CHANCELLOR: http://pvca.siu.edu/

SIU ONLINE: http://online.siu.edu/