IE 444.001
COURSE SYLLABUS: SPRING 2025

INSTRUCTOR INFORMATION

Instructor:	Dr. Anika Jannat Rimu
Office Location:	AG/ET 220
Office Hours:	MW 10AM-12:30PM
University Email Address:	anika.rimu@tamuc.edu
Preferred Form of Communication:	Email
Communication Response Time:	48 hours during weekdays
Course Times:	TR 11:00-12:15pm

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Textbook(s) Required

Textbook Required: Blanchard, B. S., and Fabrycky, W. J. (2006). Systems Engineering and Analysis (5th Ed). Pearson Prentice Hall: Upper Saddle River, NJ. [ISBN 978-0-13-221735-4] Instructor will provide lecture slides/ handouts as references too.

Course Description

A study of the systems acquisition life cycle, alternatives and models in decision making, trade off analyses, models for economic evaluation, control concepts and methods, and design for reliability. The emphasis of this course is on the process of bringing systems into being, beginning with the identification of a need and extending through requirements, determination, functional analysis and operation and decision support techniques. Additional emphasis is placed

on the improvement of systems now in existence. An iterative process of analysis, evaluation, feedback, and modification will be emphasized to show how most systems in existence can be improved in their effectiveness. Co-Requisite: IE 495 Industrial Systems Design.

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Command of systems engineering terminology as it applies to the design, operation, and support of modern technological systems including critical analysis by applying tools and methodologies to systems engineering problems.
2. Analyze alternatives models in decision making to evaluate alternatives for improving systems designed for human and non-human use.
3. Analyzing models for economic evaluation to assist development teams in developing cost- effective engineering solutions.
4. control concepts and methods.
5. Analyze and direct system reliability efforts.

ABET Learning Outcome

- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

COURSE REQUIREMENTS

Instructional / Methods / Activities Assessments

This course utilizes lectures and assignments to assist students in achieving the course learning outcomes. The assessment criteria for the stated student learning outcomes will include assignments, projects, presentations and two exams.

Problems will be assigned to support the instructional material (either in-class assignment or homework assignment). Students will have an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice. Students will have an ability to communicate effectively through projects and presentations.

Final grades in this course will be based on the following scale:

A = 90%-100%

B = 80%-89%

C = 70%-79%

D = 60%-69%

F = 59% or Below

Grading:

Exam-1	30%
Exam-2	30%
Assignment	10%
Team Project	30%

TECHNOLOGY REQUIREMENTS

The following technologies will be required for this class.

- A scientific calculator for exams.
- Microsoft Word, Excel, PowerPoint.
- Excel Solver
- LINGO

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/1150070311107-Basic-System-Requirements

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

1. Assignments will be solved as assignments' feedback. Additionally, the solutions will be posted in the D2L system. One day late assignment is accepted with a 20% grade deduction; after this, no assignment will be accepted as the solutions will be posted online.

2. You will be expected to do all the readings and assignments throughout the semester. Understanding the assignments and learning from your mistakes will help in preparing you for the exams. Exams will test your understanding of the course lecture notes.

3. Each exam will be given during only a specified time that is published in the syllabi. Students will need a scientific calculator for exams.

4. No make-up exams will be permitted unless official documentation for absences is provided (e.g., death in the family, car accident with a police report, or illness with a doctor or hospital note).

5. There will be one design assignment and it will be a group project. Peer evaluation for the team project will affect each team member's grade for the project. Peer evaluation instructions will be provided.

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.

University Specific Procedures

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/registrar/documents/studentGuidebook.pdf

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: Netiquette
http://www.albion.com/netiquette/corerules.html

TAMUC Attendance

For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01.

http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf

Academic Integrity

Students at East Texas A&M University are expected to maintain high standards of integrity and honesty in all of their scholastic work. 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

Graduate Student Academic Dishonesty 13.99.99.R0.10

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf

ADA Statement

Students with Disabilities

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

Texas A&M University-Commerce
Gee Library- Room 132
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/studentDisabilityResourcesAndServ ices/

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 A&M-Commerce 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/rulesProcedur es/34SafetyOfEmployeesAndStudents/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-

COURSE OUTLINE / CALENDAR

Week #	Week of	Topic	Source
1	13-Jan	Introduction to Systems Engineering Bringing Systems into Being	Lecture Notes Ch. 1, Ch. 2
2	20-Jan	Conceptual System Design Conceptual Questions with Answers	Lecture Notes Ch. 3, Ch. 4
3	27-Jan	Alternatives and Models in Decision Making	Lecture Notes Ch 7
4	3-Feb	Project First check	
5	10-Feb	Models for Economic Evaluation Assignment-1 Due Monday February 1st, at Noon	Lecture Notes Ch.8
6	17-Feb	Ethics/ Professional Responsibilities Case Studies Assignments Assignment-2 Due Monday February 8th, at Noon	Handout
7	24-Feb	**Exam-1**	
8	3-Mar	Engineering Economy	Lecture Notes Ch. 11
9	10-Mar	**Spring Break**	Lecture Notes Ch. 12
10	17-Mar	Control Concepts and Method	
11	24-Mar	Design for Reliability	
12	31-Mar	**Project**	**Project**
13	7-Apr	**Project**	**Project**
14	14-Apr	**Final Exam** **Opens on 4/15/2025. Due by 4/22/2025 11:59 pm**	
15	21-Apr	Team Project Execution	Project
16	**28-Apr**	**Team Project Presentation**	**Project**
17	**5-May**	**Project Final Report due Monday April 6th by 11:59**	**Project**