CSC/CPE 509 Software Engineering II

1. **CSC/CPE 509 Software Engineering II**

2. **credit units** 4  **contact hours** 4

3. **Course Coordinator**: David Janzen

4. **Textbook**: (and/or other required material) None: students read a selection of academic articles.

5. a. **Course Description**: In-depth study of software modeling and design. Formal design methodologies. Design patterns. Detailed case studies of existing projects. Tools and methods for designing large software systems. 4 seminars

   b. **Prerequisite**: CSC 508 and graduate standing, or consent of instructor.

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

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6. a. **Course Goals/Outcomes**

   The student will be able to:
   - Become proficient in a state-of-the-art software design practice.
   - Become knowledgeable of several state-of-the-art design practices and tools.
   - Write a research paper of publishable quality.

   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)

   - State-of-the-art methods and tools (6)
   - Advanced design modeling and practice; design patterns (6)
   - Advanced software process modeling (6)
   - QA and Testing practices (6)
   - Case Study Analysis (3)
• Software product lines (3)