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OPRE 3333: Quantitative Business Analysis
University of Texas at Dallas

Course Syllabus

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Disclaimer:
The descriptions and timelines contained in this syllabus are subject to change at the discretion of the instructor.

Course Information:

Course Number/Section:	OPRE 3333.002/003
Course Title:	Quantitative Business Analysis
Term:	Spring 2023
Lecture Time:	Section 002: Monday/Wednesday, 10:00 am – 11:15 am
	Section 003: Monday/Wednesday, 11:30 am – 12:45 pm
Lecture Location:	JSOM 1.110
Instructional Mode:	Face to Face
Instructor:	Negin Enayaty Ahangar, Ph.D.
Office Information:	JSOM 14.409
Office Hours:	Tuesday/Thursday, 11:00 am – 12:00 pm
Email:	Negin@UTDallas.edu
Teaching Assistant:	Manvi Nishith Mehta
Office Hours:	Monday/Wednesday, 1:00 pm – 2:00 pm (online via MS Teams)
Email:	Manvi.Mehta@UTDallas.edu

Course Pre-requisites, Co-requisites and/or Other Restrictions:
Credit cannot be received for both courses, OPRE 3333 and MATH 2333.
Prerequisites: 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.

Student Learning Objectives/Outcomes:
Students are required to take the initiative to learn, understand and apply quantitative business analytics 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 - 8th edition

    - Author: Larson
    - Ebook ISBN: 9781305887824

2. Business Analytics - 3rd edition

    - Authors: Camm/Cochran/Fry/Ohlmann/Anderson/Sweeney/Williams
    - Ebook ISBN: 9781337670784

Grading Criteria:
Grades are assigned based on the following weighting.

Assignment Average	25%
Highest Exam Grade	30%
Median Exam Grade	25%
Lowest Exam Grade	20%

The letter grades are determined based on the following grading scheme.

Letter Grade:	A^+	A	A^-	B^+	B	B^-	C^+	C	C^-	D^+	D	F
Minimum Required Grade:	98	93	90	87	83	80	77	73	70	65	60	0

Course Calendar:

Week	Date	Topic	Assignment	Due Date
1	Wednesday, January 18	Systems of Linear Equations		
2	Monday, January 23	Systems of Linear Equations		
2	Wednesday, January 25	Systems of Linear Equations	Assignment 1	February 1
3	Monday, January 30	Matrices		
3	Wednesday, February 1	Matrices		
4	Monday, February 6	Matrices	Assignment 2	February 13
4	Wednesday, February 8	Determinants		
5	Monday, February 13	Determinants		
5	Wednesday, February 15	Determinants	Assignment 3	February 26
6	Monday, February 20	Introduction to Business Analytics		
6	Wednesday, February 22	Data Visualization		
7	Monday, February 27	Data Visualization		
7	Wednesday, March 1	**Exam 1 (Lectures 1 − 3)**		
8	Monday, March 6	Time Series Analysis and Forecasting		
8	Wednesday, March 8	Time Series Analysis and Forecasting		
9	Monday, March 13	**Spring Break**		
9	Wednesday, March 15	**Spring Break**		
10	Monday, March 20	Time Series Analysis and Forecasting	Assignment 4	March 29
10	Wednesday, March 22	Time Series Analysis and Forecasting		
11	Monday, March 27	Linear Optimization Models		
11	Wednesday, March 29	Linear Optimization Models		
12	Monday, April 3	**Exam 2 (Lectures 4 − 6)**		
12	Wednesday, April 5	Linear Optimization Models		
13	Monday, April 10	Linear Optimization Models	Assignment 5	April 17
13	Wednesday, April 12	Integer Linear Optimization		
14	Monday, April 17	Integer Linear Optimization		
14	Wednesday, April 19	Integer Linear Optimization		
15	Monday, April 24	Nonlinear Optimization Models		
15	Wednesday, April 26	Nonlinear Optimization Models	Assignment 6	April 30
16	Monday, May 1	Review Session		
16	Wednesday, May 3	**Exam 3 (Lectures 7 − 10)**		

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

The Statistics and Math lab:
This lab, located in room JSOM 2.414, offers assistance to students enrolled in OPRE 3333, OPRE 3340, or OPRE 3360. The schedule is to be announced on eLearning.

Course Policy:

1. **General:**

   - It is your responsibility to read the syllabus and check the eLearning for announcements/changes daily.
   - You must pay close attention to all the due dates from the first day of class and schedule your personal activities around those dates.
   - For any grade posted on eLearning, you have one week after it is posted to request for regrading.

2. **Exams:**

   - Exams will be administered by the Testing Center. Students should visit `https://ets.utdallas.edu/testing-center` to register for a seat and for more information.
   - Students should register for a seat no later than one week prior to the exam date. Failure to do so will result in a 10-point penalty on the exam grade.
   - Exams will NOT be available to students after submission. However, you have one week after grades are posted on eLearning to review your graded exam during the instructor's office hours and have the instructor's feedback.
   - There will be NO make-up for any missed exam except for medical emergencies in which a written statement is required to justify the situation along with the physician's address and phone number.

3. **Assignments:**

   - The assignments will be assessed through eLearning.
   - The lowest assignment grade will be dropped. Therefore, there will be NO make-up for any missed assignment.

4. **Extra Credit:**

   - Extra credit will NOT be offered.

5. **Academic Dishonesty/Cheating:**

   - Students are required to read, understand and abide by the university policy on academic honesty.
   - Any student found responsible for committing an act of academic dishonesty will receive a grade of zero on that exam or assignment.
   - 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:**

   - 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.

7. **Class Recordings:** Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

8. **Class Materials:** Classroom materials may not be reproduced or shared with those not in class or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

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.**

Academic Support Resources:
The information contained in the following link lists the University's academic support resources for all students. Please go to Academic Support Resources webpage for these policies.

UT Dallas Syllabus Policies and Procedures:
The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please review the catalog sections regarding the credit/no credit or pass/fail grading option and withdrawal from class. Please go to UT Dallas Syllabus Policies webpage for these policies.