

CS/CE/SE 3354 Course Syllabus - Fall 2025

Course Information

Course Number/Section: CE/CS/SE 3354.007

Course Name: Software Engineering

Term: Fall 2025

Meetings: Tuesday, Thursday 2:30PM - 3:45PM

Location: ECSW 1.355

Professor Contact Information

Soneya Binta Hossain

Office Phone: (972) 883-4172

Email: sbhossain@utdallas.edu (*please include 3354.007 in the subject line*)

Office Location: ECSS 4.231

Office Hours: Friday 10AM - 11AM (*appointment only*)

Grader Contact Information: *Meet Chheda/MeetAmit.Chheda@UTDallas.edu*

Course Pre-requisites, Co-requisites, and/or Other Restrictions

• **Prerequisites:** (CE 2305 or CS 2305) with a grade of C or better and (CE 2336 or CS 2336 or CS 2337) with a grade of C or better or CS 3333 and ECS 2390. Repeat Restriction.

Course Description

- Introduction to Software Life Cycle Models.
- Software Requirements Engineering, Formal Specification and Validation.
- Techniques for Software Design and Testing.
- Cost Estimation Models.
- Issues in Software Quality Assurance and Software Maintenance.

Student Learning Objectives/Outcomes

- The ability to understand software lifecycle development models
- The ability to understand and apply software requirements engineering techniques
- The ability to understand and apply software design principles
- The ability to understand and apply software testing techniques
- The ability to understand the use of metrics in software engineering
- The ability to understand formal methods in software development
- The ability to establish and participate in an ethical software development team
- The ability to use software project management tools and techniques
- The ability to use CASE tools for software development

Required Textbooks and Materials

- Ian Sommerville, “Software Engineering”, 10th ed., Pearson, 2015, ISBN: 978-0133943030.

Recommended Textbooks and Materials

- IEEE Software Engineering Body of Knowledge (SWEBOK v3)

Suggested Course Materials

- D.C. Kung, Object-Oriented Software Engineering: An Agile Unified Methodology, 2014.
- S.R. Schach, Object-Oriented and Classical Software Engineering, Eighth Edition, 2011.
- R. Sethi, Software Engineering: Basic Principles and Best Practices, 2023.

Class Schedule (Tentative – Topics, Reading Assignments, Due Dates, and Exam Dates)

Week	Dates	Topics / Chapters	Reading	Tentative Deadline
1	08/25–08/29	Syllabus Ch. 1: Introduction Ch. 2: Software Processes	Read Ch. 1 Read Ch. 2	
2	09/01–09/05	Ch. 3: Agile Software Development <i>project team signup</i> Ch. 4: Requirements Engineering <i>project idea discussion</i>	Read Ch. 3 Read Ch. 4	Assignment 1
3	09/08–09/12	Ch. 5: System Modeling	Read Ch. 5	
4	09/15–09/19	Ch. 6: Architectural Design	Read Ch. 6	
5	09/22–09/26	Ch. 7: Design and Implementation <i>Review Ch 2 and Ch 3</i> <i>Team 7 and 11</i>	Read Ch. 7	Assignment 2, Project Deliverable 1
6	09/29–10/03	Ch. 8: Software Testing <i>Review Ch 4 and Ch 5</i> <i>Team 10 and 15</i>	Read Ch. 8	Assignment 3
7	10/06–10/10	Tuesday: Unit Testing with Junit <i>Review Ch 6 Team 14</i> ----- Thursday: <i>Review Ch 7 Team 9</i> <i>Automated Testing Tool Demo:</i> <i>EvoSuite: Team 12</i>	—	Project Feedback
8	10/13–10/17	Ch. 17: Distributed Software Engineering <i>Automated Testing Tool Demo: Randoop</i> <i>Team 13</i> ----- Midterm Exam	Read Ch. 17	Project Deliverable 2
9	10/20–10/24	Ch. 17: Distributed Software Engineering <i>Review Ch 8 Team 1</i> Ch. 18: Service-Oriented SE	Read Ch. 17 Read Ch. 18	Assignment 4, Project Deliverable 2 Feedback
10	10/27–10/31	Ch. 22: Project Management Ch. 23: Project Planning	Read Ch. 22 Read Ch. 23	
11	11/03–11/07	Ch. 24: Quality Management <i>Review Ch 17 Team 2</i> Ch. 25: Configuration Management <i>Review Ch 18 Team 3</i>	Read Ch. 24 Read Ch. 25	Project Deliverable 3
12	11/10 –11/14	<i>Review Ch 22, Team 4</i> <i>Review Ch 23, Team 5</i> ===== <i>Review Ch 24, Team 6</i> <i>Review Ch 25 Team 8</i>	—	

13	11/17–11/21	Final Project Presentations	—	
14	11/24 – 11/30	Fall Break - No Classes	—	
15	12/01–12/05	Final Project Presentations	—	
—	Exam Week	Final Exam	—	Dec 11 Class Time

Grading Policy

- 10pts deduction if assignments/projects submitted within 24 hours of due dates. **After 24 hours, the score is zero.**
- Project/assignment/exams will all be graded by a grader. If you have any grading concerns *you should email the grader, TA and copy me.*

Group Project: 30%

- Three deliverables, each worth **10%** (includes peer reviews).
- Each team will use a private GitHub repository to host their work, with a detailed README or wiki page for the project.
- Each team will present their project to the entire class. Attendance is mandatory for all other teams.
- Successful projects come from strong collaboration. Communicate with your team effectively and let the instructor know early if support is needed.
- Extra credit is available for demonstrating effective use of AI in your project.

• Individual Homework Assignments: 10%

- All assignments will be posted and submitted via **eLearning ONLY.**
- All assignments are **individual work**. Collaboration, plagiarism, or any form of cheating will not be tolerated and will result in disciplinary action.
- Any clarifications or hints will be posted on the discussion board.

• Midterm Exam: 25% and Final Exam: 25%

- You may be given exams in classroom, testing center or in eLearning through **Lockdown Browser**. We will share more information before each exam.

• Participation: 10%

- The discussion board is used throughout the semester and counts toward your participation grade.
- Post technical questions on the board, email personal questions.
- Use the board to report software issues, note errors in materials, and extend class discussions.
- Participate by responding to peers' posts and rating their responses.

Grade Scale

Score Range	97-100	94-97	90-94	87-90	84-87	80-84	77-80	74-77	70-74	67-70	64-67	60-64	Below 60
Grade	A+	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F

Student Conduct & Discipline

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD publication, *A to Z Guide*, which is provided to all registered students each academic year.

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the *Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3*, and in Title V, Rules on Student Services and Activities of the university's *Handbook of Operating Procedures*. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391).

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

Academic Integrity

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

Email Use

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence to be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individuals corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.

Withdrawal from Class

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

Student Grievance Procedures

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's *Handbook of Operating Procedures*.

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the deal will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all parties involved.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of **F**.

Disability Services

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.

The contact information for the Office of Disability Services is:
The University of Texas at Dallas, SU 22
PO Box 830688
Richardson, Texas 75083-0688
(972) 883-2098 (voice or TTY)

Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for example, a research paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments may have to be

rescheduled to accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.

It is the student's responsibility to notify his or her professors of the need for such accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodation. Individuals requiring special accommodation should contact the professor after class or during office hours.

Religious Holy Days

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

These descriptions and timelines are subject to change at the discretion of the Professor.