CS/CE/SE 3354.002 Course Syllabus

COURSE INFORMATION:

Course Number: CS/CE/SE 3354.002
Course Title: Software Engineering
Course Term: Spring 2025
Schedule: M W 2.30 – 3.45 PM
Location: ECSS 2.311

INSTRUCTOR CONTACT INFORMATION:

Email Address: Srimathi.Srinivasan@utdallas.edu
Office Location: ECSS 3.608
Office Hours: Mondays, Wednesdays : 4 - 5.30 PM in person/Teams
Click here to enter my Office room

GRADER CONTACT INFORMATION:

TA:
TA email:
Office Hours:
Location:

Email: When you send a mail to me or TA, please **specify 3354.002 in the subject of the email.**

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

CE/CS/TE 2336 (Computer Science II) with a grade of C or better
or CS 3333(Data Structures)
CE/CS/TE 2305 (Discrete Mathematics for Computing I) with a grade of C or better
Pre- or co-requisite: ECS 3390 (Professional and Technical Communication)

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

Course Learning Outcome	Homework	Quiz	Projects	Exams
1) Ability to understand software lifecycle development models.		Q1		

2) Ability to understand and apply software requirements engineering techniques.	A2		P2	
3) Ability to understand and apply software design principles.	A4		P2, P3	
4) Ability to understand and apply software testing techniques.			P4	
5) Ability to understand the use of metrics in software engineering.				E1
6) Ability to understand formal methods in software development.	A3			
7) Ability to establish and participate in an ethical software development team.	A1			
8) Ability to use software project management tools and techniques.			P2	
9) Ability to use CASE tools for software development.	A5		P2, P3	

Required Textbooks and Materials

1) *(**Required**)* Kung D., "Object-Oriented Software Engineering: An Agile Unified Methodology", 1st ed., McGraw Hill, ISBN: 978-0073376257

Suggested Course Materials

2) ***(Recommended)*** I. Sommerville, Software Engineering, Tenth Edition, 2016. Parts 1 and 4.
3) IEEE Software Engineering Body of Knowledge (SWEBOK v3), 2014 (available via eLearning References)
4) Craig Larman, "Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development", Prentice-Hall, ISBN: 013 148 9062, 2005.

Academic Calendar (Tentative Schedule)

Week	Dates (M W)	Class Activity	Assignment/Projects
1	Jan 22nd	Review of Syllabus, Introduction (1),	
2	Jan 27th, 29th	Software process & methodology (2) (**students PA1**) Agile 2a, System engineering (3)	**A1 due Projects assigne** **Q1**
3	Feb 3rd, 5th	Requirements Engineering (4) Software requirements elicitation (4) (**students PA2**)	**Q2**
4	Feb 10th, 12th	Domain/System modeling (5) Domain/System modeling (OO) (**students PA3 IC**)	**A2 due P1 due Q3**
5	Feb 17th, 19th	Use case modeling (7) (**students PA4 IC**) Architectural design (6)	**A3 due Q4**
6	Feb 24th, 26th	Architectural design (6) styles (**students PA5**) Project group Discussion (2) Actor-system interaction model (8)	**Q5, P2 due**
7	March 3rd, 5th	Object-interaction modeling (9) Applying Responsibility Patterns (10) Project Discussion (3)	**A4 due, Q6**
8	March 10th, 12th	Applying Responsibility Patterns (10) Deriving a design class diagram (11) Project Discussion (3)	**P3 due**

9	**March 17th, 19th**	**Spring break**	
10	March 24th, 26th	Implementation (18) Test case Requirements (20.3) Feedback Mid Semester	**A5 due**
11	March 31st, April 2nd	Software testing (20), Project group Discussion (4) BB, Project group Discussion (4)	**P4 due**
12	April 7th, 9th	WB, Project group Discussion (5)	
13	April 14th, 16th	Software Quality Assurance (19)	**P5 due**
14	April 21st, 23rd	Software project management (23) Project group Discussion for Demo(6)	**Demo part - P6 due**
15	**April 28th, 30th**	**Exam, Project Demo**	**2.30–3.45 pm in classroom**
16	**May 5th, 7th**	**Project Demo**	

Grading Policy

- **Projects 50%.**
  - **One team project with five planned increments - 40%. Phase 1 will be 3%. Phases 2, - 3 will be 8% each. Five Peer reviews for each phase together will constitute 5%**
  - **All students are required to participate in all presentations**. Participation is part of the project score. Presentation and Participation (**10%**). You need to do a demo based on your work. The demonstration should make sure you have a front end, back end, database all tied completely.
  - Team members are required to work together throughout the project. You should plan on committing your time and effort to teamwork. Teams that do not work together produce very poor results and score poorly! Teamwork, teamwork, teamwork! Keep this in mind. Make sure perform well in your team. Teams or team members should report to the instructor as soon as possible if there are problems in the team that will affect teamwork.
  - All Students **will need to code in the last phase of your project** and should have coding skills.
  - **All project assignments are due on the Sunday of the week mentioned in the syllabus.**

- **Homework Assignments 15%.**
  - We will have graded assignments for most topics. They will be posted on eLearning, and any clarifications or hints will be posted on the discussion board.
  - **No zip files please!** Only pdf or word document.
  - Identical or highly similar solutions could result in zero points and academic discipline.

- **Participation Activity 10%**
  - Students may be asked to prepare some class material so that the lecture is not monotonous.
  - Every time a student from a group gets to present the material.
  - Sometimes an in-class activity may be given. Students can discuss as a group but are required to submit them individually.

- **Instead of midterm exams, we will have quizzes 10%.**

- Quizzes will occur every Friday, covering the material discussed during the week. Exceptions will be announced via email (there will be no quizzes during exam weeks or the final week of class).
- Quizzes are open books and open notes. Do not search on the Web for a solution to a problem.
- Quizzes may be taken between **8 am Fridays to 8 AM Saturdays.**
- **Quizzes can be taken up to 3 times until 8 AM Saturdays. The latest score will be taken.**
- Quizzes may be excused; quizzes cannot be made up; excused absences result in a null grade.
- Quizzes will be administered online in the eLearning / Testing Folder.
- Quizzes will last 20 minutes from the time start (and then will be automatically submitted).
- Quiz results will be available in eLearning after the due date/time.

- **One Final Exam 10%.**
  - There is no Retake for the Final Exam.

- **ATTENDANCE 5%**
  - Regular attendance is highly recommended. **Three consecutive absences or six absences lead to a letter grade drop. Eight absences lead to an F.** However, **two attendances will be dropped** when computing the final grade to cover the common issues like car trouble, mild sickness and religious holidays. **You don't have to send a mail on this regard, asking for permission to take off.**
  - **If you are sick, your absence will be excused only if you give a doctor's note.** This will not be counted against your 6 absences for a letter grade drop.
  - **Your 6 or 8 absences for the letter drop include the two dropped attendances.**

- **DISCUSSION BOARD USE**
  - We will use the discussion board throughout the semester.
  - Please ask all your technical questions/concerns regarding the course or the assignments using the discussion board. **Only email personal questions/concerns**.
  - You should post about software failures, errors in the books or slides, or about topics that extend from our classroom discussion. You can respond to other students and/or rate the responses.

- **Quiz and Exam Questions**
  - Questions will be true/false, multiple choice, and/or problems.
  - Problems will have essay responses or file responses.
  - For a file response, submit a file in pdf, jpg, or png format (may be hand drawn and photographed/scanned or may be the output of a tool, such as a drawing tool).

Connectivity Issues

- Since quizzes and exams are online, it is possible that a network problem could result in a connection failure. If you drop out of a quiz or exam, the timer will continue to count down. If you log back in quickly, you may be able to resume without penalty.
- If you continue to have connectivity issues, contact the 24/7 IT helpdesk immediately to document the problem in a timely manner: https://ets.utdallas.edu/elearning/helpdesk or (866) 588-3192. The IT helpdesk may be able to resolve the problem in a timely manner.

Assignments

- You will typically have a week to do a homework assignment.
- Assignments will be assigned by Wednesdays.
- Assignments will typically be due by the following Tuesday midnight.
- Assignments must be turned in on time – late assignments will receive a grade of 0 unless an excuse is accepted by the teacher.
- Assignments may be deferred for an excused absence; students are still responsible for the material covered in class.
- Assignments shall include the class/section, the assignment, and your name at the beginning of the file. File names of softcopy assignments shall include the class/section, the assignment, and your name, e.g., se3354.501a01jdoe.pdf
- Assignments should be submitted through eLearning.
- You have an unlimited number of submission attempts for an assignment up until the time it is due.

Grading Policy Summary

- Project: 50%
- Individual Homework Assignments: 15%
- Participation Activity 10%
- Quizzes: 10%
- Final Exam: 10%
- Attendance: 5%

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

Course & Instructor Policies

1) There will be no extra credit work.
2) Assignments and quizzes will not be accepted late unless there are extenuating circumstances as accepted by the teacher.
3) Excused absences are provided for serious medical issues and school-sponsored events (e.g., professional conferences or athletic events for athletes) or at the discretion of the professor.
4) Evidence, e.g., a doctor's excuse, for the reason for an excused absence should be emailed to me.
5) Assignments may be deferred for an excused absence, but students are still responsible for the material covered in class.
6) When you send a mail to me or TA, please **specify 3354.002 in the subject of the email.**

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:
"As a Comet, I pledge honesty, integrity, and service in all that I do."

Academic Support Resources

The information contained in the following link lists the University's academic support resources for all students. Please go to Academic Support Resources webpage for these policies.

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please go to UT Dallas Syllabus Policies webpage for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.

From internship point of view projects are important – though you have to learn – securing internships is useful.
Github crash course
https://github.com/codecrafters-io/build-your-own-x
https://youtu.be/ZVnjOPwW4ZA - frame work for front end stuff – next JS
Overview about full stack –
Need a presentation of all the models.