CS673 F2011
Software Engineering
Department of Computer Science
Metropolitan College
Boston University

Syllabus

Note: This is a live document. The current version presents a tentative class schedule. Please constantly check the updated version online on blackboard.

Instructor Information

Name: Yuting Zhang
Office: 808 Commonwealth Ave., Room 263
Email: danazh at bu dot edu
URL: http://people.bu.edu/danazh

Office Hours
I will be in the office from 4:00 on Tuesdays and Wednesdays, and will be in the classroom at 5:30pm. Feel free to stop by for any questions.
You can always contact me by email or by Skype if preferred.

Course Information

Prerequisites
MET CS 342 and at least one 500- level computer programming-intensive science course or instructor’s consent.

Lectures
Wednesday 6:00-9:00pm (FLR Lab 1, 808 Commonwealth Ave)

Text Book:

Reference Books:
Frederick P. Brooks, Jr. The Mythical Man Month
Shari Lawrence Pfleeger, Joanne M. Atlee. Software Engineering: Theory and Practice
Roger S. Pressman Software Engineering: A Practitioner’s Approach
Hans Van Vilet Software Engineering: Principles and Practice
Bernd Bruegge and Allen H. Dutoit. Object-Oriented Software Engineering: Using UML, Patterns and Java

Please check blackboard for all course materials
**Description (from Catalog)**

Techniques for the construction of reliable, efficient and cost-effective software. Requirements analysis, software design, programming methodologies, testing procedures, software development tools and management issues. Students design and implement a system in a group project. Laboratory course.

**Objectives**

At the end of the semester, students are expected to

- Have a fundamental understanding of major software process models and activities in software process.
- Be familiar with the main phases of a software project and be competent in preparing the related documents such as SPMP (Software Project Management Plan), SRS (Software Requirement Specification), SDD (System Design Document) etc. Be competent in implementing the design by producing robust, efficient and maintainable code, and carrying out the test plan.
- Be comfortable with CASE (Computer Aided Software Engineering) tools such as UML tool, testing tool, and version control tool.
- Be competent in effectively participating team-based real world software development projects.
- Be comfortable with formal project presentation.

**Class Schedule**

<table>
<thead>
<tr>
<th>Class #</th>
<th>Date</th>
<th>Topics</th>
<th>Readings</th>
<th>Project Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>09/07</td>
<td>Introduction to Software Engineering, Overview of Software Quality</td>
<td>Ch1,2,5,9</td>
<td>Project Assigned</td>
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<tr>
<td>2</td>
<td>09/14</td>
<td>Software Process, Configuration management</td>
<td>Ch3,4,6</td>
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<tr>
<td>3</td>
<td>09/21</td>
<td>Project management (Team software process, Risk management, Estimation, Scheduling)</td>
<td>Ch7,8,9</td>
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<tr>
<td>4</td>
<td>09/28</td>
<td>Requirement Analysis I (Functional&amp;nonfunctional, Functional model- Use Case diagram)</td>
<td>Ch10,11</td>
<td>Project Phase 1 Products Due</td>
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<tr>
<td>Week</td>
<td>Date</td>
<td>Topic</td>
<td>Chapters</td>
<td>Notes</td>
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<tr>
<td>5</td>
<td>10/05</td>
<td>Requirement Analysis II</td>
<td>Ch12,13</td>
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<td>(Class model: class/object diagram,</td>
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<td>Dynamic model- state diagram,</td>
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<td>Quality in Requirement Analysis)</td>
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<td>6</td>
<td>10/12</td>
<td>Software Design I</td>
<td>Ch15,16,</td>
<td>Project Phase 2</td>
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<td></td>
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<td>(Design goals, Design Patterns,</td>
<td>17,18</td>
<td>Products Due</td>
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<td>Software Architectures)</td>
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<tr>
<td>7</td>
<td>10/19</td>
<td>Software Design II</td>
<td>Ch16,</td>
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<td></td>
<td></td>
<td>(Detailed Design, Object-Oriented Design)</td>
<td>19,20</td>
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<tr>
<td>8</td>
<td>10/26</td>
<td>Testing I</td>
<td>Ch25,26</td>
<td>Project Phase 3</td>
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<td></td>
<td>(Unit Testing)</td>
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<td>Products Due</td>
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<tr>
<td>9</td>
<td>11/02</td>
<td>Implementation</td>
<td>Ch22,32,</td>
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<td>(Refactoring)</td>
<td>24</td>
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<td>10</td>
<td>11/09</td>
<td>Testing II</td>
<td>Ch27,28</td>
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<td>(Integration Testing, System Testing)</td>
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<td>11</td>
<td>11/16</td>
<td>Exam</td>
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<td>12</td>
<td>11/30</td>
<td>Maintenance</td>
<td>Ch29</td>
<td>Whole Project Due</td>
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<td>13</td>
<td>12/07</td>
<td>Project Presentation</td>
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The above schedule is subjected to change according to the progress of the class and the feedback of the students.

**A feature of this course is a semester-long team-based project. Each team should have at least 4 students. Every member of the team is expected to contribute a roughly equal share to the project.**

Besides the book chapters, the additional reading material may be assigned for each topic. Reading before and after class is required and essential to succeed in this course. Students are responsible for **ALL** the materials covered in the lectures and lab sessions including any topics not in the textbooks.

**Course Requirements**

- Class participation
- Reading and study
- Semester-long project
- Quizzes and Exam
Course Policies

Grading Policy
The grade that a student receives in this class will be based on class participation, in-class exercise, quizzes, project and the exam. The grade is breakdown as shown below. All percentages are approximate and the instructor reserves the right to make necessary changes.

- 10% on In-class participation, exercises, quizzes
- 65% on Semester-long Project
- 25% on Exam

Letter grade/numerical grade conversion is shown below:
A (93-100)  A- (90-92)
B+ (87-89)  B (83-86)  B- (80-82)
C+ (77-79)  C (73-76)  C- (70-72)
D+ (67-69)  D (63-86)  D- (60-62)
F (0 – 59)

Attendance Policy
Attendance is expected at all class meetings. You are responsible for all material discussed in class. In general, no makeup quizzes and exam will be given unless an extremely good, verifiable reason is given in advance. Please respect your classmates by silencing your cell phones and other electronic devices before class begins.

Assignment Late Policy
All project deadlines are firm. A deadline miss means zero for the grade of that phase. It is the students’ responsibility to keep secure backups of all working products.

Academic Integrity
Academic conduct in general and MET College rule in particular require that all references and uses of the work of others must be clearly cited. All instances of plagiarism must be reported to the College for action. For the full text of the academic conduct code, please check http://www.bu.edu/met/for-students/met-policies-procedures-resources/academic-conduct-code/.