Course Syllabus CEN 3031 (CRN: 81076)

Software Engineering

Instructor	**Milan E. Soklic, Ph.D. CS, Ph.D. EE**
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Semesters	Fall 2008
Class room; Meetings	Lutgert Hall 2209, Mon. & Wed. 15:30-16:45
Office hours	Mon. & Wed. 10:30-11:00, 12:15-14:00, and by appointment

Course Objectives:

The purpose of this course is to study theory and methods utilized in the process of software engineering lifecycle, from system requirements through to a system delivery. The main focus is on: software processes, project management, software requirements, architectural design, verification and validation. A two-month group project is used to reinforce the concepts covered in this course.

Learning Course Outcomes

Completing this course, the student should be able to:

- provide conceptual software building blocks,
- conduct software requirements analysis,
- have knowledge of software metrics,
- develop test cases and conduct system testing,
- have experience working on team software projects,
- evaluate designs of existing software systems from architectural perspective.

Textbook:

- Ian Sommerville, *SOFTWARE ENGINEERING*, Seventh Ed., Addison Wesley, 2004 (ISBN 0-321-21026-3)

Additional Reading:

- Roger Pressman, *SOFTWARE ENGINEERING*, Sixth Ed., McGraw Hill, 2005.
- Len Bass, Paul Clements, Rick Kazman, *SOFTWARE ARCHITECTURE in PRACTICE,* Second Ed., Addison Wesley, 2003.

Project:
This is a group project that covers the entire software development lifecycle. The handouts and all necessary details will be provided to you in class. The students start their project by first writing a "Preliminary Project Proposal" that must contain a rather detailed outline about the final "Project Report." The project complements course materials and is intended to be appropriate to student's research project or interest.

Course Content (tentative):
The course lectures will primarily concentrate on the following major topics (textbook):

- Software Processes (Overview)
- Project Management (Overview)
- Software Requirements and Engineering Processes (Requirements)
- System Models (Requirements)
- Architectural Design (Design)
- Architectural Views of Software Systems (**!** *Instructor Notes* **!**)
- Distributed Systems Architectures (Design)
- Object-Oriented Design (Design)
- Real-Time Software Design (Design)
- User Interface Design (Design)
- Verification, Validation (Verification And Validation)

Methods of Evaluation and Grading Policy:
The course load consists of: two milestone project reports (20%), two exams (50%), and project (30%). Dates for the exams will be announced in the class one-week before the exams.

If there are any questions about the way a particular item is graded these should be brought to the instructor's attention within two days the item was graded. If you feel that an assignment or exam of yours has been graded incorrectly, submit a concise written summary of your concern to the instructor. Indicate specifically why you believe your work was graded incorrectly.

Grading will be based on the following scale: 90+ (A), 80+ (B), 70+ (C), <70 (D or F).

The instructor reserves the right to raise or lower the quantitatively determined student's grade depending on instructor's judgment of mastery of the materials presented to him.

Attendance Requirement:
Attendance is required in all classes. No makeup will be given for missed classes, quizzes or exams, unless a case is made in advance with Instructor's approval.

Ethics:
Instructor follows general university "Academic Dishonesty/Cheating Policy."