



**Course** OPRE 3333.501  
**Professor** Mofid Nakhaei, PhD, PE  
**Term** Spring 2017  
**Meetings** Friday 7:00-9:45 PM

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### PROFESSOR'S CONTACT INFORMATION

<b>Office location</b>	TBD
<b>Email address</b>	mxn162630@utdallas.edu
<b>Office hours</b>	Friday 3:00-4:00 by appointment
<b>Other information</b>	E-mail is recommended for all communications during the semester. eLearning will be used to post announcements, lecture notes, exam reviews, and grades. MindTap will be used to post assignments.
<b>Teaching Assistant</b>	Goutam Ravi gxr151230@utdallas.edu
<b>TA office hours</b>	Thursdays 2:00 to 4:00 pm in the Statistics and Math Lab at JSOM 2.414.  Additionally, the Statistics and Math Lab is offering assistance to students enrolled in OPRE 3333. The lab is open from 10 am to 6 pm Monday through Friday.

### GENERAL COURSE INFORMATION

<b>Pre-requisites, Co-requisites, &amp; other restrictions</b>	<u>OPRE 3333</u> and <u>MATH 2333</u> cannot both be used to fulfill degree requirements. Prerequisite: <u>MATH 1325</u> Applied Calculus I or <u>MATH 2413</u> Differential Calculus or <u>MATH 2417</u> Calculus I. The topics discussed in this course are inherently mathematical. Students are encouraged to explore supplementary resources early on the semester as needed.
<b>Course Description</b>	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.
<b>Learning Outcomes</b>	As any quantitative course, this class requires much work in and out of the classroom. Active and informed participation is expected from every student. Class sessions will be a combination of lecture, discussion, and in-class exercises. 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: <ul style="list-style-type: none"><li>• Be able to apply mathematical techniques of optimization and linear algebra</li><li>• Be able to effectively understand and interpret analytic models and use them in the decision making process</li><li>• Be able to utilize basic business analytics tools in Excel</li></ul>
<b>Recommended Texts &amp; Materials</b>	<ul style="list-style-type: none"><li>• Elementary Linear Algebra, 8th Edition, Ron Larson.</li><li>• Essentials of Business Analytics, 2nd Edition, Jeffrey D. Camm; James J. Cochran; Michael J. Fry; Jeffrey W. Ohlmann; David R. Anderson; Dennis J. Sweeney; Thomas A. Williams.</li></ul> Both full books are available in a digital format called MindTap. You can purchase the bundle at <a href="http://services.cengagebrain.com/course/site.html?id=1516493">http://services.cengagebrain.com/course/site.html?id=1516493</a> , or at the bookstore using ISBN 9781337605816. This ISBN contains 2 access codes, one for each book.  You'll need the following to register for the course on Cengage: Student Registration URLs:

	<a href="https://login.cengagebrain.com/course/MTPP-P1ZP-8XJ8">https://login.cengagebrain.com/course/MTPP-P1ZP-8XJ8</a> <a href="https://login.cengagebrain.com/course/MTPP-0D5P-1LZR">https://login.cengagebrain.com/course/MTPP-0D5P-1LZR</a>  Course keys: MTPP-P1ZP-8XJ8 MTPP-0D5P-1LZR  A link to a video tutorial as well as a pdf file explaining the procedure has been posed on eLearning.  MindTap also contains homework assignments for both books counting for 25% of your final grade. Additional material such as lecture notes and exam reviews will be posted on eLearning.
<b>Syllabus Changes</b>	Though this syllabus is intended to be a guide for our course, I reserve the right to modify any of its contents throughout the semester if necessary. Any changes will be discussed in class and posted immediately on eLearning so you can plan accordingly. Be sure to check for any announcements, since this document functions as a contract of what to expect in this class.

### TENTATIVE SCHEDULE

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

Jan 13	Course Introduction Systems of Linear Equations – Handouts (Chapter 1_Larson)
Jan 20	Systems of Linear Equations – Handouts (Chapter 1_Larson) Matrices – Handouts (Chapter 2_Larson)
Jan 27	Matrices – Handouts (Chapter 2_Larson)
Feb 3	Determinants – Handouts (Chapter 3_Larson) <i><b>Assignment 1 due at 11:00 am (MindTap)</b></i>
Feb 10	Introduction to Business Analytics (Chapter 1_Camm) Exam Review <i><b>Assignment 2 due at 11:00 am (MindTap)</b></i>
Feb 17	<i><b>Exam 1: Closed book and notes (Chapters 1, 2, &amp; 3 of Larson and handouts)</b></i>
Feb 24	Data Visualization (Chapter 3_Camm) Time Series Analysis and Forecasting (Chapter 8_Camm)
Mar 3	Linear Optimization Models (Chapter 11_Camm) <i><b>Assignment 3 due at 11:00 am (MindTap)</b></i>
Mar 10	Transportation Models (Chapter 11_Camm) Solving Linear Optimization Models Using Excel Solver (Chapter 11_Camm)
Mar 17	<i><b>Spring Break – no class this week</b></i>
Mar 24	Sensitivity Analysis (Chapter 11_Camm) Exam Review <i><b>Assignment 4 due at 11:00 am (MindTap)</b></i>
Mar 31	<i><b>Exam 2: Closed book and notes (Chapters 1, 3, 8, &amp; 11 of Camm and handouts)</b></i>

Apr 7	Integer Linear Optimization Models (Chapter 12_ Camm)
Apr 14	Decision Analysis (Chapter 15_ Camm) <i>Assignment 5 due at 11:00 am (MindTap)</i>
Apr 21	Guest Speaker <i>Assignment 6 due at 11:00 am (MindTap)</i>
Apr 28	Exam Review
May 5	<i>Exam 3: Closed book and notes (Chapters 11, 12, &amp; 15 of Camm and handouts)</i>

## COURSE POLICIES

<b>Grading Criteria</b>	95 points = A+; 90 points = A 85 points = B+; 80 points = B; 75 points = C+; 70 points = C; 65 points = D+; 60 points = D; 59 and below = F
<b>Exams</b>	There are three in-class exams (25% each, 75% total). The exams are not cumulative. <b>NO MAKE-UP EXAM WILL BE OFFERED, EXCEPT IN CASE OF A MEDICAL EMERGENCY (PROOF REQUIRED).</b>
<b>Homework</b>	There are six assignments, where the lowest grade will be dropped (5% each, 25% total). Assignments will be posted a week in advance of their due date. You can work together on assignments but develop your own solution. <b>LATE SUBMISSIONS WILL NOT BE ACCEPTED.</b> All assignments should be submitted on the due date on MindTap. <b><u>Do not send assignment by email</u></b> because they won't be graded. No make-up assignments will be given, so plan ahead.
<b>Extra Credit</b>	No extra credit is available per se. However, credits may be given for active participation in class discussion.
<b>Class Attendance</b>	<b>EXPECTED.</b> Looking at previous experiences with this and other classes, tardiness and absence are the main contributing factors to poor and failing grades.
<b>Classroom Citizenship</b>	<ul style="list-style-type: none"> <li>i. <u>Class begins on time.</u> Please maintain class decorum and be respectful towards fellow students in the class. If you have a doubt or misunderstanding regarding course work feel free to discuss it with me.</li> <li>ii. <u>Using your phone during class is not permitted and it is rude.</u> Keep it on silent at all time and away from your desk. No texting. Offenders will be asked to turn off their phones. If this is a recurring problem, students will be asked to give their phones to the instructor which will be returned at the end of the class session.</li> <li>iii. <u>Use of your computer is allowed as long as it is not interrupting the class or distracting other students in the classroom.</u> If such situation occurs, the first time you will be asked to turn off your computer. Recurrent offenders will be asked to leave the classroom.</li> <li>iv. Given that this is a quantitative class, the material discussed will need for you to take notes in a conventional way most of the time. Therefore, I encourage you to use your computer wisely. In my experience, abusing the use of computers during class time results in unsatisfactory final grades.</li> <li>v. <u>Use of tablets is allowed,</u> as long as they are used to read the textbook, or the class notes.</li> <li>vi. <u>These rules will be enforced.</u></li> </ul>
<b>Special Assistance</b>	For help with test anxiety or time management, the following resources are

	available: your academic advisor, the Student Success Center (CN1.126), the Student Counseling Center (SSB 4.600), the New Student Programs Office (SSB 3.600), your instructor.
<b>Expectation</b>	University guidelines recommend that you study 2-3 hours per week for every credit hour in which you are enrolled. That is, University expectations suggest <b>you spend 6-9 hours</b> outside of class every week on homework and studying for this course.
<b>Student Conduct and Discipline</b>	<p>The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD publication, <i>A to Z Guide</i>, which is provided to all registered students each academic year.</p> <p>The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the <i>Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3</i>, and in Title V, Rules on Student Services and Activities of the university's <i>Handbook of Operating Procedures</i>. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391).</p> <p>A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.</p>
<b>Academic Integrity</b>	<p>The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.</p> <p>Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.</p> <p>Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.</p>
<b>Email Use</b>	The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that

	is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.
<b>Withdrawal from Class</b>	The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.
<b>Student Grievance Procedures</b>	<p>Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's <i>Handbook of Operating Procedures</i>.</p> <p>In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the dean will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.</p> <p>Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.</p>
<b>Incomplete Grades</b>	As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of <u>F</u> .
<b>Disability Services</b>	<p>The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.</p> <p>The contact information for the Office of Student AccessAbility:  The University of Texas at Dallas, SSB 3.200  PO Box 830688  Richardson, Texas 75083-0688  (972) 883-2098 (voice or TTY)</p> <p>Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for example, a research</p>

	<p>paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.</p> <p>It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.</p>
<b>Religious Holy Days</b>	<p>The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.</p> <p>The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.</p> <p>If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.</p>
<b>Off-Campus Instruction and Course Activities</b>	<p>Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at <a href="http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm">http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm</a>. Additional information is available from the office of the school dean.</p>

*These descriptions and timelines are subject to change at the discretion of the professor.*