

Course Number: CIS 260

Course Title: Software Engineering

Number of Units: 4

Schedule: Three hours of lecture and one hour of discussion per week.

Prerequisite: CIS 101, 110

Catalog Description

Software life cycle processes including analysis, design, modifying and documenting large software systems. Topics include software development paradigms, system engineering, function-based analysis and design, and object-oriented analysis and design. Students will implement a working software system in a team environment.

Expanded Description

1. Software Process - Rational Unified Process, eXtreme Programming
2. Management - Managing a RUP project
3. Planning
4. Metrics
5. Risks
6. Scheduling
7. Requirements Analysis
8. Modeling Notations - UML Class Diagrams
9. Analysis and Design - Object Oriented Analysis and Design
10. Architecture

Software

Rational Rose

Course Objectives and Role in Program

The objective of this course is to present Software Engineering as a systematic approach to the analysis, design, implementation and maintenance of software. Students will implement a working software system in a team environment. The knowledge of software engineering plays a significant role in almost all applications students develop for courses in the program.

Learning Outcomes

At the end of this course students will

- Identify and discuss the technical and engineering activities of producing a software product
- Select an appropriate design strategy and apply it to a particular software development project
- Describe issues, principles, methods and technology associated with software engineering theory and practices (e.g., planning, requirements engineering, design, coding, testing, quality assurance, and configuration management)
- Working as part of a team, use a software development process to develop a software product.

Method of Evaluation

Student learning will be evaluated on the basis of

- Completeness and quality of a term project developed in several stages
- Grade on midterm examination
- Grade on final examination
- Class participation.

The weight assigned to each element of evaluation will be determined by the instructor of the course on the first day of the class.

Required Textbook

“Software Engineering: A Practitioner's Approach”, by Roger S. Pressman 5th edition, McGraw-Hill, 2000 (this book will be used for SW I and SW II)

Recommended Reference

“Software Engineering”, by Ian Sommerville, Addison-Wesley, 2000

Modified by: R. Akerkar

Last Revision Approved: July 18, 2005