Software Engineering: COSC 3370
School of Engineering & Computing Sciences
Fall 2017

A. COURSE INFORMATION

Course number/section: 3370.001
Class meeting time: MWF 10:00-10:50AM
Class location: CI-107
Course Website: bb9.tamucc.edu

B. INSTRUCTOR INFORMATION

Instructor: Junfei Xie
Office location: CI-327
Office hours: M 9:00 AM – 10:00 AM
WF 8:00 AM – 10:00 AM
Telephone: (361) 825-3622
e-mail: Junfei.Xie@tamucc.edu
Appointments: Call me or send me an email

C. COURSE DESCRIPTION

The application of engineering principles to the development and maintenance of high quality
large software systems, delivered on time and within budget, including the development and
application of processes and tools for managing the complexities inherent in creating these
systems.

D. PREREQUISITES AND COREQUISITES

Prerequisites
COSC 2437

Corequisites
None

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Textbook(s)

Optional Textbook(s) or Other References
Software Engineering: A Practitioner’s Approach, R.S. Pressman, McGraw Hill, 8th Ed.
F. **STUDENT LEARNING OUTCOMES AND ASSESSMENT**

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

- Describe the basic concepts of software engineering
- Understand the significance of engineering and programming to software development
- Utilize a variety of techniques to develop good requirements
- Sharpen requirements into specifications
- Utilize a variety of design techniques
- Describe process of selecting a programming language and tools
- Use pseudocode and other techniques for component design
- Understand the use of data flow diagrams
- Describe quality assurance techniques
- Develop strategic test plans
- Describe significant software metrics
- Compute significant software metrics
- Discuss current developments in software engineering
- Understand effective project management techniques

G. **INSTRUCTIONAL METHODS AND ACTIVITIES**

This course will be a mixture of lectures and discussions. The student is expected to actively participate in all class activities. The student is also expected to do outside work on assignments and reading.

H. **MAJOR COURSE REQUIREMENTS AND GRADING**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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</thead>
<tbody>
<tr>
<td>Exam (3)</td>
<td>45 (15 each)</td>
</tr>
<tr>
<td>Individual Assignments</td>
<td>10</td>
</tr>
<tr>
<td>Team Project (Multiple Deliverables)</td>
<td>40</td>
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</tbody>
</table>
I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>DATE (BY DAY OR WEEK)</th>
<th>TOPIC</th>
<th>CHAPTER(S)</th>
<th>ASSIGNMENTS</th>
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</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>The Scope of Object-Oriented SE</td>
<td>1</td>
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<tr>
<td>Week 2</td>
<td>Software Life-Cycle Models</td>
<td>2</td>
<td>Assignment 1</td>
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<tr>
<td>Week 3</td>
<td>The Software Process</td>
<td>3</td>
<td>Assignment 2</td>
</tr>
<tr>
<td>Week 4-5</td>
<td>The Requirements Workflow</td>
<td>11</td>
<td>Team Project-Phase 1</td>
</tr>
<tr>
<td>Week 6</td>
<td>Exam 1</td>
<td></td>
<td></td>
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<tr>
<td>Week 7</td>
<td>From Modules to Objects</td>
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<td>Assignment 3</td>
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<tr>
<td>Week 8-9</td>
<td>Object-Oriented Analysis</td>
<td>13</td>
<td>Team Project-Phase 2</td>
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<tr>
<td>Week 10</td>
<td>The Tools of the Trade</td>
<td>5</td>
<td>Assignment 4</td>
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<tr>
<td>Week 11</td>
<td>Exam 2</td>
<td></td>
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<tr>
<td>Week 12</td>
<td>Design</td>
<td>14</td>
<td>Team Project-Phase 3</td>
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<tr>
<td>Week 13</td>
<td>Implementation</td>
<td>15</td>
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<tr>
<td>Week 14</td>
<td>Postdelivery Maintenance &amp; Teams</td>
<td>4,16</td>
<td>Assignment 5</td>
</tr>
<tr>
<td>Week 15</td>
<td>Exam 3</td>
<td></td>
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Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

J. COURSE POLICIES

Attendance/Tardiness
You are expected to be in attendance, punctual, and prepared for class. If you are more than 5 minutes late to class, you will be counted as tardy. Please make sure that you will never be tardy to any of your classes or accept the consequences.

Late Work and Make-up Exams
Assignments are accepted until MIDNIGHT on the due date. Every homework assignment will list a due date for full credit. Late assignments will lose 10% of the maximum score
per day. Makeup exams will not be given under normal circumstances. If you notify me immediately that serious, unavoidable, documentable (e.g., with a letter from your doctor) circumstances have arisen, I will discuss options for replacing the missing grade. (For example, I may allow the grade earned on the comprehensive final to replace the grade for the missed exam.) Excused absences due to school sponsored activities, religious observations, family rituals, etc. should be discussed in advance.

**Participation**
Class discussions and information provided in class are considered regular course material; it is your responsibility to take appropriate notes. You are expected to attend lectures and actively participate in class discussions.

**Cell Phone Use**
You are required to turn off your cell phone in class and pay attention to class discussions.

**Laptop Use**
Use of laptops and other electronic devices is restricted to taking notes. If you are found to use these devices for other purposes, you will not be allowed to use them anymore.

**K. COLLEGE AND UNIVERSITY POLICIES**

- **Academic Integrity (University)**
  It is expected that university students will demonstrate a high level of maturity, self-direction, and ability to manage their own affairs. Students are viewed as individuals who possess the qualities of worth, dignity, and the capacity for self-direction in personal behavior.
  See Full University Policy at http://catalog.tamucc.edu/content.php?catoid=10&navoid=313#Academic_Integrity

- **Classroom/Professional Behavior**
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

- **Deadline for Dropping a Course with a Grade of W (University)**
  I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. *Please consult with your academic advisor, the Financial Aid Office, and me, before you decide to drop this course.* Should dropping the course be the best course of action, you must
initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Please consult the Academic Calendar (http://www.tamucc.edu/academics/calendar/) for the last day to drop a course.

- **Grade Appeals (College of Science and Engineering)**
  As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://www.tamucc.edu/provost/university_rules/index.html, and the College of Science and Engineering Grade Appeals webpage at http://sci.tamucc.edu/students/GradeAppeal.html. For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

- **Disability Services**
  The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

  If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

  http://disabilityservices.tamucc.edu/

L. **OTHER INFORMATION**

- **Academic Advising**
  The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins.
Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

GENERAL DISCLAIMER

I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.