

AMBERTON UNIVERSITY
e-COURSE SYLLABUS

MGT6470.E1 Operations Analytics
Fall 2025

PROFESSOR INFORMATION:

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COURSE INFORMATION:

MGT6470.E1 Operations Analytics

Level: Graduate

Beginning Date of Session: Saturday, September 13, 2025

Ending Date of Session: Thursday, November 20, 2025

Student access available to the Student Portal: Saturday, September 13, 2025.

Students enrolled in distance learning courses are not assessed any additional fees for security or identity verification.

COURSE PREREQUISITES:

None

TEXTBOOK(S) AND REQUIRED MATERIALS:

Title: Operations and Supply Chain Management with MindTap
Author: David A. Collier; James Evans
Publisher: Cengage Learning
Year Published: 2024
Edition: 3e
ISBN: 13: 9780357901663
Price: Available at <http://amberton.ecampus.com>

Amberton University has an agreement with eCampus.com to provide a full-service online bookstore to students. The Amberton University Virtual Bookstore is accessible through the University's website, www.Amberton.edu. There is also a bookstore link in the Student Portal.

The AU Virtual Bookstore provides an easy to use interface, online buyback of books, and same day shipment of most titles with an average delivery time of 2-3 days depending on the student's location. Textbook options include new, used, rental, and electronic media as available.

Since no books are sold on campus, students should plan accordingly and purchase their books in advance of the first day of class, allowing time for shipping. Be certain you are enrolled in the course before purchasing your book(s). All textbook information (Title, Author, ISBN, etc.) is available in the course syllabi so students can shop competitively. Most textbooks can be purchased from many different textbook vendors. Some textbooks may only be available on the University's Virtual Bookstore. Students should be careful to obtain the exact resource(s) required for the course.

APA Requirement

APA (American Psychological Association) style is most commonly used to cite sources within the social sciences. This resource, revised according to the 7th edition, offers examples for the general format of APA research papers, in-text citations, endnotes/footnotes, and the reference page. For more information, please consult the Publication Manual of the American Psychological Association, (7th ed.). All coursework at Amberton University will comply with the standards contained in the APA Publication Manual.

COURSE COMPETENCIES

This course explores the foundations of operations analytics by applying statistics and data analytics to typical operations management problems companies face on a recurring basis. Special emphasis will be placed on understanding general operations and productivity principles, quantitative forecasting, quality control, statistical process control, process strategy, capacity and constraint management, supply chain management, inventory management, maintenance and reliability calculations, quantitative decision-making, linear programming techniques, and learning curve analysis.

UPON COMPLETION OF THE COURSE, THE STUDENT WILL BE COMPETENT IN:

1. Defining what Operations Analytics/Operations Management is and why it is important to having successful logistics and supply chains.
2. Understanding how effective operations management drives corporate success.
3. Defining what quality is, how it differs between a company that produces a good versus a service, and how it differs between individual consumers.
4. Conducting and interpreting various single-factor and multifactor productivity metrics.
5. Applying various quantitative forecasting techniques, such as a moving average or exponential smoothing, to time-series data.
6. Creating and interpreting various statistical process control charts.
7. Determining capacity and utilization given various operations data.
8. Understanding the importance, as well as issues and opportunities, of the supply chain.
9. Explaining the merits of the economic order quantity model and successfully computing a reorder point
10. Applying quantitative decision-making concepts to real-world business problems.
11. Utilizing linear programming to solve maximization and minimization problems.
12. Computing learning curve effects with the logarithmic and learning curve coefficient approaches.
13. Researching and applying AI models to solve specific business operations problems, focusing on better understanding logistics and supply chain operations.

ACQUIRED SKILLS

1. Linear Programming to Solve Problems
2. Computing Learning Curve Effects
3. Various Quantitative Forecasting Techniques
 - Moving Average
 - Exponential Smoothing
 - Time-Series Data
4. Capacity Utilization Determination

COURSE POLICIES:

All coursework must be completed and submitted by the assigned due dates for each unit. For discussion activities, your initial post is due by Thursday at 11:55 PM (CDT) for the assigned week. You must also reply to at least two classmates by the following Monday at 11:55 PM (CDT). All other assignments are due by 11:55 PM (CDT) on their specified due dates, except during the final week of the course. During that week, all assignments are due by Tuesday, 11/18/2025, at 11:55 PM (CDT). To ensure fairness and maintain a high standard of feedback for all students, late assignments will not be accepted unless there is a documented emergency. Additionally, extra credit will not be offered in this course. Please plan ahead to stay on track and meet all deadlines.

Student's Responsibilities

This syllabus contains information, policies, and procedures for a specific course. By enrolling, the student agrees to read, understand, and abide by the policies, rules, regulations, and ethical standards of Amberton University as contained in the current university catalog and schedule of classes.

Attendance Policy:

Regular and punctual class attendance and engagement is expected at Amberton University. In case of an absence, it is the student's responsibility to contact the professor as soon as possible. If a student intends on

withdrawing from a course, it is the student's responsibility to follow the university's policy on formally withdrawing from a course. **Ceasing to attend classes does not constitute an official withdrawal.**

Attendance in a lecture course is defined as punctual arrival to, and engagement in, a full lecture session. A Student in a lecture course missing more than 20% (two class periods for weekday classes or one class period for Saturday classes) of the class meetings may be assigned a grade of an "F" or withdrawn at the discretion of Amberton University.

Attendance in a distance learning course is defined as active participation in the weekly online class sessions. "Active participation" can be defined as: submitting an academic assignment, taking an exam, engaging in an interactive tutorial, participating in an online discussion forum (or chat session), or initiating (or responding to) a communication with a faculty member about an academic assignment or the subject matter of the course. A student not meeting these requirements may be assigned a grade of an "F" or withdrawn at the discretion of Amberton University.

Plagiarism Policy

Plagiarism is the presentation of someone else's work as though it were your own. If you use another person's words, ideas, or information; or if you use material from an outside source – whether a book, magazine, newspaper, business publication, broadcast, speech, or electronic media – you must acknowledge that source. Plagiarism is a violation of the University's code of student ethical conduct and is one that is taken seriously. Amberton University operates on an honor system; therefore, honesty and integrity are essential characteristics of all who are associated with the institution. All Amberton students are expected to abide by the honor system and maintain academic integrity in all their work. Amberton University and its instructors monitor student work for plagiarism and reserve the right to submit such work to technology-based plagiarism detection services and applications at any time.

Self-plagiarism means reusing work that you have already published or submitted for a class. It can involve:

- Resubmitting an entire paper
- Copying or paraphrasing passages from your previous work

Self-plagiarism misleads your readers by presenting previous work as completely new and original. Students may not submit the same paper in substance in two or more classes without prior written permission of the instructors involved.

Amberton University students who use Artificial Intelligence (AI) generated content must adhere to the following policies:

Originality: Students must avoid presenting AI generated content as their own original work. It is essential to acknowledge the involvement of AI in the content creation process in order to maintain academic and ethical standards.

Paraphrasing: When using AI generated content, students must rephrase and/or modify the generated text. Paraphrased AI generated content should also be properly cited.

Acknowledgement: When using AI generated content in any assignment, proper credit must be given to the AI system that generated the content. <https://apastyle.apa.org/blog/how-to-cite-chatgpt>

Students agree that by taking this course, all required assignments may be subject to submission for a textual similarity review to Turnitin.com for the detection of plagiarism and self-plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism in future papers. Use of Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com website.

Turnitin is a writing improvement and plagiarism prevention tool which uses special algorithms, to compare text-based student submissions to the Turnitin database and other online sources. Turnitin produces a detailed **similarity report** that can be customized and viewed by instructors and students.

Turnitin “Draft Coach” is a Google based add-on to Turnitin which supports students in developing high-quality academic writing; and serves as an integrity coach. Draft Coach helps address errors and improve the quality of student’s writing by highlighting grammar mistakes, identifying incorrectly cited sources, and scanning for similarity across several databases. By providing formative feedback on how to address citation issues, incorrect grammar, and matches with the Turnitin database, Draft Coach provides explanations to help students become more confident writers, capable of producing higher quality work both in academics and in the workplace.

COURSE OUTLINE AND CALENDAR:

This course will focus on the student’s academic and professional growth. The course activities will include textbook readings, discussions, homework, a final project, and a course paper. These activities are designed to help students acquire knowledge, increase learning, and master course content.

Note that the final project and course paper are both due in the last week of this course. However, you have the entire term to work on both assignments. Please plan your time accordingly.

Week	Topic	Assignment	Competencies Covered	Due Date
1 9/13 – 9/22	Chapter 1: Operations Management and Value Chain Chapter 2: Analytics and Performance Measurement in Operations and Value Chains Supplement A: Probability and Statistics	Read Chapters 1 and 2 Complete Discussion 1a & 1b	LO 1-14	Discussion 1a & 1b: Initial Post Due Thursday, 9/18 Reply posts to two classmates due Monday, 9/22 by 11:55 PM.
2 9/22 – 9/29	Chapter 3: Operations Strategy Chapter 4: Technology and Operations Management Supplement B: Decision Analysis	Read Chapters 3 and 4 Complete Discussion 2 Complete Assignment 1	LO 1-14	Discussion 2: Initial Post Due Thursday, 9/25. Reply posts to two classmates due Monday, 9/29 by 11:55 PM. Assignment 1 Due Monday, 9/29 by 11:55 PM
3 9/29 – 10/6	Chapter 5: Goods and Service Design Chapter 6: Supply Chain Design	Read Chapters 5 and 6 Complete Discussion 3 Course Paper Milestone 1	LO 1-14	Discussion 3: Initial Post Due Thursday, 10/2. Reply posts to two classmates due Monday, 10/6 by 11:55 PM.

				Course Paper Milestone 1 Due Monday, 10/6 by 11:55 PM.
4 10/6 – 10/13	Chapter 9: Forecasting and Demand Planning	Read Chapter 9 Complete Discussion 4 Complete Assignment 2	LO 1-14	Discussion 4: Initial Post Due Thursday, 10/9. Reply posts to two classmates due Monday, 10/13 by 11:55 PM. Assignment 2 Due Monday, 10/13 by 11:55 PM.
5 10/13 – 10/20	Chapter 10: Capacity Management Chapter 11: Process Analysis and Resource Utilization	Read Chapter 10 and 11 Complete Discussion 5 Course Project Milestone 1	LO 1-14	Discussion 5: Initial Post Due Thursday, 10/16. Reply posts to two classmates due Monday, 10/20 by 11:55 PM. Course Project Milestone 1 Due Monday, 10/20 by 11:55 PM.
6 10/20 – 10/27	Chapter 12: Managing Inventories in Supply Chains	Read Chapter 12 Complete Discussion 6 Complete Assignment 3	LO 1-14	Discussion 6: Initial Post Due Thursday, 10/23 Reply posts to two classmates due Monday, 10/27 by 11:55 PM Assignment 3 Due Monday, 10/27 by 11:55 PM
7 10/27 – 11/3	Chapter 20: Building Resilience and Continuity in Operations and Supply Chains Supplement D:	Read Chapter 20. Read Supplements D and F.	LO 1-14	Discussion 7: Initial Post Due Thursday, 10/30. Reply posts to two classmates Due

	Linear Optimization Supplement F: Queuing Models	Complete Discussion 7		Monday, 11/3 by 11:55 PM.
8 11/3 – 11/10	Course Project Course Paper	Work on course project and course paper Complete Discussion 8 Complete Assignment 4	LO 1-14	Discussion 8: Initial Post Due, Thursday, 11/6. Reply posts to two classmates Due Monday, 11/10 by 11:55 PM. Assignment 4 Due by Monday, 11/10 by 11:55 PM
9 11/10 – 11/17	Course Project Course Paper	Work on course project and course paper Complete Discussion 9	LO 1-14	Discussion 9: Initial Post Due, Thursday, 11/13. Reply posts to two classmates Due Monday, 11/17 by 11:55 PM.
10 11/17 – 11/20	Course Wrap Up	Finalize course project and course paper Complete Discussion 10	LO 1-14	Course Project Due, Tuesday, 11/18 by 11:55 PM Course Paper Due, Tuesday, 11/18 by 11:55 PM Discussion 10: Initial Post Due, Tuesday, 11/18 by 11:55 PM. Reply posts to classmates is optional.

GRADING CRITERIA:

There are four types of activities in this class:

Discussion – This course will utilize weekly discussions to enhance students' research and communication skills as well as demonstrate an understanding and application of concepts. See the discussion activities for instructions, requirements, and the evaluation rubric.

Assignments – There are four homework assignments. Problems may be a combination of short answers, essay, and computational activities. Homework assignments are designed to reinforce course materials and ensure understanding and application of concepts.

Final Project – Students will be required to develop a PPT presentation with voice-over/added narration to each slide. The topic of the final project is open-ended but must be related to the broad area of Operations Analytics. The Final Project topic cannot be the same as the Course Paper below. More details about the Final Project will be given in the course shell.

Course Paper – Students will be required to develop a written paper. The paper will be written in APA 7e format. The content of the paper will not exceed five papers. A cover page, abstract and reference page(s) are required. These are not included in the content page count. The paper will discuss how your current organization can use the concepts and techniques learned in this course. If preferred, you may also use a prior organization or an existing company of interest (i.e., Amazon, Walmart, etc.). Your paper should briefly introduce the company. It should then describe the application of at least three chapters, modules or concepts that we covered and discuss how they are applicable. More details will be given in the course shell. NOTE: No formal data analysis is required for the course paper.

Activity Category	Activity Details	Activity Total Points	Activity Percentages
Discussions	10 (Weekly) @ 20 pts.	200	20%
Homework	4 (Due in Weeks 2, 4, 6, 8) @ 100 pts.	400	40%
Course Project	Milestone 1 (Due in Week 5)	50	5%
	Final Project (Due in Week 10)	150	15%
Course Paper	Milestone 1 (Due in Week 3)	50	5%
	Final Paper (Due in Week 10)	150	15%
Total Course Points		1,000	100%

Graduate		
92 – 100	A	
82 – 91	B	
72 – 81	C	
62 – 71	D	
Below 62	F	

GRADE NOTIFICATION AND INSTRUCTOR FEEDBACK:

A successful distance learning experience requires a flow of communication between instructor and student throughout the session. Instructor comments are considered essential to the learning process. Therefore, each assignment/exam submitted will be reviewed, graded, and returned to the student in a timely manner along with the appropriate commentary. Students should carefully review all comments.

Final grades are processed approximately one week after the last day of the session and may be located in the My Grades section of the online registration portal as well as being emailed to the student's Amberton University email. Amberton University staff will not release grades over the phone. University instructors will not leave a message with comments or grades in any type of media that is not secure.

For questions regarding grades after the semester has ended, students should use their university email account and contact the instructor at the faculty email address as provided above in *Professor Information* area.

Incomplete Grades

An “I” (incomplete grade) is given at the discretion of the professor and may be given only when an emergency or illness prevents the student from completing course requirements. Should an “I” be granted, the student has 30 days from the end of the session to complete the conditions of the incomplete. An “I” which is not properly removed within 30 days following the session enrolled will become an “F” grade.

How To Withdraw From a Course

To be official, the class withdrawal must be in writing and signed by the student requesting the withdrawal; no withdrawal is accepted verbally. Please review the “Schedule of Classes” (online or in-print) for procedures for class changes or withdrawals and the refund policy and schedule.

COURSE DELIVERY METHODOLOGY:

This course is offered as a distance-learning course through the Moodle Learning Platform. Amberton’s distance learning courses, called e-Courses, are identical to classroom courses in terms of learning outcomes, competencies, and instructor expectations. A student choosing to take an e-Course must have the following skills and technical capabilities:

1. Access to the Internet
2. General knowledge in:
 - Internet browser settings and configuration
 - e-mail and file attachments
 - Uploading and downloading files
 - Using a word processing package
3. Ability to conduct on-line research

Students who have not mastered these skills should not enroll for this course but should consider enrolling in MIS2110 Computer Concepts and Internet Technologies for instruction in these areas.

HOW TO ACCESS YOUR COURSE:

Through the Amberton University Student Portal

Students enrolled in distance learning courses using the Moodle Learning Platform may access the course through the Amberton University Student Portal. The site may be accessed through the University’s main page (<http://www.Amberton.edu>) or at <http://apps.Amberton.edu>. After selecting the “Student Portal” link, you will be prompted for a Username and Password.

Use your assigned **username and password** (AUID) as described below to enter the AU Student Portal:

Username = your capitalized firstname **initial**+lastname+last 3 digits of your SSN.

* Use your name exactly as it is listed on the University’s records, including any suffixes or hyphenations, such as Jr, Sr, or II, as a part of your username.

For example: James Jones, Jr. SSN: 123-45-6789
Username: JJonesJr789

Password = your Amberton University ID# (AUID) **including the dashes**

For example: 04-999-999

Once your login has been validated, you may select from a variety of menu options, including your individual E-Course, email account, Remote Research, General Tools, all Syllabi and Research Tutorials.

If you are accessing the Student Portal from a public or shared computer, close the browser completely when finished, or click on the Logout button. For security purposes, no other person should have access to

your Username or Password. If you feel your information has been compromised or if you experience technical difficulties, contact the e-course system administrator at: e-sysop@amberton.edu

If you have lost or do not know your Amberton ID#, please contact the Student Services Office 972/279-6511 or advisor@Amberton.edu for a replacement AUID card. You must know your Amberton ID# to gain access to the course and to send an email to your professor.

Through the Amberton University Moodle Website

Students enrolled in distance learning courses using the Moodle Learning Platform may also access the course by going to: <http://moodle.Amberton.edu>

For those utilizing Moodle for the first time, the **username and password** for the Moodle Learning Platform will be emailed to the student's University email account prior to the start of the course. For those returning to Moodle who do not remember their username and password, click on the link "*Forgotten your username or password*" available on the Moodle log in page (<http://moodle.Amberton.edu>). Otherwise use the same username and password as previous session.

Moodle Tutorial:

Upon successful log in and access to the Moodle learning platform, there is a *Student Moodle Tutorials* course available, to learn about the basics of Moodle. Simply click on the link for the *Student Moodle Tutorials* and read through the various learning topics: Navigating; Communicating; Assignments & Exams; Grades; and Student Resources.

COURSE COMMUNICATIONS:

Students will communicate with faculty through the Moodle Learning Platform or the Amberton University email system.

Email Communication

Each student enrolled is assigned an Amberton email account, which gives the student access to the Amberton email system (my.Amberton.edu). This email account is provided by Google Apps for Education. Students are encouraged to check their email regularly for University news, notices, and to communicate with instructors.

The student's assigned email address would be Username@my.Amberton.edu

Example: LJones-Smith789@my.Amberton.edu

The student Username is determined by:

firstname initial+lastname+last 3 digits of student ssn.

For example: Linda Jones-Smith SSN: 123-45-6789
Email Address = LJones-Smith789@my.Amberton.edu

Students will be prompted for a Username and Password when accessing their email account. Use the Username portion of the email address as the username (Example: [LJones-Smith789](mailto:LJones-Smith789@my.Amberton.edu)) and your Amberton ID# (including the dashes) as the password.

If you already have a Google Gmail account, you might be prompted to add this account to your current account. Click 'Yes' and you will be logged into your my.Amberton.edu email account. It will be a separate email account from your personal Gmail account.

If you need assistance with your email account, please visit <https://support.google.com/mail>

Students are responsible for reviewing the “Communication Guidelines” provided on the individual E-Course for specific instructor requirements.

Upon completion of a session, all communication and course specific information is removed from the Moodle system. If a student needs to maintain a record of communications or assignments, the student is strongly encouraged to print out or download these items to a disk for their own records.

FORMAT AND SUBMISSION OF ASSIGNMENTS:

Assignments are to be submitted to the appropriate assignment Drop Box in the Moodle system. Specific directions and guidelines for submission of assignments are located on-line in the “Communication Guidelines” of the e-course. Due to compatibility issues, Office 2007 files cannot be read by earlier versions of Microsoft Office. Before submitting an exercise file, confirm the file is in the proper format for grading by the instructor.

INSTRUCTOR/COURSE EVALUATION:

Each session, all Amberton students are provided with the opportunity to evaluate their courses and instructors. The evaluation process is an important one and provides students with an anonymous and confidential way to give meaningful feedback to the University. Summary information and comments are provided to faculty after the close of the session. All information provided is anonymous.

The Instructor/Course Evaluation will be open for completion during week 9 of the session. An evaluation assignment will be placed in week 9 of the Moodle course, along with the instructions on how to complete the evaluation. Prior to week 9, the University will send out an email containing instructions and dates for the evaluation period.

RESEARCH RESOURCES:

The Library provides access to full-text, and peer reviewed articles, and digital research tools. Students can search Library holdings through the online catalog and databases search engines available on the Library website or browse the physical library space and holdings located at the Garland campus.

Research items not contained in the Amberton Library collection can be located through interlibrary Loan (ILL) or through the TexShare program with the help of the Library staff. Students with questions about available services, resources, or research, may contact the Library via email at Library@amberton.edu.

RESEARCH ACCESS:

Databases can only be accessed by authorized users, and students at Amberton must enter their Amberton ID credentials-same as Moodle login-to gain access when off-campus. Use an Amberton website, such as the University site (Amberton.edu) or the library site (Library.amberton.edu) to find links to databased and digital books. Online resources are available all day, every day.

Library Live Chat Feature

Library staff are available to assist students with research problems or questions during Library hours through a live online chat feature, telephone, email, “How-to” videos, or in person. The library telephone is (972-279-6511 ext. 185. You can email questions to library@amberton.edu or visit the library in person on the Garland campus for assistance.

Microsoft Office 365 Education:

Amberton University students have access to a license for Office 365 Education, a comprehensive suite of productivity tools. This package includes:

- Microsoft Word for document creation
- Excel for spreadsheets and data analysis
- PowerPoint for presentations
- OneNote for digital note-taking
- Microsoft Teams for collaboration
- Additional classroom tools to enhance your learning experience

To set up your student account and access these resources, please follow the instructions provided in our step-by-step guide: https://amberton.edu/wp-content/uploads/2025/01/Office365_Setup_Students.pdf

Google Workspace for Education:

All students are assigned a Gmail account in Google Workspace for Education.

To set up your student account and access these resources, please follow the instructions provided in our step-by-step guide: https://amberton.edu/wp-content/uploads/2025/01/Google_Drive_Students.pdf

Once logged into your student account, you'll have access to a suite of tools designed to enhance your learning experience:

- Google Docs: Create and edit essays, reports, and other written assignments
- Google Slides: Develop engaging presentations for projects and class discussions
- Google Sheets: Perform data analysis, create charts, and manage calculations
- Google Drive: Store, organize, and easily access all your files in the cloud
- Google Calendar: Schedule study sessions, track assignment deadlines, and manage your academic timetable
- Google Keep: Take and organize quick notes during lectures or study sessions
- Google Meet: Attend virtual classes, participate in group study sessions, or meet with teachers
- Google Classroom: Access course materials, submit assignments, and receive feedback from instructors
- Google Forms: Create surveys for research projects or participate in class quizzes
- Google Sites: Build websites or digital portfolios to showcase your work