CSC 402 – Software Requirements

1. CSC 402 – Software Requirements

2. credit units 4 contact hours 6

3. Course Coordinator: David Janzen


5. a. Course Description:
   Software requirements elicitation, analysis and documentation. Team process infrastructure and resource estimation to support appropriate levels of quality. Software architectural design. 3 lectures, 1 laboratory.

   b. Prerequisite: CSC 307 or CSC 309.

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

<table>
<thead>
<tr>
<th>Required</th>
<th>CSC</th>
<th>CPE</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Selective Elective</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. a. Course Learning Objectives
   The student will be able to:
   - Produce and maintain a high-quality software product on time and in budget.
   - Articulate and execute principles of software requirements engineering.
   - Articulate and execute principles of software architecture.
   - Work effectively as a team member to meet project milestones.
   - Describe and apply a software process.
   - Effectively write and speak about software engineering.

   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>I</td>
<td>A</td>
<td>I</td>
<td>A</td>
<td>I</td>
<td>N/A</td>
</tr>
<tr>
<td>SE/</td>
<td>A</td>
<td>I</td>
<td>A</td>
<td>I</td>
<td>A</td>
<td>A</td>
<td>B</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)
• Introduction: challenges and limitations of solving human problems using software (2 hours)
• Discovering customer requirements: precisely what is this customer's problem (2 hours)
• Specifying requirements (3 hours)
• Semi-Formal specification of requirements (4 hours)
• Resource estimation and process planning (4 hours)
• Analyzing requirements (2 hours)
• Requirements quality assurance: test planning and user manual issues (1 hour)
• Software architectural design (5 hours)
• Design quality issues and traceability to requirements (1 hour)
• Presentations and reviews of a software requirements document (4 hours)