OPRE 3333: Quantitative Business Analysis
University of Texas at Dallas

Course Syllabus

Disclaimer
The material contained in this syllabus is subject to change upon announcement by the instructor in class.

Course Information

Course Number:	OPRE 3333
Course Title:	Quantitative Business Analysis
Term:	Spring 2020
Instructor:	Negin Enayaty Ahangar, Ph.D.
Office Information:	JSOM 3.420
Online Office Hours:	Tuesday, 10:00am - 12:00pm
	Thursday, 10:00am - 12:00pm
Email:	negin@utdallas.edu
Phone:	972-883-5115
Teaching Assistant:	Rushabh Rakesh Shah
Office Information:	JSOM 2.414
Online Office Hours:	Monday, 3:00pm - 5:00pm
	Wednesday, 3:00pm - 5:00pm
Email:	rushabhrakesh.shah@utdallas.edu

Course Pre-requisites, Co-requisites and/or Other Restrictions
MATH 1325 or MATH 2413 or MATH 2417

Course Description
Provides students with the analytical tools necessary for making better management decisions. Students are introduced to mathematical techniques used to make different types of business decisions.

Learning Outcomes
Students are required to take the initiative to learn, understand and apply quantitative business analytic to real world business data. At the end of this course, you should:

- Be able to apply mathematical techniques of optimization and linear algebra
- Be able to effectively understand and interpret analytic models and use them in the decision making process
- Be able to utilize basic business analytic tools in Excel

Textbooks:

1. Elementary Linear Algebra (8^{th} edition) - Larson
2. Business Analytics (3^{rd} edition) Camm/Fry/Anderson/Sweeney/Williams

You may purchase the textbook from UTD bookstore, Cengage publisher or Amazon.

Software: Microsoft Office Excel
This course uses a laptop, eLearning, Internet access, Microsoft Excel 2007 or higher (no trial versions). You can download and install the newest Excel for free as a UTD student using the link `https://www.utdallas.edu/oit/o365/`.

The Statistics and Math lab
Students enrolled in OPRE 3333 or OPRE 3360 may use the lab in room 2.414 from 10AM - 6PM, Monday through Friday.

Grading Criteria
Grades are assigned based upon the following scale and weighting.

Assignments	20%
Exam 1	30%
Exam 2	20%
Exam 3	30%

97-100	A^+	87-89.99	B^+	77-79.99	C^+	67-69.99	D^+
93-96.99	A	83-86.99	B	73-76.99	C	63-66.99	D
90-92.99	A^-	80-82.99	B^-	70-72.99	C^-	60-62.99	D^-

Course Policy:

1. **General**
   (a) It is your responsibility to read the syllabus and check the eLearning for announcements/changes daily.
   (b) If you missed a class, then ask your classmate about what was covered in class. There is no need to let me know if you are going to miss a class.
   (c) You must pay close attention to all the due dates from the first day of class and schedule your personal activities around those dates.
   (d) A portion of course material will be presented through course notes and handouts. It is each students responsibility to take appropriate notes during lecture. If a student misses a lecture for any reason, it is his/her responsibility to obtain notes from a classmate.
   (e) UTD eLearning is used to disseminate the materials for this course. Students can visit `https://elearning.utdallas.edu` and login using their net ID and password. Upon successful login, the Quantitative Business Analysis webpage should be available. Lectures, handouts, data files, and review questions will be available on this webpage. The instructor expects students to keep up with these materials. It is each student's responsibility to check the website before each class and bring that day's lecture to class.
   (f) Students who have questions should make every attempt to consult the instructor and TA during office hours. When this is not possible, the student should email the instructor and TA with a description of the question.

2. **Exams:**
   (a) Exams are closed-book and closed-note.
   (b) Graphing calculators are NOT allowed for the exams.
   (c) Exams will NOT be returned to students. However, you have one week, after grades are posted on eLearning, to check your graded test in the instructor's office hours and have the instructor's feedback.
   (d) There will be NO make-up for any missed exam except for medical emergencies in which a written statement is required for justifying the situation along with the physician's address and phone number.
3. **Assignments:**
   (a) There will be an assignment at the end of almost every chapter.
   (b) The two lowest graded assignments will be dropped.
   (c) There will be NO make-up for any missed assignment.
4. **Extra Credit:**
   (a) Extra credit will NOT be offered.
5. **Academic Dishonesty/Cheating:**
   (a) Students are required to read, understand and abide by the university policy on academic honesty.
   (b) Any student who is found responsible for committing an act of academic dishonesty will receive a grade of F or 0 (zero) on that quiz, exam, assignment, project or course.
   (c) The instructor reserves the right to change the grading policy without any notice due to unforeseen circumstances such as dishonesty, cheating, etc.
6. **Mobile Phones, Laptops & Electronic Devices:**
   (a) Taking unauthorized pictures or recording during the lecture/classroom from presented materials with a mobile phone, laptop, camera or any other device is an infringement of privacy rights and is prohibited.
   (b) No use of mobile phones for talking or texting is allowed while in classroom. If you must make a call, then please step outside of the classroom.

Comet Creed
This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

As a Comet, I pledge honesty, integrity, and service in all that I do.

UT Dallas Syllabus Policies and Procedures
The information contained in the following link constitutes the University's policies and procedures segment of course syllabus. Please go to `https://go.utdallas.edu/syllabus-policies` for these policies.

The following is a tentative schedule, which will be followed as closely as possible. However, should any changes become necessary, it will be announced in the class or via eLearning. It is your responsibility to keep track of announcements regarding changes to this schedule.

Course Calendar

Week	Date	Topic	Book	Assignment
1	Monday, January 13	System of Linear Equations	Chapter 1 - Larson	
1	Wednesday, January 15	System of Linear Equations	Chapter 1 - Larson	
2	Monday, January 20	**Martin Luther King Day**		
2	Wednesday, January 22	System of Linear Equations	Chapter 1 - Larson	Assignment 1 (chapter 1)
3	Monday, January 27	Matrices	Chapter 2 - Larson	
3	Wednesday, January 29	Matrices	Chapter 2 - Larson	
4	Monday, February 3	Matrices	Chapter 2 - Larson	Assignment 2 (chapter 2)
4	Wednesday, February 5	Determinants	Chapter 3 - Larson	
5	Monday, February 10	Determinants	Chapter 3 - Larson	
5	Wednesday, February 12	Determinants	Chapter 3 - Larson	Assignment 3 (chapter 3)
6	Monday, February 17	Introduction to Business Analytics	Chapter 1 - Camm	
6	Wednesday, February 19	Data Visualization	Chapter 3 - Camm	
7	Monday, February 24	Data Visualization	Chapter 3 - Camm	
7	Wednesday, February 26	**Exam 1 (In-class)**	**Chapter 1-3 (Larson)**	
8	Monday, March 2	Data Visualization	Chapter 3 - Camm	
8	Wednesday, March 4	Time Series Analysis and Forecasting	Chapter 8 - Camm	
9	Monday, March 9	Time Series Analysis and Forecasting	Chapter 8 - Camm	
9	Wednesday, March 11	Time Series Analysis and Forecasting	Chapter 8 - Camm	Assignment 4 (chapters 1, 3, 8)
10	Monday, March 16	**Spring Break**		
10	Wednesday, March 18	**Spring Break**		
11	Monday, March 23	**Spring Break**		
11	Wednesday, March 25	**Spring Break**		
12	Monday, March 30	**Exam 2 (Taken Remotely)**	**Chapter 1, 3, 8 (Camm)**	
12	Wednesday, April 1	Linear Optimization Models	Chapter 11 - Camm	
13	Monday, April 6	Linear Optimization Models	Chapter 11 - Camm	
13	Wednesday, April 8	Linear Optimization Models	Chapter 11 - Camm	Assignment 5 (chapters 11)
14	Monday, April 13	Integer Linear Optimization	Chapter 12 - Camm	
14	Wednesday, April 15	Integer Linear Optimization	Chapter 12 - Camm	Assignment 6 (chapters 12)
15	Monday, April 20	Nonlinear Optimization Models	Chapter 13 - Camm	
15	Wednesday, April 22	Nonlinear Optimization Models	Chapter 13 - Camm	Assignment 7 (chapters 13)
16	Monday, April 27	Nonlinear Optimization Models	Chapter 13 - Camm	
16	Wednesday, April 29	**Exam 3 (Taken Remotely)**	**Chapters 11, 12, 13 (Camm)**	