CSE 5324: Software Engineering: Analysis, Design, and Testing
Fall 2014

Instructor: Jeff Lei

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Office Hours: 9:30 – 11:00am, Tue and Thu

Section Information: CSE 5324 Section 001

Time and Place of Class Meetings: 11:00am – 12:20pm, Tue and Thu, ERB 129

Description of Course Content:

Motivations, principles, and goals of software engineering; technical aspects of software projects, including: review of structured analysis and structured design, emphasis on object-oriented methods of requirements analysis and specification, design, and implementation; software testing concepts; team project.

Student Learning Outcomes:

- A systematic understanding about the basic concepts, principles, techniques, and methods in software engineering.

- Ability to apply the basic concepts, principles, techniques, and methods covered in this course to solve practical software engineering problems.

- Ability to appreciate and evaluate alternative solutions, in terms of their advantages and disadvantages, for practical software engineering problems.

Requirements:

Basic understanding about software development and UML. Moderate proficiency in Java programming.

Required Textbooks and Other Course Materials:

Textbook:

Roger S. Pressman, Software Engineering: A Practitioner's Approach (7th Edition), McGraw Hill, 2010. ISBN 978-0-07-337597-7.

Craig Larman: Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development. 3rd edition. Prentice Hall, 2004. Also available online at http://libproxy.uta.edu:2161/0131489062

References:

David Kung, Object-Oriented Software Engineering: An Agile Unified Methodology, McGraw Hill, 2013, ISBN 0073376256.

Grady Booch, James Rumbaugh, and Ivar Jacobson: The Unified Modeling Language User Guide. 2nd edition. Addison-Wesley, 2005. Also available online at http://libproxy.uta.edu:2161/0321267974

Descriptions of major assignments and examinations:

There will be several quizzes and a team project. The quizzes will be announced one week in advance and will consist of true/false questions and questions with short answers. The team project is to develop a software application using the software engineering principles and methods that will be covered in this course.

Attendance: There will be two types of class meetings, including regular lectures (i.e., lectures given by the instructor), and project presentations. Attendance for regular lectures is strongly encouraged. Attendance for project presentations is required. *The instructor reserves the right to change this policy as needed.*

Grading:

Tentatively, the final grade will be determined according to the following percentages:

Attendance – 10%
Quizzes – 20%
Project – 70%

Make-up Exams: No make-up exams will be given.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance**. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/aao/fao/).

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Title IX: The University of Texas at Arlington is committed to upholding U.S. Federal Law "Title IX" such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit www.uta.edu/titleIX.

Academic Integrity: Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

> *I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at http://www.uta.edu/oit/cs/email/mavmail.php.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit http://www.uta.edu/sfs.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is located [insert a description of the nearest exit/emergency exit]. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

Writing Center: The Writing Center, 411 Central Library, offers individual 40 minute sessions to review assignments, Quick Hits (5-10 minute quick answers to questions), and workshops on grammar and specific writing projects. Visit https://uta.mywconline.com/ to register and make appointments. For hours, information about the writing workshops we offer, scheduling a classroom visit, and descriptions of the

services we offer undergraduates, graduate students, and faculty members, please visit our website at www.uta.edu/owl/.

Course Schedule
The following table shows the major topics that will be covered as well as the estimated number of lectures for each topic. These topics will be covered in the order as they appear in the table. Note that this course includes a team project that will be developed in multiple iterations. Each team will make a presentation at the end of each iteration. The rest of the class meetings will be given to these presentations.

The instructor reserves the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course.

Topics	# of Lectures
Syllabus	1
Software and Software Engineering	1
Software Process	1 ~ 2
Team Project Discussion	0.5
Agile Development	1
Software Engineering Principles	1 ~ 2
Understanding Requirements	1
Use Cases	1 ~ 2
Domain Modeling	1
Software Design	3
Software Testing	1 ~ 2