MIS 445-452 - Dec Supprt Tool & Tech Mngrs Syllabus

2025 Spring

Course Modality:

This is an online course, which will be conducted fully online, asynchronously via Canvas. For more information on using Canvas and other supported learning tools, visit the IST Service Desk Knowledgebase.

Since this is an online course, you will have to take responsibility for spending the appropriate amount of time to learn the material. You should expect to spend at least 12-15 hours each week on the course.

Instructor Information

Teaching Team	Email	Office Hours
Jae-Hyuck Park (professor) **Estefany Galdamez (TA)**	jp2355@njit.edu eag38@njit.edu	Tue & Thu 10-11 AM or by appointment - Please email us to schedule a Zoom meeting.

We will typically respond to your emails within 48 hours. Allow up to 2 weeks for feedback on submitted assignments.

General Information

Class Time & Location: Tue & Thu 8:30-9:50 a.m. at Kupfrian Hall 104

Course Description

This course covers computer-based systems used to inform decisions in an organization or a business. A particular focus is given to data-driven systems capable of extracting useful

information from large volumes of data. Students will be exposed to different data-driven tools and techniques through hands-on assignments, and learn how to use them to draw conclusions, make determinations, and recommend courses of action to address different business problems.

Prerequisites/Co-requisites

Prerequisites: MIS 245 and OM 375.

Course Learning Outcomes

By the end of this course, students will be able to:

1. Determine whether and how data can improve performance.
2. Distinguish the role of data as it relates to business intelligence and analytics.
3. Utilize data visualization techniques on an introductory level in business reporting.
4. Describe the basic data mining processes, techniques, concepts and applications used in supporting decision-making.
5. Utilize the applications of descriptive analytics.
6. Utilize the applications of prescriptive analytics in combination with reporting and predictive analytics.
7. Apply acquired knowledge and skills to the solution of practical, professional, and business problems.
8. Recognize how to select the technique(s) appropriate for solving a particular problem and how to execute the technique(s), and be able to critically analyze its solution.
9. Execute cloud-based tools and learning environments to access, share, and present data analysis.
10. Communicate decisions/ideas in an effective, convincing, and professional way, both orally and in writing.

Course Materials

1. Textbook (optional): Camm et al., Business Analytics, 2019, 3rd edition, Cengage; ISBN: 9781337406420
2. Software: We will use the following software packages throughout the course: Tableau Desktop, SPSS, Power BI and JMP Pro 16. Software installation instructions will be provided on Canvas.

Grading Policy

NJIT Grading Legend

Final Grade Calculation

Final grades for all assignments will be based on the following percentages:

Quizzes	**7%**
Attendance	**10%**
Discussions	**10%**
Assignments	**40%**
Reflections	**3%**
Group Project	**30%**
Phase 1 (Proposal and Business Problem)	10%
Phase 2 (Research and Literature Review)	12%
Phase 3 (Final Presentation)	8%
Total	**100%**

Course Work

Quizzes: (7% of grade) There will be frequent quizzes throughout the course. They are meant to help you practice course concepts.

Attendance: (10% of grade) You are expected to arrive on time and stay until the lectures are finished. Excessive absences may result in a failing grade.

Discussions: (10% of grade) You are expected to participate in weekly discussion forums in Canvas. When all students participate in a discussion, it creates an active learning environment that will help you better understand the materials and be more successful in the class.

During weeks of the accelerated course that there are two discussions (Weeks 1, 3, and 4), while you must post initial responses for **both** prompts, you can choose which discussion (one out of the two) you respond to two peers.

Initial posts will be due by Thursday at 11:59 pm and responses to two peers are due no later than Sunday at 11:59 pm each week they are assigned. Due to the participatory nature of discussion forums, no late assignments can be accepted.

Assignments: (40% of grade) Assignments will be given weekly to give you an opportunity to apply course concepts for that week. Similar to quizzes, these activities are designed to help you practice and prepare for the projects.

Reflections (3% of grade) At the end of each week, you will complete a brief review of your participation and reflect on what you learned that week.

Group Project: (**30% of grade**) In this group project, you and your teammates will choose a dataset related to a company/industry or organization and explore potential improvements or business ideas (e.g., pricing scheme based on predictive analytics) using the decision support tools and technologies that you learned from this course**.** The project includes three phases: 1) a proposal and business problem, 2) research and a literature review, and 3) a final presentation. The details of the project are available on the "Group Project Description" page in Canvas.

Each project phase will require you to complete a group evaluation. If you don't complete the evaluation, you'll receive a 0 for the corresponding project phase. The evaluations are important, as they will help give me insight into your team dynamics throughout the semester.

Feedback

I will deliver prompt, targeted feedback on each assignment using the comments feature in Canvas. Quizzes will grade automatically.

Letter to Number Grade Conversions

A	90-100
B+	85-89
B	80-84
C+	75-79
C	70-74
D	60-69
F	0-59

Exam Information and Policies

This course does not have any exams. Per the NJIT Online Course Exam Proctoring Policy, this course will use authentic assessment, meaning you will be assessed and graded on your ability to deliver real-world outputs as well as your participation and feedback to other students.

Policy for Late Work

Assignments are due on published dates, although late postings are available to students for up to five additional days, subject to a 10% per day late penalty.

Discussions must be completed during the week in which they are offered to students per the published schedule and due to the collaborative nature of this type of assessment, **no late work will be possible for discussions**. Quizzes must also be completed within the week they are assigned, although under exceptional circumstances an extension may be granted.

No emailed submissions or submissions made within any other forum except the proper assignment submission area in Canvas will be accepted due to the need to process via Turnitin and archive all student submissions in Canvas.

Academic Integrity

"Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the NJIT academic code of integrity policy.

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu"

Netiquette

This is a business course, and the expectation is that you will conform to appropriate business letter writing practice in all of your email to me. The following are the basics.

- Put the **course name and section name** (e.g. MIS 445-451) in the subject line.
- Identify the subject of the e-mail with a brief but **descriptive** summary of the topic: and the assignment details such as the title, homework, or test.
- **Proofread your e-mail** for proper sentence structure, capitalization, spelling and punctuation.

- Include a proper salutation and conclude with a proper closing (e.g. Regards) and your name.

Throughout this course, you are expected to be courteous and respectful to classmates by being polite, active participants. You should respond to discussion forum assignments in a timely manner so that your classmates have adequate time to respond to your posts. Please respect opinions, even those that differ from your own, and avoid using profanity or offensive language.

Weekly Expectations

This course is organized into 14 modules. Each week in this accelerated course, you will complete two modules at a time. Each module has a reading assignment, lecture videos, a brief review quiz, discussion, assignment, and a quick reflection survey.

During weeks of the accelerated course when there are two discussions (Weeks 1, 3, and 4), you must post initial responses for **both** prompts, but you will only be expected to reply to peers in **one** of the two discussions. Both initial posts will be due by Thursday at 11:59 pm and responses to two peers are due no later than Sunday at 11:59 pm each week they are assigned.

Course Schedule

Week	Module	Topics	Assignment	Due Dates
1	1	Business Analytics	1. Academic Integrity Pledge 2. Introduce Yourself 3. Meet Your Project Group 4. Module 1 Discussion 5. Module 1 Reflection Survey	1. Due by Sunday at 11:59 pm 2. Initial response due by **Thursday at 11:59 pm**; replies to peers due by **Sunday at 11:59 pm**. 3. Due by Sunday at 11:59 pm 4. Initial response due by **Thursday** at 11:59 pm; replies to peers due by **Sunday** at 11:59 pm 5. Due by Sunday at 11:59 pm
	2	Taxonomy of Data and Basics of SPSS	1. Module 2 Review Quiz 2. Module 2 Discussion 3. Module 2 Assignment 4. Module 2 Reflection Survey	1. Due by Sunday at 11:59 pm 2. Initial response due by **Thursday** at 11:59 pm; replies to peers due by **Sunday** at 11:59 pm 3. Due by Sunday at 11:59 pm 4. Due by Sunday at 11:59 pm
2	3	Descriptive Analytics: Descriptive Statistics	1. Module 3 Review Quiz 2. Module 3 Assignment 3. Module 3 Reflection Survey	1. Due by Sunday at 11:59 pm 2. Due by Sunday at 11:59 pm 3. Due by Sunday at 11:59 pm

	4	Introduction to Tableau; Data Pre-Processing	1. Module 4 Review Quiz 2. Module 4 Discussion 3. Module 4 Assignment 4. Module 4 Reflection Survey	1. Due by Sunday at 11:59 pm 2. Initial response due by **Thursday** at 11:59 pm; replies to peers due by **Sunday** at 11:59 pm 3. Due by Sunday at 11:59 pm 4. Due by Sunday at 11:59 pm
3	5	Descriptive Analytics: Data Visualization with Tableau	1. Module 5 Review Quiz 2. Module 5 Discussion 3. Module 5 Assignment 4. Module 5 Reflection Survey	1. Due by Sunday at 11:59 pm 2. Initial response due by **Thursday** at 11:59 pm; replies to peers due by **Sunday** at 11:59 pm 3. Due by Sunday at 11:59 pm 4. Due by Sunday at 11:59 pm
	6	Introduction to Data Mining and JMP Pro	1. Module 6 Review Quiz 2. Module 6 Discussion 3. Module 6 Assignment 4. Module 6 Reflection Survey	1. Due by Sunday at 11:59 pm 2. Initial response due by **Thursday** at 11:59 pm; replies to peers due by **Sunday** at 11:59 pm 3. Due by Sunday at 11:59 pm 4. Due by Sunday at 11:59 pm
4	7	Descriptive Data Mining: Clustering	1. Module 7 Review Quiz 2. Module 7 Discussion 3. Module 7 Assignment 4. Module 7 Reflection Survey	1. Due by Sunday at 11:59 pm 2. Initial response due by **Thursday** at 11:59 pm; replies to peers due by **Sunday** at 11:59 pm 3. Due by Sunday at 11:59 pm 4. Due by Sunday at 11:59 pm
	8	Descriptive Analytics: Association Rules	1. Module 8 Review Quiz 2. Module 8 Discussion 3. Module 8 Assignment 4. **Project Phase 1** 5. Module 8 Reflection Survey	1. Due by Sunday at 11:59 pm 2. Initial response due by **Thursday** at 11:59 pm; replies to peers due by **Sunday** at 11:59 pm 3. Due by Sunday at 11:59 pm 4. Due by Sunday at 11:59 pm 5. Due by Sunday at 11:59 pm
5	9	Predictive Analytics: Regression	1. Module 9 Review Quiz 2. Module 9 Assignment 3. Module 9 Reflection Survey	1. Due by Sunday at 11:59 pm 2. Due by Sunday at 11:59 pm 3. Due by Sunday at 11:59 pm
	10	Predictive Analytics: Classification; K-nearest Neighbors	1. Module 10 Review Quiz 2. Module 10 Discussion	1. Due by Sunday at 11:59 pm

			3. Module 10 Assignment 4. Module 10 Reflection Survey	2. Initial response due by **Thursday** at 11:59 pm; replies to peers due by **Sunday** at 11:59 pm 3. Due by Sunday at 11:59 pm 4. Due by Sunday at 11:59 pm
6	11	Predictive Analytics: Decision Trees	1. Module 11 Review Quiz 2. Module 11 Assignment 3. Module 11 Reflection Survey	1. Due by Sunday at 11:59 pm 2. Due by Sunday at 11:59 pm 3. Due by Sunday at 11:59 pm
	12	Predictive Analytics: Model Assessment; Random Forests; Artificial Neural Networks	1. Module 12 Review Quiz 2. Module 12 Discussion 3. **Project Phase 2** 4. Module 12 Reflection Survey	1. Due by Sunday at 11:59 pm 2. Initial response due by **Thursday** at 11:59 pm; replies to peers due by **Sunday** at 11:59 pm 3. Due by Sunday at 11:59 pm 4. Due by Sunday at 11:59 pm
7	13	Natural Language Processing; Text Mining; Sentiment Analysis	1. Module 13 Review Quiz 2. Module 13 Discussion 3. Module 13 Reflection Survey	1. Due by Sunday at 11:59 pm 2. Due by Sunday at 11:59 pm 3. Due by Sunday at 11:59 pm
	14	Final Project	1. **Project Phase 3** 2. Module 14 Reflection Survey	1. Due by Sunday at 11:59 pm 2. Due by Sunday at 11:59 pm

Additional Information and Resources

Accessibility:
This course is offered through an accessible learning management system. For more information, please refer to Canvas's Accessibility Statement.

Requesting Accommodations:

The Office of Accessibility Resources and Services works in partnership with administrators, faculty, and staff to provide reasonable accommodations and support services for students with disabilities who have provided their office with medical documentation to receive services.

If you are in need of accommodations due to a disability, please contact the Office of Accessibility Resources and Services to discuss your specific needs.

Resources for NJIT Online Students

NJIT is committed to student excellence. To ensure your success in this course and your program, the university offers a range of academic support centers and services. To learn more, please review these Resources for NJIT Online Students, which include information related to technical support.