Syllabus
CSCI 359.61E SYSTEM ANALYSIS AND DESIGN
East Texas A&M University
Fall 2025

Instructor: Dr. Mohammad Alsmirat
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Office Hours:

Day	Time
W	2:00pm-3:00pm,
T,R	12:00pm-1:00pm

Communication Response Time: 24 hours
(Please send a second email if you did not receive a response after 2 days)

Preferred Form of Communication: face-to-face
There are many ways to reach me. There is no substitute for face-to-face communication which often leads to more refined and focused questions resulting in your improved understanding. I strongly encourage you to take advantage of my office hours. Questions during class or immediately after class are always welcomed. Email is an easy way to ask questions outside of class but is not productive as face-to-face communication.

Meeting Time and Place

Tuesday, Thursday: 1:25 pm - 2:40 pm, ACB1 #314

Recommended Textbook

Systems Analysis and Design in a Changing World - 7th Edition by John W. Satzinger, Robert B. Jackson, and D. Burd, Shelly, Cengage Learning, 2016, ISBN: 9781305117204. (or earlier edition)

Prerequisite

COSC 2336 with a minimum of C or better or CSCI 270 with a minimum of C or better.

Course Description

This course serves as the initial phase of a comprehensive capstone design project experience, integrating contemporary software engineering practices to equip students with the skills and knowledge necessary for modern software development. In this course, students will delve into traditional and object-oriented methodologies, gaining expertise in the analysis, design, and implementation of computer-based information systems. Furthermore, the curriculum will introduce students to crucial aspects of DevOps, microservices

architecture, and containerization technologies to ensure they are well-versed in cutting-edge software development practices. Additionally, students will explore project management techniques tailored to software engineering projects, fostering a holistic understanding of the development lifecycle.

Course Outcomes

Upon completion of the course, students will be able to:

1. Understand concepts related to different types of information systems
2. Explain the purpose and activities of the systems development life cycle phases
3. Understand Object Oriented based development life cycle and tools used for systems development.
4. Understand project management techniques
5. Understand concepts relating to various models, tools, and techniques used in system analysis and design.
6. Explore crucial aspects of DevOps, microservices architecture, and containerization technologies

Project Information:

A significant component of the course consists of conducting a semester group project with the following requirements:

Objective

Students will form groups to select a topic, follow the design steps of system development, and create all relevant diagrams. The goal is to apply theoretical knowledge to a practical scenario, enhancing understanding of system design principles.

Group Formation

- **Group Size:** 3-5 students

Topic Selection

- Groups may choose any system-related topic. A list of topics will be suggested by the instructor as well.

Design Steps

Groups must follow these key design steps, documenting each phase thoroughly:

1. **Requirement Gathering:**
    - Identify stakeholders and gather functional and non-functional requirements.
    - Use interviews, surveys, or existing documentation as sources.
2. **System Analysis:**
    - Analyze the gathered requirements.
    - Develop use cases or user stories that define interactions with the system.
3. **System Design:**
    - Create high-level architecture diagrams (e.g., block diagrams, system context diagrams).
    - Develop detailed design specifications, including:
        - Database design (ER diagrams)
        - User interface design (UI wireframes or prototypes)
        - Component design (class diagrams or module descriptions)
4. **Implementation Planning:**

- Outline a project plan detailing tasks, timelines, and resource allocation.
- Discuss technologies and tools to be used in implementation.

5. **Testing Strategy:**
   - Develop a testing plan that includes unit testing, integration testing, and system testing strategies.
6. **Deployment Plan:**
   - Create a plan for deploying the system, including user training and documentation.

Required Diagrams

Each group must include the following diagrams in their project documentation:

1. **Use Case Diagram:** Illustrating interactions between users and the system.
2. **Ac:vity Diagram:** Showing workflows and processes within the system.
3. **Class Diagram:** Representing the system's structure and relationships.
4. **En:ty-Relationship (ER) Diagram:** Visualizing the database structure.
5. **Sequence Diagram:** Demonstrating how processes operate with one another.

Project Submission

- **Format:** PDF document, including all diagrams and explanations.
- **Presentation:** Each group will present their project findings in a 15-20 minute presentation during the class. Presentation dates will be scheduled following project submissions.

Evaluation Criteria

Projects will be evaluated based on the following criteria:

- Clarity and thoroughness of documentation
- Quality and relevance of diagrams
- Depth of analysis and understanding of system requirements
- Creativity and feasibility of the proposed system design
  - Quality of the presentation
- Bi-Weekly Reporting:
  - Each team is required to submit a bi-weekly report detailing their activities for the previous week.
  - Report Content:
    - Completed Tasks: List of all tasks successfully finished during the week, including key milestones achieved.
    - Individual Contributions: Clearly outline each team member's significant contributions and responsibilities undertaken.
    - Upcoming Tasks: Provide a detailed plan of tasks scheduled for the following week, highlighting priorities and dependencies.

Grading

- Bi-weekly reports: 20%
- Project Final submission and presentation: 40%
- Midterm Exam: 20%
- Final Exam: 20%

Letter grades will be determined using a standard percentage of points scale:

Letter Grade	Cut-off Score
A	90%
B	80%
C	70%
D	60%
F	Below 60%

Class attendance, doing all your project work will help the borderline cases. Check your grades often. Any score may be disputed up to seven (7) days after the score is posted. After 7 days, the score remains as-is.

Technology Requirements - LMS

All course sections offered by East Texas A&M University have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements
LMS Requirements:
https://community.brightspace.com/s/article/Brightspace-Platform-Requirements

LMS Browser Support:
https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

YouSeeU Virtual Classroom Requirements:
https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements

Access and Navigation

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu**.**

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

Communication and Support

If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:
https://community.brightspace.com/support/s/contactsupport

Minimal Technical Skills Needed

Proficiency in programming, system analysis & design, web development, IDE, learning management system and word processing.

Methods of Instruction

The course will consist mainly of discussions, student presentations and lectures. Important material from the text and outside sources will be covered in class. Therefore, class attendance is essential for success. Students are expected to contribute to each class in the form of discussions, questions and project updates.

This syllabus contains an overview of what will be covered in class; for specific information, students are referred to the class web page maintained on D2L course management system. The course web page will contain lectures, project information and supporting material. Information on D2L will be updated frequently so it is a good idea to check it regularly. Assignments are posted on D2L and should be submitted through D2L.

Attendance

You are expected to attend every class. If you must miss a class, it is your responsibility to make up for the work that you missed. If you are going to be absent from class, please notify the instructor in advance.

Tips for Success in the Course

1. Check D2L at least twice a week.
2. Communicate effectively and constantly with your team members. 3. Start your project assignments (sprints) early.

Late Submissions Policy

All work submitted electronically must be submitted by midnight of the due date. Late work will be deducted 10% for each day past the due date. Assignment will not be accepted after three days from the due date.

Make-up Policy

No individual make-up test will be permitted except in the case of a formal institutional excuse. There will be no makeup for project deliverables.

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

Tentative Course Outline

Week	Content
1	An Introduction to Systems Development

2	Projects and Project Management
3	Agile System Development concepts
4-7	Systems Analysis
8	Review and Midterm Exam
9-12	Systems Design
13-14	Current Trends in System Development
15	Final Presentation
16	Review and final exam

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.
http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: https://www.britannica.com/topic/netiquette

Academic Honesty

"All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment." (See Student's Guide Handbook, Policies and Procedures, Conduct). It is the policy of the University, that no form of plagiarism or cheating will be tolerated. Plagiarism is defined as the deliberate use of another's work and claiming it as one's own. This means ideas as well as text or code, whether paraphrased or presented verbatim (word-for-word). Cheating is defined as obtaining unauthorized assistance on any assignment. Proper citation of sources must always be utilized thoroughly and accurately. If you are caught sharing or using other people's work in this class, you will receive a 0 grade and a warning on the first instance. A subsequent instance will result in receiving an F grade for the course, and possible disciplinary proceedings. If you are unclear about what constitutes academic dishonesty, ask.

For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

Special Needs

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 have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
East Texas A&M University
Gee Library- Room 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@tamuc.edu
Website: Office of Student Disability Resources and Services
http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/

East Texas A&M Supports Students' Mental Health

The Counseling Center at East Texas A&M, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

Nondiscrimination Notice

East Texas A&M University will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in East Texas A&M University buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and East Texas A&M Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

Web url:
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployees AndStudents/34.06.02.R1.pdf

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all East Texas A&M campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.