

AMBERTON UNIVERSITY
e-COURSE SYLLABUS

MGT6470.E1 Operations Analytics
Fall 2026

PROFESSOR INFORMATION:

Professor: Dr. April Adams
Amberton Extension: 972-279-6511 ext. 241
Amberton Email: **AAdams@Amberton.edu**

COURSE INFORMATION:

MGT6470.E1 Operations Analytics
Level: Graduate
Beginning Date of Session: Saturday, September 12, 2026
Ending Date of Session: Thursday, November 19, 2026

Student access available to the Student Portal: Saturday, September 12, 2026.

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

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>

Students should verify enrollment in course before purchasing textbooks. Textbook information and ordering options are available through the Amberton Virtual Bookstore. 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.

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, 11/18/2026, 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.

STUDENTS' 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.

Activity Type	Description	Frequency	Points Each	Total Points	Percentage of Course Grade
Weekly Discussions	Ten online discussions where students apply weekly concepts to real operations and supply chain situations; each includes an initial post and at least two replies.	Weeks 1–10 (weekly)	20	200	20%
Assignment 1: Decision Analysis Mini-Case	Quantitative decision-making case using payoff tables and decision rules to select among strategic alternatives under uncertainty.	Week 2	100	100	10%
Assignment 2: Forecasting Lab	Spreadsheet-based lab applying moving averages, exponential smoothing, and error metrics to a time-series demand dataset.	Week 4	100	100	10%
Assignment 3: Inventory Analytics	EOQ and reorder point calculations for a realistic inventory scenario, with written interpretation of cost and service implications.	Week 6	100	100	10%
Assignment 4: Integrated Optimization and Learning Curves	Linear programming model and learning curve analysis for a small operations setting, emphasizing interpretation of model results.	Week 8	100	100	10%
Course Project Milestone 1	Short proposal defining the operations analytics problem, data plan, and tools to be used for the final narrated PPT project.	Week 5	50	50	5%
Final Course Project (Narrated PPT)	Voice-over presentation applying course analytics tools to a chosen operations problem, including data, models, results, and recommendations.	Week 10	150	150	15%
Course Paper Milestone 1	Proposal identifying the organization and at least three course concepts to be applied in the final APA paper.	Week 3	50	50	5%
Final Course Paper	APA-formatted paper (max 5 pages of content) describing how a selected organization can use at least three course concepts to improve operations and supply chains.	Week 10	150	150	15%

Activity Type	Description	Frequency	Points Each	Total Points	Percentage of Course Grade
Total				1,000	100%

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:

Students should review instructor feedback provided through Moodle or Amberton CampusWeb Portal. Final grades are processed approximately one week after the session and may be viewed through the student portal. Grades will not be released by phone or through unsecured channels. 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 granted only at the professor's discretion for emergencies or illness.

Students have 30 days from the end of the session to complete the course requirements. If the conditions are not met within this 30-day window, the "I" automatically converts to an "F".

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 delivered through Moodle. Students are expected to have reliable internet access, basic computer skills, the ability to upload/download files, use Amberton email, and submit assignments in the required format. Students needing assistance should use the Amberton SSO support/ticket process.

HOW TO ACCESS YOUR COURSE:**SINGLE SIGN-ON (SSO) INSTRUCTIONS FOR AMBERTON UNIVERSITY:**

Students should access Amberton systems through the Single Sign-On portal at <https://sso.amberton.edu>. After logging in, students can access Moodle, Amberton email, CampusWeb, and other assigned applications. Students who need help accessing SSO should submit a support request through the SSO support option or contact support@amberton.edu.

MOODLE TUTORIAL:

Upon successful log in and access to the Moodle learning platform, there is a Student Moodle Tutorial course available, to learn about the basics of Moodle. Simply click on the link for the Student Moodle Tutorial 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:

Students are expected to use their Amberton email account and Moodle for course communications. Students must use their official university email account for all university related communication and should check their Amberton emails regularly for course and university notices.

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 must be submitted through the appropriate Moodle assignment link unless otherwise directed by the instructor. Students are responsible for submitting files in the format required by the instructor.

INSTRUCTOR/COURSE EVALUATION:

Students will have the opportunity to complete an anonymous course and instructor evaluation near the end of the session. Instructions and dates will be provided through Moodle and/or Amberton email.

RESEARCH RESOURCES:

The Amberton Library provides access to full-text articles, peer-reviewed databases, and research tools, with options like Interlibrary Loan (ILL) and TexShare for items outside its collection. For research assistance, students can connect with library staff during operating hours via email (library@amberton.edu), phone (972-279-6511 ext. 185), "How-to" videos, live online chat, or in person at the Garland campus. The online library is available through Single Sign On (SSO).

MICROSOFT OFFICE 365 EDUCATION:

Amberton University students may access Microsoft 365 Education resources as provided by the university.

GOOGLE WORKSPACE FOR EDUCATION:

Amberton students are assigned a Google Workspace for Education account, including Amberton Gmail, Google Drive, Google Docs, Sheets, and Slides. Students should use their Amberton Google account for course-related work when required.