



**IE 410 Systems Simulation  
Section 01  
COURSE SYLLABUS: SPRING 2026**

**INSTRUCTOR INFORMATION**

Instructor: Burchan Aydin, Ph.D.  
Office Location: AG/IT 213-D (Engineering and Technology Building 2nd floor)  
Office Hours: Monday and Wednesday 8:30 am to 10:30 am  
Tuesday and Thursday 9:30 am to 10:30 am  
Office Phone: 903-886-5174  
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University Email Address: burchan.aydin@etamu.edu  
Preferred Form of Communication: E-mail  
Communication Response Time: within hours

**COURSE INFORMATION**

**Course Schedule:** Tuesday Thursday 11:00 AM to 12:15 PM

**Materials – Textbooks**

Kelton, W. David, Sadowski, Randall P., and Swets, Nancy B. (2014). Simulation with Arena, Sixth Edition. McGraw-Hill Higher Education (ISBN: 978-0073401317).

**Software Required**  
ARENA, MS. Excel.

**Course Description**

The application of simulation to facilities layout for manufacturing industries, service business models, entertainment and crisis management is emphasized. Areas covered include concepts of discrete event simulation, data collection, simulation modeling, and analysis of simulation outputs. Prerequisites: IE 311

**Student Learning Outcomes**

1. Understand the definition of simulation and how to develop and analyze a simulation model
2. Understand the fundamental logic, structure, components and management of simulation modeling
3. Demonstrate knowledge of how to use Arena

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4. Build a simulation model with basic operations and inputs
5. Build a simulation model with detailed operations
6. Perform statistical analysis of output from terminating simulation The student must be able to set up and solve integer linear programming problems

#### **ABET Student Outcomes:**

Outcome (6): An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

Outcome (7): An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

### **COURSE REQUIREMENTS**

#### **Minimal Technical Skills Needed**

Statistical knowledge from IE-311 Advanced Engineering Stats course

#### **Instructional Methods**

Quizzes: There will be four quizzes. Each quiz will last approximately 20 minutes, and class will continue after the quiz. The purpose of the quizzes is to ensure that students are regularly engaging with and studying the course material.

Optional Homework: Homework assignments will be provided regularly but are optional and will not be graded. Their purpose is to support and reinforce the learning process.

Extra Credit: Extra credit opportunities will be announced during lectures. Extra credit will be tracked by the instructor in an external spreadsheet and applied to students' overall grade at the end of the semester.

Exams: Exam instructions and dates will be announced at least one week in advance. The syllabus calendar includes tentative exam dates.

Term Project: The topic will be announced later. The students will apply their knowledge from this course to a case. The students will submit a written report, and an oral presentation.

- Make up for exams are only allowed if the student informs the instructor on his/her excuse in advance. The instructor evaluates the excuse and decides case by case.
- No make up for quizzes.
- Term project topic and guidelines will be announced later in the semester.
- Participation and attendance: No point deduction up to 2 absences. Any absence above 2, will cause deductions in this grade category. Lateness to the class sessions causes  $\frac{1}{2}$  absence.

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- Any student who has more than 7 unexcused absences, will receive an “F” from this course. Instructor records attendance for each class session.

## GRADING

### Point Distribution

Assessment Type	%
Quiz	15
Exam 1	20
Exam 2	20
Exam 3	20
Term Project	20
Participation/attendance	5
Total	100

Based on the points received, the grades will be determined according to the criteria below.

A = 90%-100%

B = 80%-89%

C = 70%-79%

D = 60%-69%

F = 59% or Below

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### Course Outline/Calendar

Week #	Week of	Topic	Assessment (specific dates, and instructions will be provided in advance)
1	Jan 12-Jan 16	-Introduction to the Course -Ch-1 Intro to Simulation	
2	Jan 19-Jan 23	Ch 2 Fundamental Simulation Concepts	
3	Jan 26-Jan 30	Ch 2 Fundamental Simulation Concepts	Quiz 1 Jan 29 <sup>th</sup>
4	Feb 2-Feb 6	Ch 3 ARENA	
5	Feb 9-Feb 13	Ch 3 ARENA	
6	Feb 16-Feb 20	Ch 3 ARENA <b>EXAM 1</b>	Exam 1- Feb 19 <sup>th</sup>
7	Feb 23-Feb 27	Ch.4 Modeling Basic Operations and Inputs	
8	Mar 2-Mar 6	Ch.4 Modeling Basic Operations and Inputs	Quiz 2 Mar 4 <sup>th</sup>
9	Mar 9-Mar 13	<b>SPRINGBREAK – No Classes</b>	
10	Mar 16-Mar 20	Ch.4 Modeling Basic Operations and Inputs Ch 5 Modeling Detailed operations	Quiz 3 - March 19 <sup>th</sup>
11	Mar 23-Mar 27	<b>EXAM 2</b> Ch 5 Modeling Detailed operations	Exam 2 March 23 <sup>rd</sup>
12	Mar 30-April 3	Ch 5 Modeling Detailed operations Ch 6 Statistical Analysis of Output from Terminating Simulations	
13	Apr 6-Apr 10	Ch 6 Statistical Analysis of Output from Terminating Simulations	Quiz 4 TBD
14	Apr 13-Apr 17	<b>EXAM 3</b> <b>Term Project Data Collection and Execution</b>	
15	Apr 20-Apr 24		Exam 3 TBD
16	Apr 27-May 1		
17	May 2 -May 8		Term Project Due May 5 <sup>th</sup> , 10:30 AM

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## 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](https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm)

Zoom Video Conferencing Tool

[https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom\\_Account.aspx?source=universalmenu](https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom_Account.aspx?source=universalmenu)

### 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@etamu.edu](mailto:helpdesk@etamu.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 ETAMU 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>

### STUDENT RESPONSIBILITIES FOR COURSE

#### CWID and Password

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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@etamu.edu](mailto:helpdesk@etamu.edu).

### **Technology-Related Issues**

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 ETAMU campus open computer lab, etc.

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## **TECHNOLOGY REQUIREMENTS AND SUPPORT**

### **Minimal Technical Skills Needed**

Students will need reliable computer and internet access for this course. Students must be able to effectively use myLeo email, myLeo Online D2L, and Microsoft Office.

### **Learning Management System (LMS) – D2L**

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 the technical requirements:

- View the [Learning Management System Requirements Webpage](#).
- Learn more on the [LMS Browser Support Webpage](#).

### **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 on the [Brightspace Support Webpage](#).

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## **COMMUNICATION AND SUPPORT**

### **Interaction with Instructor Statement**

If you have any questions or are having difficulties with the course material, please contact your instructor. Correspondence will always be through university email (your “myLeo” mail) and announcements in myLeo online (D2L). You will not RECEIVE email through D2L, so be sure to check your ETAMU email for communication. Students are encouraged to check university email daily.

### **Include the Following in Emails with Instructor:**

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- Course name and subject in the subject line
  - Salutation (Good afternoon, Dr. Jackson)
  - Proper email etiquette (no “text” emails – use proper grammar and punctuation)
  - Student name and CWID after the body of the email (possibly add to student signature on email)
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## **COURSE AND UNIVERSITY PROCEDURES/POLICIES**

### **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.

### **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 online in the [Student Guidebook](#).

Students should also consult the [Rules of Netiquette Webpage](#) for more information regarding how to interact with students in an online forum.

### **ETAMU Attendance**

For more information about the attendance policy, please view the [Attendance Webpage](#) and the [Class Attendance Policy](#)

### **Academic Integrity**

Students at East Texas A&M University are expected to maintain high standards of integrity and honesty in all their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty University Procedure 13.99.99.R0.03](#)

[Undergraduate Student Academic Dishonesty Form](#)

[Graduate Student Academic Dishonesty University Procedure 13.99.99.R0.10](#)

[Graduate Student Academic Dishonesty Form](#)

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### **Use of Artificial Intelligence**

East Texas A&M University acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources

### **Students with Disabilities-- ADA Statement**

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

Velma K. Waters Library Rm 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: [studentdisabilityservices@etamu.edu](mailto:studentdisabilityservices@etamu.edu)

Website: [Office of Student Disability Services](#)

### **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.

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### **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 ETAMU 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.

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

### **East Texas A&M Supports Students' Mental Health – Counseling Services**

The Counseling Center at East Texas A&M University, 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 <https://www.etamu.edu/counseling-center/>

### **Mental Health and Well-Being**

The university aims to provide students with essential knowledge and tools to understand and support mental health. As part of our commitment to your well-being, we offer access to Telus Health, a service available 24/7/365 via chat, phone, or webinar. Scan the QR code to download the app and explore the resources available to you for guidance and support whenever you need it.



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