CSC 508 – Software Engineering I

1. CSC 508 – Software Engineering I

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

3. **Course Coordinator:** David Janzen

4. **Textbook (or other required material):** None

5. a. **Course Description:**
   In-depth study of requirements engineering, software project management, formal specifications and object-oriented analysis. 4 seminars.

   b. **Prerequisite:** [CSC 307](#) or [CSC 308](#) and graduate standing, or consent of instructor.

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

      |               | CSC | CPE | SE |
      |---------------|-----|-----|----|
      | Required      |     |     |    |
      | Elective      | X   | X   | X  |
      | Selective Elective |   |     |    |

6. a. **Course Learning Objectives**
   The student will be able to:
   - Write a research paper of publishable quality.
   - Write a requirements specification for a large software project.
   - Design a software architecture for a large software project.
   - Implement a prototype for a large software project.
   - Proficiently utilize a particular software process model.

   b. **Level at which Student Outcomes are addressed**
   ("B" = Basic level, "I" = Intermediate level, "A" = Advanced level)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC</td>
<td>A</td>
<td>A</td>
<td>I</td>
<td></td>
<td>A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>SE/</td>
<td>I</td>
<td>A</td>
<td>I</td>
<td></td>
<td>A</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>CPE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. **Major Topics Covered: (number of lecture hours per)**
   - Research papers: analysis methods, research methods, empirical studies (3 hours)
   - Advanced requirements modeling and practices (6 hours)
   - Prototyping methods and practices (3 hours)
- Advanced software process modeling (6 hours)
- Software project management (3 hours)
- Validation and testing practices (3 hours)
- Formal and semi-formal methods (3 hours)
- Publishing/presenting a research paper (3 hours)