

AMBERTON UNIVERSITY
e-COURSE SYLLABUS

MGT6785.E1 Applied Predictive Analytics
Spring 2026

PROFESSOR INFORMATION:

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COURSE INFORMATION:

MGT6785.E1 Applied Predictive Analytics
Level: Graduate
Beginning Date of Session: Saturday, March 14, 2026
Ending Date of Session: Thursday, May 21, 2026
Student access available to the Student Portal: Saturday, March 14, 2026.

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

COURSE PREREQUISITES:

MGT6460 Applied Business Analytics

TEXTBOOK(S) AND REQUIRED MATERIALS:

The following textbook is required

Title: Fundamentals of Predictive Analytics with JMP
Author: Ron Klimberg
Publisher: SAS Institute, Inc.
Year Published: 2023
Edition: 3rd edition
ISBN: 13: 9781685800277
Price: Available at <http://amberton.ecampus.com>

The following textbook is optional. It goes into more detail (and covers a few additional topics) than the textbook above, and thus, may serve as a nice complement for those students looking for more information on data mining/machine learning/predictive analytics.

Title: Machine Learning for Business Analytics: Concepts, Techniques, & Applications with JMP Pro
Author: Galit Shmueli, Peter C. Bruce, Mia L. Stephens, Muralidhara Anandamurthy, Nitin R. Patel
Publisher: Wiley
Year Published: 2023
Edition: Edition Number
ISBN: 13: 9781119903833
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 will explore the foundations of predictive analytical and machine learning techniques commonly used to guide the decision-making process in organizations. A variety of crucial topics will be addressed, some of which may include the following: regression (both linear and logistic), decision trees, the k-nearest neighbor algorithm (k-NN), neural networks, random forests, support vector machines, and clustering techniques. Activities include conducting regression and k-NN analysis on various data sets and interpreting results.

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

1. Defining the term 'predictive analytics'
2. Differentiating between supervised and unsupervised learning.
3. Discussing the key differences between parametric and nonparametric models.
4. Understanding some of the common obstacles and challenges in using predictive analytics.
5. Comparing and contrasting clustering versus classification algorithms.
6. Conducting a k-means algorithm on a data set using software and interpreting the results.
7. Comparing and contrasting both linear and logistic regression. Understand the similarities and differences.
8. Explaining the results of a decision tree analysis and its implications for decision-making.
9. Conducting a regression analysis (both linear and logistic) on a data set using software and interpreting the results.
10. Conducting a k-NN analysis on a data set using software and interpreting the results.
11. Researching and applying artificial intelligence (AI) models to solve specific business problems, with a focus on machine learning and other subsets of AI relevant to data analytics.

ACQUIRED SKILLS:

1. K-means Algorithm
2. K-KN Analysis
3. Analytical Skills
4. Knowledge of Decision Trees

COURSE POLICIES:

The learning environment is one of mutual respect between the professor and student. Please be mindful to adhere to all course policies and procedures. Students are expected to submit all course assignments on time. Assignments are to be submitted on the due date by 11:55 PM (Central Standard Time) via Moodle. Late assignments will not be accepted. Extra credit is not allowed for the course.

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.

Please see below for instructions.

COURSE OUTLINE AND CALENDAR:

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

A brief outlay of class is as follows:

- Week 1 serves as an intro to class and a review of statistics, as well as a familiarization with JMP software.
- Weeks 2 and 3 cover predictive techniques and forecasting.
- Weeks 4, 5, and 6 cover various classification techniques. Still, others (that we won’t cover) exist such as the Naïve Bayes Classifier and Support Vector Machines (SVM).
- Week 7 covers various clustering algorithms.
- Week 8 covers dimension reduction techniques.
- Week 9 covers basic text mining which is related to Natural Language Processing (NLP).
- Week 10 is a short week and thus serves largely as free time to finish the final project.

Upon completion of the course, you will have grasped many of the fundamental concepts of predictive analytics.

Week	Topic	Assignment	Competencies Covered	Due Date
1	Introduction to JMP Software Chapter 1: Introduction Chapter 2: Statistics Review Chapter 3: Dirty Data Chapter 4: Data Discovery with Multivariate Data Chapter 18: Statistical Storytelling	Read Chapters 1-4 and 18 Do DQ 1 Complete HW 1	1, 2, 3, 4, 11	March 22, 2026
2	Chapter 5: Regression & ANOVA Chapter 8: LASSO & Elastic Net	Read Chapters 5 and 8 Do DQ 2 Complete Quiz 1	7, 9, 11	March 29, 2026
3	Chapter 17: Time Series Forecasting	Read Chapter 17	4, 11	April 5, 2026

		Do DQ 3 Complete HW 2		
4	Chapter 6: Logistic Regression Chapter 10: Decision Trees	Read Chapters 6 and 10 Do DQ 4 Complete Quiz 2	5, 7, 8, 9, 11	April 12, 2026
5	Chapter 11: k-Nearest Neighbors Chapter 12: Neural Nets	Read Chapters 11 and 12 Do DQ 5 Complete HW 3	5, 10, 11	April 19, 2026
6	Chapter 13: Bootstrap Forests & Boosted Trees Chapter 14: Model Comparison	Read Chapters 13 and 14 Do DQ 6 Complete Quiz 3	5, 8, 11	April 26, 2026
7	Chapter 9: Cluster Analysis	Read Chapter 9 Do DQ 7 Complete HW 4	5, 6, 11	May 3, 2026
8	Chapter 7: Principal Components Analysis	Read Chapter 7 Do DQ 8 Complete Quiz 4	4, 11	May 10, 2026
9	Chapter 15: Text Mining	Read Chapter 15 Do DQ 9 Complete HW 5	4, 11	May 17, 2026
10	Course Wrap Up	Do DQ 10 Complete Quiz 5 Complete Course Project	LO 1-11	May 21, 2026

GRADING CRITERIA:

There are several types of assignments given in class. All of these are aimed at providing a plethora of various ways that students can meet their learning objectives.

Discussions (DQ) – There is a course discussion each week. Students are required to have an initial post answering the question and a reply post responding to a classmate. More details will be given in each discussion.

Homework (HW) – There are bi-weekly homework assignments in class. These may include a variety of problem types, but the primary focus will be on analyzing datasets in JMP and interpreting the results.

Quizzes – There are bi-weekly quizzes in class and are set on alternating weeks from the homework assignments. These will largely be T/F, multiple choice, simple computations, and/or short answer questions. Note that the final quiz will not cover material but instead will be a short self-reflection/opinion on what you learned in class (no more than 8 to 10 sentences).

Course Project – Students will be required to complete a course project. Several options will be given which may include analyzing a data set of your choice and presenting the results in a narrated PPT, providing a teaching demo (via narrated PPT) on a related topic to class (i.e. Naïve Byes classifier, Support Vector Machines, etc.), providing a teaching demo (via narrated PPT) on how to analyze a data set (using a technique we learned in class) with a different software (JASP, SPSS, R, Python, etc.), etc. Additional details will be provided in the course shell. Students will have the entire term to work on this project. Please do not wait until the last minute to start.

Assignment	Quantity	Points	Percent
Discussions (DQ)	10 (due weekly)	10 points each, 100 total	10% of course grade
Homework (HW)	5 (due bi-weekly)	100 points each, 500 total	50% of course grade
Quizzes	5 (due bi-weekly)	40 points each, 200 total	20% of course grade
Course Project	1 (due in Week 10)	200 points each, 200 points total	20% of course grade
TOTAL		1000 points	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:

SINGLE SIGN-ON (SSO) INSTRUCTIONS FOR AMBERTON UNIVERSITY

Amberton University uses a Single Sign-On (SSO) portal to provide secure, one-time access to various systems like Moodle, Amberton Email (Gmail), and Campus Web.

Here are the step-by-step instructions for logging into the SSO portal:

1. Access the SSO Portal

You have two main ways to reach the login page:

- Direct URL: Open your web browser and go directly to the SSO login page:

<https://sso.amberton.edu>

- Via University Website (Alternative):

1. Go to the Amberton University website: <http://amberton.edu>.

2. Click the menu icon (often represented by 3 horizontal bars typically found on the right side of the screen.

3. Click the SSO Login link.

2. Enter Your Credentials

When prompted, enter your Amberton University credentials:

- Username: This is the same as your University email account name (the part before @my.Amberton.edu).
 - Format: Your capitalized first name initial + your entire last name + the last three digits of your SSN.
 - Example: If your email is JSmith789@my.Amberton.edu, your Username is JSmith789.
- Password: This is your Amberton University ID # (AUID), and it must include the dashes.
 - Example: 07-999-876

3. Set Up Multi-Factor Authentication (Initial Login Only)

- First-Time Users: During your initial log-in, the system will prompt you to set up Two-Factor Authentication (2FA) for added security.
- Follow the on-screen steps to establish your preferred authentication method (e.g., text message, or an authenticator application like Google Authenticator).

4. Access Your Applications

- Once successfully logged into the SSO portal, you will see a dashboard with icons or links for the various applications you can access.
- Click on the application you wish to use (e.g., Moodle, Gmail, or CampusWeb), and you will be taken directly to it without needing to log in again

If you have lost or do not know your University email address or have access issues, please contact the IT Help Desk at:

(972-279-6511 ext. 128

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.

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) 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

Turnitin Draft Coach

Instructions for Accessing Turnitin Draft Coach in Google Docs

Turnitin Draft Coach is typically available as an add-on or extension within Google Docs, allowing you to check for similarity, citations, and grammar *before* final submission.

Important Pre-requisites:

- Institutional Access: Draft Coach must be licensed and enabled by your school or institution's Turnitin and Google Workspace administrators. If you cannot find the extension, contact your instructor or IT support.
- Account: You must be signed into Google Docs using your institutional/school email account, not a personal Gmail account, for the extension to appear and work correctly.
- Document Type: The document must be a native Google Doc (not an uploaded .doc, .docx, or .pdf file opened in Docs). If you have another file type, copy and paste the text into a new, blank Google Doc.

Step-by-Step Guide

1. Open Google Docs: Sign in to your institutional Google account and navigate to Google Docs.
2. Open Your Document: Open an existing assignment draft or start a new document and paste your writing into it.
3. Access the Extension: In the top menu bar of your Google Doc, click on Extensions.
4. Select Draft Coach: Hover over or click Turnitin Draft Coach, and then select Turnitin Draft Coach again from the submenu.
 - *Note: If the option does not appear immediately, refresh your page and try again.*
5. Draft Coach Panel: The Draft Coach panel should now appear on the right-hand side of your screen.
6. Get Started: The first time you open it, you may need to click a "Get Feedback" or similar button, and you will likely need to read and accept the Terms and Conditions to continue.
7. Run Reports: Once loaded, you can select the tabs or cards in the panel to run different checks:
 - Similarity Check: Checks against Turnitin's database. (*Note: You typically have a limited number of checks for similarity, often three.*)
 - Citations Check: Analyzes your document for correct citation and referencing practices.
 - Grammar Guide: Provides feedback on grammar and mechanics (usually US-English rules).

You are now ready to use Turnitin Draft Coach to review and improve your writing!