

University of Texas at Tyler
Soules College of Business
Department of Computer Science
COSC 3375 Analysis and Logical Design

Subject to Change

Course Information

COSC 3375 Analysis and Logical Design Fall 2025

Class Meetings will be in-person on Tuesdays and Thursday 12:30-1:50, COB 255

Instructor Contact

Instructor: Sara Memarian Esfahani

Office location: COB 315.04

Zoom Meeting ID: TBA

Office hours: Tuesdays and Thursdays 14:00 to 16:00 or on Zoom by appointment

Email: Use the Inbox in Canvas (MUST include **COSC 3375** in the Subject Line)

Normally, I will reply to an email within 24 to 48 hours.

To ensure a quick response over the weekends, please email me no later than Friday mornings.

Occasionally I will be unable to respond within that time frame but will inform the class in advance.

Communication Expectations

The most convenient way to communicate with the instructor is through the Inbox in Canvas. Download the mobile app for your convenience.

Discussion Board Communication

Please post general course or assignment questions to the General Course Questions & Answers Discussion Topic. Students are encouraged to respond to their fellow classmates' questions. I will read all discussion postings and add comments/suggestions/questions as necessary to keep the discussion on topic. Specific topic instructions on discussions are provided in the forums when needed.

Canvas Notifications:

Receive instant notifications about course events, such as submissions, discussion messages, and announcements through canvas. Assignments and all deliverables will be graded and returned no later than one week after the due date.

About the Professor/Instructor

Welcome to **COSC 3375: Analysis and Logical Design**! I am Sara Memarian Esfahani, your instructor for this course. I'm excited to have you in the class and look forward to getting to know you and supporting your academic and career goals during your time at UT Tyler. Together, we will explore key topics in the modern Information Systems (IS) environment. The knowledge gained in this course will empower you to translate an organization's needs into well-designed information systems. You will learn a structured approach to systems analysis and design, covering how to manage IS projects, and so many other foundational skills that will enable you to create effective software solutions that solve complex business problems.

Course Description

This course provides an integrated view of the challenges within the modern Information Systems (IS) environment, focusing on contemporary design methods and factors specific to users of computers and IS. The curriculum covers a range of topics, including current systems analysis, modular design, development and implementation, documentation, and project planning with task definition. A structured approach to the analysis and design of information systems is

emphasized throughout the course. The knowledge gained in this course will empower you to translate an organization's needs into well-designed information systems. You will learn a structured approach to systems analysis and design, covering how to manage IS projects, determine system requirements, and design essential components such as databases, forms, reports, and user interfaces. These foundational skills will enable you to create effective software solutions that solve complex business problems.

Course Structure

This course is a hybrid course that lasts 15 weeks (1 semester). See the course schedule table at the end of this file and on Canvas.

Course Objectives

Upon successful completion of this course, you are expected to:

- Plan and manage an information systems project, including assessing feasibility, risk, and scope.
- Analyze business problems and determine system requirements using various fact-finding and modeling techniques.
- Design key system components, including databases, user interfaces, inputs, and outputs, using data and process modeling tools like ERDs and DFDs.
- Effectively communicate with stakeholders, team members, and potential users throughout the development lifecycle.
- Identify current trends and major issues that impact modern systems development.
- Evaluate the role of ethics in the information systems profession.
- Compare the different methodologies and approaches used in the System Development Life Cycle (SDLC).

Course Topics

1. The Systems Development Environment
2. The Origins of Software
3. Managing the Information Systems Project
4. Identifying and Selecting Systems Development Projects
5. Initiating and Planning Systems Development Projects
6. Determining System Requirements
7. Structuring System Process Requirements
8. Structuring System Data Requirements
9. Designing Databases
10. Designing Forms and Reports
11. Designing Interfaces and Dialogues
12. System Implementation and Maintenance

Course Materials (Required)

Required Textbook

Valacich, Joseph S., George, Joey F., and Hoffer, Jeffrey A. Modern Systems Analysis and Design, 10th ed., Prentice Hall, 2025

Note: All class slides incorporate materials adapted from referenced resources and textbooks and are provided strictly for educational purposes. They are not intended for commercial use and are shared in accordance with the Fair Use Act, ensuring proper attribution and respect for intellectual property rights.

Software and Accounts Required for course

All required software is web-based and offers a free plan suitable for all coursework. There is no additional software cost for this course. Students will need to create free accounts for the following services:

- **TeamGantt:** Used for project scheduling and creating Gantt charts for the first individual assignment.

- **Trello:** Used for the Agile assignment to create a product backlog and manage tasks on a Kanban board.
- **Lucidchart:** A diagramming tool used for creating professional Entity-Relationship Diagrams (ERDs), Data Flow Diagrams (DFDs), and other models. A free educational account is available.

COURSE REQUIREMENTS AND GRADING:

Your grade will be determined based on your performance on the activities identified below. No make-up for exams, simulations, or homework will be given. It is highly likely that “extra-credit work” will be assigned to individuals as a replacement for, or in addition to, these components. All points will show up in Canvas. Be sure to review the grading schema below to determine your letter grade.

Individual Assignments: Weekly reading of the assigned ppt slides for each week. All the students are expected to come to class with questions.

Team Projects: Each student will participate in a systems analysis and Security design project as a team member. The objective of the project is to give students hands-on experience of security analysis and through such in-depth analysis and research, the teams will present their findings and offer mitigation strategies, simulating a somehow actual consultancy role in the cybersecurity landscape.

Team: Each team will consist of up to 3 members. It is the responsibility of individual students to find colleagues to work with as a team. Once a team is formed, each member has obligation to stay and function as a productive team member until the completion of the project. Any disputes, conflicts, and problems within a team must first be resolved among the members.

Each team will elect a team leader who will be responsible for coordinating various project tasks and communicating with the instructor. You may also elect or assign different titles to team members, reflecting different duties and specializations. The performance of a team will always be graded as a single unit. However, individual members will receive an adjusted grade at the end of the semester, which reflects the level of contribution as assessed by peers.

Milestone Reports (50 points):

At the end of each important phases of the project, each team will prepare and submit a report that documents all relevant information as specified in the project case.

Milestone	Title	Due	Points
1	System Proposal and Planning, Feasibility Analysis, Project Plan	October 10	50
2	System Design Tools and Diagrams	November 7	50
3	Designing database, Forms, Interface	November 14	50
4	Implementation Plan, Final Report and Presentation	November 28	100

Presentation and Demonstration (50 points):

At the conclusion of the project, each team will make a presentation to demonstrate the system and discuss any relevant issues. The objective of these presentations is to deliver the finished system that meets the needs of the user.

Prepare and record your project presentation in Zoom. Submit your presentation recording to the assignment site in Canvas.

Final Report (50 points):

Final report collects and organizes all documents prepared and used throughout all phases of the project.

The following is a list of minimum requirements for the report:

- Table of contents
- Executive summary
- Page number on each page (except the cover page)
- All reports and documents collected or produced during the project completion.

- Presentation Slides

Report Requirements (All Reports)

- All report assignments are due by the end of the due date unless otherwise instructed. No assignment will be accepted after the due date.
- All reports prepared in Word should include a cover page with the following information:
 - ✓ Team name
 - ✓ Names of team members
 - ✓ Title (e.g., Milestone 3 Mitigation Strategies)
 - ✓ Class and section (i.e., COSC 4362)
 - ✓ Due date
- All pages except the cover sheet must be numbered.

EXAMS: There will be 2 exams during the semester. You will be tested on all material assigned or taught in this course which includes class slides, quizzes, videos, etc. Respondus Lockdown Browser is required to take all exams. Instructions are posted on canvas.

CLASS QUIZZES, ATTENDANCE, AND PARTICIPATION

Regular and punctual attendance for the full class period is expected. Attendance will be recorded. You must attend the entire class to avoid being recorded absent. Any student whose absences exceed the equivalent of two weeks of the class without proper notice may be dropped by the instructor with a WF for nonattendance.

You are expected to come to class prepared. That means you will need to read the assigned chapters and other materials before coming to class and be fully prepared to actively engage in discuss with the class. Friday classes will occur via zoom, and are focused on the review of the week, it can be in a form of pop-up quiz or Q&A.

If you find that there is no grade recorded for submitted work, or if you want to dispute a grade, you must send your instructor an email about the problem NO LATER THAN 2 DAYS after the submission date.

GRADE CRITERIA: All course work is always due at 11:59 p.m., unless otherwise noted. If you have not finished your projects, submit whatever you have completed. You will earn credit for what you complete.

Assignments (Subject to change)	Points Possible (Approx.)	Percentage of Total (%)
Attendance, Quizzes, and Professionalism	200	20
Assignments (1, 2, 3, 4)	200	20
Team Project	250	25
Midterm Exam	150	15
Final Exam	200	20
Total Points Possible with no extra credit	1000	100

Total Points (%)	Percentage of Total	Letter Grade
899 points and above	90% of 1000	A
800 – 898	80% – 89.9%	B
700 – 799	70% – 79.9%	C
600 – 699	60% – 69.9%	D
599 points and below	59.9% and below	F

Schedule (subject to change)
Due by Friday 11:59 p.m. unless otherwise noted

Week	Date	Topic / Reading	Note
Week 1	8/26 8/28	Course Overview & Introduction Chapter 1 – The Systems Development Environment	<ul style="list-style-type: none"> Understanding the Syllabus, Introducing Team Project
Week 2	9/2 9/4	Chapter 2 - The Origins of Software	<ul style="list-style-type: none"> Project group formation Chapter 1 Quiz
Week 3	9/9 9/11	Chapter 3 – Managing the Information Systems Project	<ul style="list-style-type: none"> Assignment 1 Due on Sep 20th Chapter 2 Quiz
Week 4	9/16 9/18	Chapter 4 - Identifying and Selecting Systems Development Projects	<ul style="list-style-type: none"> Chapter 3 Quiz
Week 5	9/23 9/25	Chapter 5 - Initiating and Planning Systems Development Projects	<ul style="list-style-type: none"> Chapter 4 Quiz
Week 6	9/30 10/2	Chapter 6 - Determining System Requirements	<ul style="list-style-type: none"> Chapter 5 Quiz Assignment 2 due Friday, October 3rd
Week 7	10/7 10/9	Midterm Exam Review on Tuesday Midterm Exam- Chapters 1- 6	<ul style="list-style-type: none"> Milestone 1 due Friday, October 10
Week 8	10/14 10/16	Chapter 7 – Structuring System Process Requirements	
Week 9	10/21 10/23	Chapter 8 – Structuring System Data Requirements	<ul style="list-style-type: none"> Milestone 2 due Friday, November Chapter 7 quiz
Week 10	10/28 10/30	Chapter 9 – Designing Databases	<ul style="list-style-type: none"> Assignment 3 due October 31st Chapter 8 quiz
Week 11	11/4 11/6	Chapter 10 – Designing Forms and Reports	<ul style="list-style-type: none"> Assignment 4 Chapter 9 quiz
Week 12	11/11 11/13	Chapter 11– Designing Interfaces and Dialogues	<ul style="list-style-type: none"> Milestone 3 due November 14 Chapter 10 quiz
Week 13	11/18 11/20	Chapter 12 – System Implementation and Maintenance	<ul style="list-style-type: none"> Assignment 4 due Friday, November 21 Chapter 11 quiz
Week 14	11/25 11/27	Thanksgiving- Holiday	<ul style="list-style-type: none"> Milestone 3 due on November 28
Week 15	12/2 12/4	Team Projects Presentation	<ul style="list-style-type: none"> Milestone 4: Presentation and Final report due Friday December 5
Week 16	12/9 12/11	Final Exam Chapters 8-12	

UT Tyler Student Resources

- UT Tyler Writing Center: Provides support for writing assignments and skill development. Contact: (903) 565-5995 | writingcenter@uttyler.edu
- UT Tyler Tutoring Center: Offers tutoring across various subjects to support academic success. Contact: (903) 565-5964 | tutoring@uttyler.edu

- Mathematics Learning Center (RBN 4021): An open-access computer lab for math students with tutors available to assist in early-career math courses.
- UT Tyler Counseling Center: Provides confidential counseling and support services for students. Contact: (903) 566-7254

Code of Conduct and Ethics

Disciplinary actions may be taken against any student involved in academic dishonesty, which includes but is not limited to cheating, plagiarism, collusion, or submitting work that is wholly or partially the work of another person. Engaging in any act intended to provide an unfair academic advantage or attempting such actions is prohibited.

Cheating includes but is not limited to:

- Copying from another student's test or assignment.
- Using unauthorized materials during a test.
- Failing to follow instructions given by the test administrator.
- Possessing unauthorized materials, such as notes or textbooks, during an exam.
- Stealing, buying, or soliciting test materials or answers.
- Collaborating with or seeking help from others during a test without permission.
- Discussing exam content with students who have yet to take the test.
- Revealing exam questions when instructed to keep them confidential.
- Substituting for another person in a test or coursework.
- Offering money or coercing others to obtain test materials.
- Falsifying research data, lab results, or academic work for credit.
- Damaging or misplacing university property to gain academic advantage.
- Providing false information, such as grades or achievements, for personal gain or to harm others.
- Plagiarism includes but is not limited to:
 - Using someone else's work without proper citation and presenting it as your own.
 - Buying, receiving, or obtaining academic work and submitting it for credit.
- Collusion includes but is not limited to:
 - Collaborating with others on assignments without authorization.
 - Working with others to violate academic integrity policies.
- All submitted written work will be subject to plagiarism detection software review.

The instructor will post both UNOFFICIAL grade reports using Canvas.