CSC/CPE 309 Software Engineering II

1. CSC/CPE 309 Software Engineering II

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: Continuation of the software lifecycle. Methods and tools for the implementation, integration, testing and maintenance of large software systems. Software development and test environments. Software quality assurance. Group laboratory project. Technical presentation methods and practice. 3 lectures, 1 laboratory. Crosslisted as CPE/CSC 309.

b. Prerequisite: CSC/CPE 308.

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

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6. a. Course Goals/Outcomes

- continued discussion of the basic concepts of software engineering and the software development life cycle, based on introduction given in CSC 308;
- use of methodological techniques for each of the following software life cycle activities: design, implementation, functional testing, acceptance testing, verification, configuration management, documentation
- design, implementation, and functional testing of a projects begun in CSC 308
- design, implementation, and functional testing of graphical user interfaces;
- improvement in technical communication skills, both oral and written;
- continued practice in the art of working effectively in a technical project team;
- introduction to 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)**

- Initial specification review and submission of specification change orders (3)
- System design using object-oriented, function-oriented, and interface-oriented design techniques (5)
- Design patterns (3)
- System implementation using Java, and possibly other languages (4)
- Graphical user interface design using the Java FX library, and possibly others (5)
- System testing and formal verification (7)
- User acceptance testing and quality assurance (3)