Syllabus
MGMT 462 Managerial Analytics
Online

Spring 2021-2022 January 10, 2022 - April 29, 2022

Instructor: **James Miller**
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Class Location : Online

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

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 form 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 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 Basica	10-Jan	16-Jan
2	U1, Chapt 1	pivot tables	17-Jan	23-Jan
3	Unit 2	Bumping Passengers, Relational Databases	24-Jan	30-Jan
4	U2, Chapt 2	Microsoft Access Database Queries	31-Jan	6-Feb
5	Unit 3	What is Python, SQL Reading tables	7-Feb	13-Feb
6	U3, Chapt 3	SQL Group By, Pivot Tables, SQL Updating tables	14-Feb	20-Feb
7	U4, Chapt 4	Python Quiz 1, Excel descriptive statistics	21-Feb	27-Feb
8	Unit 4	Python USDA Assignment	28-Feb	6-Mar
		Mid Semester Break	7-Mar	13-Mar
9	Uint 5	Excel Regression, Cenus quiz, Easy midterm quiz	14-Mar	20-Mar
10	Unit 5	Why Python and Python Hyundai(Elantra)Sales	21-Mar	27-Mar
11	Unit 6	Two part Exam	28-Mar	3-Apr
12	U6, Chapt 8	P values, Excel Trendline, Jury Pool Selection	4-Apr	10-Apr
13	U7,Chapt 13	TED talk on use of data	11-Apr	17-Apr
14	Unit 7	Linear programmng, optional machine earning	18-Apr	24-Apr
14	Unit 7b	Optional machine learning (k-means, k-nearest)		
15	Unit 8	Optional Tableau, Optional Crime data	25-Apr	29-Apr

		ALL WORK DUE.	29-Apr	29-Apr

Academic Calendar:

January 10	First Day of Classes for Spring (15 weeks) & Spring I (8 weeks)
January 14	Last day to apply to graduate in Spring 2022
January 17	Martin Luther King, Jr. Day - No Classes
January 18	Add/Drop deadline: Spring undergraduate courses & all Spring I courses
January 25	Add/Drop deadline: Spring graduate courses
January 25	Last day to declare satisfactory/fail grade option for undergraduate courses
February 4	Last day to declare course intensification option for undergraduate courses
February 11	Last day to withdraw from Spring I courses (8 weeks)
March 4	Last day of Spring I courses (8 weeks)
March 7-13	Mid-semester vacation
March 14	First Day of Classes for Spring II (8 weeks)
March 21	Add/Drop deadline: all Spring II courses
March 25	Last day to withdraw from Spring classes
April 6	(G)URSCI Expo (class schedule suspended)
April 14-17	Easter Vacation
April 18	Last day to withdraw from Spring II courses (8 weeks)
April 29	Last day of undergraduate classes
April 30	Saturday and schedule conflict undergraduate final exams
May 2-5	Undergraduate Final Examinations
May 5	Last day of graduate classes

May 6	Final grades due at noon for graduating students
May 7-8	Commencement Weekend
May 7	Spring Degree Conferral