ECE 473/573
SOFTWARE ENGINEERING CONCEPTS
Spring 2009

Course Information

Class Hours: MW 4:00-5:15pm HARV 332B
Instructor: Ali Akoglu
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Office Hours: Tuesdays 01:00 PM – 2:00 PM, Thursdays 11:00 AM – 12:00PM or by appointment
Course Page: http://ece.arizona.edu/~ece473

Pre-requisites: Very strong background in C or C++ and data structures

Text-book: Reading material will be either presented in the class or available as online papers.

Course Description

The course will cover software life-cycle models and different phases of the software development process. Since the ultimate result of software engineering is a working software package, the course will put a great emphasis on developing a demonstrable software package.

Topics Covered

- Essence and Accidents of Software Engineering
- A Comparison of Software Development Methodologies
- Developing new processes for COTS-based systems
- Critical Success Factors in Software Projects
- Taxonomy-Based Risk Identification
- Nine management guidelines for better cost estimating
- Ten steps To Successful Process Improvement
- Capability maturity model
- Software quality
- Software Engineering Economics
- Software engineering code of ethics

Assignments

Homework assignments involve study of state of the art project planning, management and monitoring tools.

Project

The key characteristic is having teams of five to seven students work on developing complex software systems over a course of one semester. The grading is competitive, with the highest rated project receiving the highest grade and the others being rated relatively to the highest one.

Term Paper, Presentation (Graduate Students Only)

Semester project will involve 2 phases:

- During the first half of the course, students will:
    - Choose a topic taught in class,
    - Document a literature survey on state of the art on that topic,
    - Propose an implementation strategy of the selected problem using a software management tool

- During the second half of the course, students will:
  - Implement the proposed approach,
  - Put together a paper quality document with experimental results,
  - Present project findings

General policies

- Course will have around 3 assignments, 1 mid-term examination, a semester project
- NO LATE ASSIGNMENTS WILL BE ACCEPTED, except under extreme non-academic circumstances discussed with the instructor at least one week before the assignment is due.
- **Make-ups** for assignments and exams *may* be arranged if a student's absence is caused by documented illness or personal emergency. A written explanation (including supporting documentation) must be submitted to your instructor; if the explanation is acceptable, an alternative to the graded activity will be arranged. When possible, make-up arrangements must be completed prior to the scheduled activity.
- Any extenuating circumstances that have an impact on your participation in the course should be discussed with your instructor as soon as those circumstances are known.
- Inquiries about graded material have to be turned in within 3 days of receiving a grade.
- Approximate weight of each assignment will be specified when the assignment is handed out. Assignments will be due in class on the due date.
- The instructor reserves the right to modify course policies, course calendar, assignment values and due dates, as circumstances require.
- Students are strongly encouraged to attend the class. Lecture notes are intended to serve as a supplement and not as a substitute for attending class.
- You are encouraged to discuss the assignment specifications with your instructor and your fellow students. However, anything you submit for grading must be unique and should NOT be a duplicate of another source. The Department of Electrical and Computer Engineering expects all students to adhere to UofA's policies and procedures on Code of Academic Integrity.
  http://web.arizona.edu/~studpubs/policies/cacaint.htm

Students with Disabilities

If you anticipate the need for reasonable accommodations to meet the requirements of this course, you must register with the Disability Resource Center and request that the DRC send me official notification of your accommodation needs as soon as possible. Please plan to meet with me by appointment or during office hours to discuss accommodations and how my course requirements and activities may impact your ability to fully participate.

Philosophy

"I never did anything by accident, nor did any of my inventions come by accident; they came by work." Thomas Alva Edison.

- Read before the class
- Participate and ask questions
- Manage your time (3 hours outside class for each credit hour)
- Start working on assignments early

Distribution of Components		Grades Scale	
Component	**Percentage**	**Percentage**	**Grade**
Assignments	15	90-100%	A
Midterm	15	80-89%	B
Project	40	70-79%	C
Quiz	20	60-69%	D
Participation	10	Below 60%	E