

**Syllabus**  
**MGMT 462 Managerial Analytics**  
Zoom and/or Crown 320

Fall 2021 August 30,2021 - December 11, 2021

**Instructor:** James Miller  
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**Class Location : Crown 320** (Tuesdays and Thursdays 1:00 - 2:15 pm)  
Students have the option to attend by Zoom instead of in person.

**Texts (required):**

**1. Business Analytics 3rd Edition by James R. Evans and Publisher Pearson. Save up to 80% by choosing the eTextbook option for ISBN: 9780135231715, 013523171X. The print version of this textbook is ISBN: 9780135231678, 0135231671.**

**2. Computational and Inferential Thinking (no charge)**

**The Foundations of Data Science**

By [Ani Adhikari](#) and [John DeNero](#)

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[Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International \(CC BY-NC-ND 4.0\)](#).

The book is available at <https://www.inferentialthinking.com/chapters/intro.html>

The book is also available in PDF form in Canvas

We will use Microsoft Office software, especially Excel, and Access and the Anaconda distribution of Python. We will also use Microsoft SQL Server which you should not attempt to install on your own machine. All software is available in the Dominican Tech Center. The easiest way to use all the software needed in this course is to connect to the Dominican Server **acats2k12.dom.edu**. Instructions to do this

will be given in the course. You can connect from home or from Dominican.

**Note: Chromebook computers will not work for many assignments in this course.** See [this document](#) for a list of assignments that will or may not work with Chromebooks.

### Course Description:

Firms can gain a competitive advantage by using data to make better decisions. Many different organizations, including businesses, governments, and non-profits, are now making significant investments in analytics. The objective of this course is to help you understand the field of analytics and be able to put analytics into a business / managerial environment. A secondary objective is to expose the student to basic concepts in Management Information Systems such as Database Management, Cloud Computing, and Big Data. The course will explore

1. How managers use analytics to formulate and solve business problems and to support managerial decision making.
2. The Role of Data to help you understand the basis of all analytics
3. Descriptive Analytics to help you understand what has happened
4. Predictive Analytics to help you understand trends and predict outcomes
5. Prescriptive Analytics to help you decide what action you should take

Cases and hands on exercises will be used. Students will apply tools such as Microsoft Excel, Microsoft Access and SQL, and Python.

**Prerequisites:** (QUAN201 and MGMT301), and (CIS120 or exemption from CIS120)

### Grading: (Percentages will be updated as soon as all assignments have been entered into Canvas)

Introductory Discussion	1.5%
Texbook Quizzes	20.5%
Homework	70.0%

Exam in Week 11	8.0%
Total of 337 points	100%
Possible 20 bonus points	5.9%

**At the end of the course the final letter grade will be computed as follows:**

Letter Grade	Corresponding Percentage
A:	93-100%
A-:	90-92.9%
B+:	88-89.9%
B:	80-87.9%
C+:	78-79.9%
C:	70-77.9%
C-:	68-69.9%
F:	0-67.9%

## **Logistics:**

You will need to use your Dominican e-mail address in this class. Please see the Computer Lab aides if you do not already have the required accounts. Use of Canvas is required.

All assignments are due at midnight Sunday night. *If you have been "stuck" on an issue for more than 15 minutes, seek help. You are welcome to seek help from me.*

If you have a reason why your assignment will be late, contact me **before** the due date. This is easy to do and it could save you the minimal late penalty. The late penalty is 1% per day if you don't ask for an

extension ahead of time. So, for example, if your assignment is eight days late it will be mathematically impossible to get an "A" on that assignment.

**Exam in Week 11:** The exam will cover all materials presented in class up to the exam date. An emphasis will be placed on the class lectures, notes, handouts and the required reading. If you must miss the exam, you must obtain approval before the exam date. The exam may be made up on a mutually agreeable schedule but make up dates generally are **before** the scheduled exam date.

**Online work (Canvas):** All work in this course will be submitted in Canvas (No paper!).

**Schedule details:** The schedule is subject to change. A detailed schedule by class week can be found in Canvas. A summary schedule appears later in this document.

## Objectives:

- Upon completion of this course, students should be able to:
  - Use advanced features in Excel such as
    - Pivot Tables
    - Solver (linear programming)
    - Date and Text manipulation
  - Use Python or other tools to analyze data and then draw conclusions from analysis.
  - Analyze and explain the applicability of big data and data analytics within a particular business/managerial environment and explain the associated requirements and challenges.
  - Assess the ethical, legal, and privacy issues associated with collection and use of data.
  - Demonstrate and effective use and an understanding of the applicability of various systems and tools for managing data including relational databases, spreadsheets, and analytical engines.

### Week-by-Week Class Schedule

Week	Unit/Chapter	Comments	Start	End
1	U1, Appendix A1	Introduce yourself, connect to remoteapp, Excel Basics	30-Aug	5-Sep
2	U1, Chapt 1	pivot tables	6-Sep	12-Sep
3	Unit 2	Bumping Passengers, Relational Databases	13-Sep	19-Sep
4	U2, Chapt 2	Microsoft Access Database Queries	20-Sep	26-Sep
5	Unit 3	What is Python, SQL Reading tables	27-Sep	3-Oct
6	U3, Chapt 3	SQL Group By, Pivot Tables, SQL Updating tables	4-Oct	10-Oct

7	U4, Chapt 4	Python Quiz 1, Excel descriptive statistics	11-Oct	17-Oct
8	Unit 4	Python USDA Assignment	18-Oct	24-Oct
		Mid Semester Break	25-Oct	31-Oct
9	Unit 5	Excel Regression, Census quiz, Easy midterm quiz	1-Nov	7-Nov
10	Unit 5	Why Python and Python Hyundai(Elantra)Sales	8-Nov	14-Nov
11	Unit 6	Two part Exam	15-Nov	21-Nov
12	U6, Chapt 8	P values, Excel Trendline, Jury Pool Selection	22-Nov	5-Dec
13	U7, Chapt 13	TED talk on use of data	29-Nov	5-Dec
14	Unit 7	Linear programming, optional machine learning	6-Dec	11-Dec
14	Unit 7b	Optional machine learning (k-means, k-nearest)		11-Dec
15	Unit 8	Optional Tableau, Optional Crime data		11-Dec
		ALL WORK DUE.		11-Dec

### Fall Semester 2021

August 30	First Day of Classes for Fall (15 weeks) & Fall I (8 weeks)
September 3	Last day to apply to graduate in Fall 2021
September 6	Labor Day - No Classes
September 7	Add/Drop deadline: Fall undergraduate courses & all Fall I courses
September 14	Add/Drop deadline: Fall graduate courses
September 14	Last day to declare satisfactory/fail grade option for undergraduate courses
September 21	Caritas and Veritas Day (class schedule suspended)
September 24	Last day to declare course intensification option for undergraduate courses
October 21	Last day of Fall I courses (8 weeks)
October 22-24	Long Weekend (no undergraduate classes)
October 25	First Day of Classes for Fall II (8 weeks)
November 1	Add/Drop deadline: all Fall II courses
November 5	Last day to withdraw from Fall courses (15 weeks)
November 24-28	Thanksgiving Vacation
December 11	Last day of Fall and Fall II undergraduate courses
December 13-18	Undergraduate Final Examinations
December 18	Last day of Fall and Fall II graduate courses
December 21	Final Grades due at noon for all courses
January 8	Fall Degree Conferral