CSC/CPE 308 Software Engineering I

1. CSC/CPE 308 Software Engineering I

2. credit units 4  contact hours 6

3. Course Coordinator: Gene Fisher

4. Textbook:(and/or other required material) Lecture Notes in Software Engineering and other online material provided by instructor

5. a. Course Description: Principles for engineering requirements analysis and design of large complex software systems. Software process models. Methods of project planning, tracking, documentation, communication, and quality assurance. Analysis of engineering tradeoffs. Group laboratory project. Technical oral and written presentations. 3 lectures, 1 laboratory. Crosslisted as CPE/CSC 308.

b. Prerequisite: CSC/CPE 357.

c. Required/Elective/Selective Elective for CPE, CSC, EE, SE

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6. a. Course Goals/Outcomes

- study the basic concepts of software engineering and the software development process
- study methodological techniques for each of the following software process activities: requirements analysis, model specification and design, user interface specification, inspection testing, documentation, configuration management and version control
- use these techniques in an environment where students obtain ample feedback
- specify a moderate-sized, realistic software system
- improve technical communication skills, both oral and written
- practice the art of working effectively in a technical project team
- use state-of-the-art tools for computer-aided software engineering

b. How Student Outcomes addressed
(“B” = Basic level, “I” = Intermediate level, “A” = Advanced level)

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7. **Major Topics Covered: (number of lecture hours each)**
   - software processes (3)
   - general requirements analysis (3)
   - functional requirements analysis, via user-level scenarios (6)
   - non-functional requirements analysis (1)
   - formal model specification and design (7)
   - user interface specification and prototyping (4)
   - requirements inspection testing, model checking (3)
   - project management (3)