

Fall 2023

## **MGMT 216-101: Business Data Analytics**

Xi Zhang

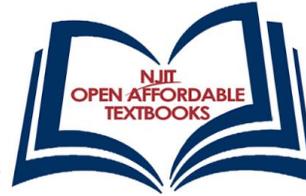
Follow this and additional works at: <https://digitalcommons.njit.edu/mtsm-syllabi>

---

### **Recommended Citation**

Zhang, Xi, "MGMT 216-101: Business Data Analytics" (2023). *School of Management Syllabi*. 115.  
<https://digitalcommons.njit.edu/mtsm-syllabi/115>

This Syllabus is brought to you for free and open access by the NJIT Syllabi at Digital Commons @ NJIT. It has been accepted for inclusion in School of Management Syllabi by an authorized administrator of Digital Commons @ NJIT. For more information, please contact [digitalcommons@njit.edu](mailto:digitalcommons@njit.edu).



MARTIN TUCHMAN SCHOOL OF MANAGEMENT

## MGMT 216 - Business Data Analytics Fall 2023 Course Syllabus

- Course Code: MGMT 216, Sec: 101, Credits: 3.00

Instructor: Dr. Xi Zhang

E-Mail: [xi.zhang@njit.edu](mailto:xi.zhang@njit.edu) or [xz262@njit.edu](mailto:xz262@njit.edu) (preferred)

*Note: e-mail is the best form of contact; Please add MGMT216-101 as a part of the subject line*

Office: 4018 Central Avenue Building (CAB), a.k.a. the library building

WebEx: <https://njit.webex.com/meet/xz262njit.edu>

Class Venue:

Section Number	Classroom	Meeting Time	Weekday
101	KUPF 105	6:00PM – 7:20PM	Tuesday/Thursday

Class Website: <http://canvas.njit.edu/> (select MGMT216) for course materials

Office Hour: by appointment **via WebEx** (preferable Tuesday 2PM-3PM)

### Prerequisites

MGMT 116 (Quantitative Analysis w/ Applications for Business) or MATH 105 (Elementary Probability and Statistics)

### Textbook (Optional):

Text 1:

Anderson, David, Dennis Sweeney, Thomas Williams.

[\*Essentials of Modern Business Statistics with Microsoft® Excel®, 5<sup>th</sup> or 6<sup>th</sup> Edition\*](#),

ISBN-10: 0840062389; ISBN-13: 9780840062383

Cengage Learning, 2014 (5<sup>th</sup> Edition), or 2015 (6<sup>th</sup> Edition).

Text 2:

Anderson, David, Dennis Sweeney, Thomas Williams.

[\*Modern Business Statistics with Microsoft® Excel®, 5<sup>th</sup> Edition\*](#)

ISBN10: 1-285-43330-0; ISBN13: 978-1-285-43330-1

Cengage Learning, 2015 (5<sup>th</sup> Edition).

**Software (Required):****Microsoft Excel**

Available as part of Microsoft Office 2013, or 2016 (Windows OS); Office: Mac 2011 or 2016 (Mac OS); Free download at <http://ist.njit.edu/software/download.php>. Please be aware of the differences among versions in features and layout. We shall only use Excel 2013 for Windows OS. If needed, please take the advantage of on-campus computers.

**LockDown Browser**

Please download and install LockDown Browser from the following link:  
<https://download.respondus.com/lockdown/download.php?id=264548414>

LockDown Browser is required to take the exams properly from Canvas. Canvas further needs to access your webcam to proctor the exams. Please make sure you are comfortable with Canvas-LockDown Browser prior to the exam to ensure a smooth exam experience.

**Course Description**

This course introduces statistical concepts and tools that can be leveraged for business data analytics. The emphasis is on knowing what analytical techniques to use to address specific business questions, on the use of computer software to perform business statistical analysis. In particular, it covers descriptive statistics, confidence interval estimation, hypothesis testing, inferential statistics and regression analysis. It ends with a brief introduction to time-series analysis and forecasting.

**Course Learning Outcomes**

In this course on the use of analytics in business we will cover why a technique is important, what a technique is actually doing, when it would be appropriate to use it and how to use it. Upon successful completion of this course you should be able to do the following:

1. Think critically, analytically and professionally about business data;
2. Acquire knowledge of common data-driven analytical tools that may be applied to solving general and practical business problems;
3. Be able to apply the acquired knowledge and analytical skills to the solution of business problems, knowing how to select the technique(s) appropriate for solving a particular problem and how to execute the technique(s);
4. Be able to use analytical software, Excel Spreadsheet;
5. Know how to interpret and communicate the results of data analysis.

### Attendance/Class Participation:

As you must attend class in order to participate, attendance will be taken in every class (10% of your final grade). Like others, class attendance is very important in this course because learning occurs through interaction. You are allowed to miss a maximum of four (4) classes throughout the semester without losing any attendance grades. Please note that I have a “no excuses” policy regarding absences — I trust you to use your own judgment about your reasons for missing class and whether you can afford to do so. I will deduct **0.5 point** for every absence beyond 4 missed classes. Use these “free” absences as you like (job interview, personal matters, religious holidays, etc.). You may choose any day for a free absence **except a day when there is an evaluation activity (e.g., exams and presentation)**. However, if you are absent or has missed any part of the class, then it is **YOUR responsibility** to obtain the missed information from the instructor or other students. It is important that you arrive on time so that we may start class promptly. Arriving late to class is very disruptive and discourteous to the class.

**All pagers, cell phones should be turned off or muted during class.**

**All pagers, cell phones and smart devices (e.g., Apple Watch) should be turned off during tests.**

### Grading Policy:

Grading:		Points
Exams	2 Exams (20 pts. each)	40
Projects	2 Projects (15 pts.& 20 pts.)	35
Presentation	1 Presentation (15 pts.)	15
Attendance/Participation		10
<b>Sum</b>		<b>100</b>

Grading scheme is as follows:

<b>A</b>	for Superior performance (90% or higher)
<b>B+</b>	for excellent performance (85 to 89.99%)
<b>B</b>	for very good performance (80 to 84.99%)
<b>C+</b>	for acceptable performance (75 to 79.99%)
<b>C</b>	for fair performance (70 to 74.99%)
<b>D</b>	for minimal performance (60 to 69.99%)
<b>F</b>	Otherwise.

Professional and personal circumstances that preclude you from performing at satisfactory levels will not be considered in the determination of the course grade. The effect of your grade on overall GPA, eligibility for graduation, loss of scholarship, loss of a United States resident card, placement on academic probation, etc., are **NOT** considered in the determination of your grade. **There are no extra credit assignments. Individual requests for alternative ways to improve your course grade will not be considered.**

### **Examinations:**

Two(2) exams will be given during the semester. Note that the exams are NOT cumulative. For exams<sup>1</sup>, you will need to bring

- 1) a basic calculator (with a square root button! A graphical calculator is not allowed);
- 2) one A4 size (8.5"x11") page of notes (two-sided, must be **handwritten** by yourself).

The exams may consist of multiple choice questions, true/false questions and short answer questions which incorporate all materials covered in lectures, labs, and exercises.

**There will be no makeup exam, nor extra work for extra credit.** So please make all your effort to attend the scheduled exams. Your final grade is not subject to negotiation.

### **Individual Student Projects:**

Individual class projects will be discussed in class. These are **NOT** group projects! Projects are to be submitted by each student by the designated date, including data output and formulas.

**Late projects will be penalized at a rate of 5% per calendar day.** In addition, once the deadline has passed, no further feedback will be given. Students submitting spreadsheets that are not unique will receive **a zero grade** for the project! You may discuss projects with your classmates, but the work you turn in **must be your own!**

### **Group Presentation**

In a group of 3, students are provided with a research topic and the objective of the project is to provide students with an opportunity to train their reporting and communication skills. The time allotted for each presentation will be approximately 10 minutes.

### **E-mail communication**

Students are to use their NJIT e-mail (ucid@njit.edu) in communicating with the instructor. It is also convenient to communicate at Canvas platform.

### **Computer/Webcam Requirement and Access to the Internet**

NJIT requires all students to have access to a computer with a webcam and a microphone at their place of residence. Details as to this requirement may be found on the college's website on the page describing NJIT's [Undergraduate Student Computer Requirement](#).

Access to the stable Internet is required for this course. NJIT provides on campus access to the Internet to all students. Details as how to access the Internet as well as other resources at NJIT may be found in the [Student Quick Start Guide](#).

### **Incompletes**

Incompletes will be given only to students who cannot finish the course on time due to major reasons outside of their control (e.g., illness, family tragedy, military service). Students may need to contact the Dean of Students' office and have it determine that the reasons given for not doing the work on time are valid.

---

<sup>1</sup> Please note that the format of exams, in-class or online, is subject to change based on the school policy. The exact format of exams will be announced in class and on Canvas as soon as possible.

### **Students with disabilities**

Students with disabilities needing accommodations of any nature so as to have a fair opportunity to perform in the class need to contact the [counseling center](#). Staff at the counseling center will determine what constitutes a reasonable accommodation and inform the instructor of what it is.

### **Statement on 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 academic code of integrity policy that is found at: <http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf>.

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”

### **Some Weblinks for Reference**

Bureau of Labor statistics	<a href="http://www.bls.gov">www.bls.gov</a>
Census Bureau	<a href="http://www.census.gov">www.census.gov</a>
CHANCE	<a href="http://www.dartmouth.edu/~chance">www.dartmouth.edu/~chance</a>
Data and story library	<a href="http://www.stat.cmu.edu/DASL">www.stat.cmu.edu/DASL</a>
Fed Stats	<a href="http://www.fedstats.gov">www.fedstats.gov</a>
Yahoo Finance	<a href="http://finance.yahoo.com/">http://finance.yahoo.com/</a>

## Tentative Schedule

(Deviations may be necessary)

Date	Topics	Content	Exercises	Note
9/5	Course Intro	Syllabus		
9/7	Descriptive Analytics	Lecture 1		
9/12	Descriptive Analytics	Lecture 1		9/11 Last day to drop class
9/14	Case: J&J Chocolate	Lab		
9/19	Case: J&J Chocolate	Lab		Form a team for final presentation
9/21	Forecasting Intro, Naive	Lecture 2		
9/26	Moving Average	Lecture 2	Ex 1: Forecasting	Project I Due
9/28	Exponential Smoothing	Lecture 3		
10/3	Exponential Smoothing	Lecture 3		
10/5	Simple Linear Regression	Lecture 4		
10/10	Simple Linear Regression	Lecture 4	Ex 2: Trend&Season	
10/12	Error Measurement	Lecture 5		
10/17	Review for Exam I			
10/19	Q&A; Group Project Discussion			
10/24	Exam I	Lecture 2-5		No Makeup
10/26	Forecasting Lab	Lab		
10/31	Forecasting Lab	Lab		
11/2	Multiple Linear Regression	Lecture 6		
11/7	Multiple Linear Regression	Lab		
11/9	Simulation	Lecture 7		
11/14	Simulation	Lab	Ex 3: Inventory	11/14 Last Day to Withdraw
11/16	Inventory Analytics	Lecture 8		
11/21	Decision Analysis	Lab	Ex 4: Decision	<b>No class on 11/23</b>
11/28	Review for Exam II Q&A;	Lecture 9		Project II Due
11/30	Group Presentation			
12/5	Group Presentation			Group Project
12/7	Group Presentation			
12/12	Exam II	Lecture 6-9		No Makeup
TBD				12/25 Grade Due