University of North Texas at Dallas  
FALL 2021  
Syllabus for DSCI 3870-002: Management Science

<table>
<thead>
<tr>
<th>Department/School of:</th>
<th>Business</th>
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<tbody>
<tr>
<td>Instructor Name:</td>
<td>Shikhar Acharya, Ph.D.</td>
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<tr>
<td>Office Location:</td>
<td>302 Founders Hall</td>
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<tr>
<td>Office Phone:</td>
<td></td>
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<tr>
<td>Email Address:</td>
<td><a href="mailto:shikhar.acharya@untdallas.edu">shikhar.acharya@untdallas.edu</a></td>
</tr>
<tr>
<td>Office Hours:</td>
<td>M/Tu/W/Th: 10:00 AM – 11:00 AM – waiting room enabled Zoom office hours on a first-come first-served basis. 11:00 AM – noon: one-on-one scheduled Zoom meeting and promptly monitored email response. Link will be provided in Canvas, change in hours will be communicated to the students.</td>
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<tr>
<td>Classroom Location:</td>
<td>Online – Use the Zoom link in Canvas to join the class online</td>
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<tr>
<td>Class Meeting Days &amp; Times:</td>
<td>Thursday 4:00 PM – 6:50 PM</td>
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<tr>
<td>Course Catalog Description:</td>
<td>Introduction to operations research for business decision making. Spreadsheet methods are used to evaluate the following: deterministic models, allocation problems, linear programming, sequencing and scheduling, and network models.</td>
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<td>Prerequisites:</td>
<td>DSCI 2305 or consent of instructor; ACCT 2010 and ACCT 2020 with “C” or better; ECON 1100 and ECON 1110; MATH 1680 or MATH 1190 or equivalent.</td>
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Access to Learning Resources:  
UNT Dallas Library:  
phone: (972) 780-1616  
web: http://www.untdallas.edu/library  
email: library@untdallas.edu  
UNT Dallas Bookstore:  
phone: (972) 780-3652  
web: http://www.untdallas.edu/bookstore  
e-mail: untdallas@bkstr.com  
Access Canvas via untdallas.instructure.com  
  - Username: your EUID #  
  - Password: your password  

Canvas 24/7 Phone Support for Students: 1-833-668-8634  
Canvas Help Resources: Canvas Student Guide  
For additional assistance, contact Student Assistance (Distance Learning):  
DAL 1, Rm 157  
phone: (972)338-5580  
e-mail: distancelearning@untdallas.edu

Note:  
If you are working with Canvas 24/7 Support to resolve a technical issue, make sure to keep me updated on the troubleshooting progress.  
If you have a course-related issue (course content, assignment troubles, quiz difficulties) please contact me during office hours or by email.
Course Goals or Overview: The goal of this course is to provide the student with a working knowledge of management science/operations research techniques for use in business. This will be achieved by using a real-world problem-oriented approach, and using examples that emphasize the multi-disciplinary nature of business problems. Spreadsheets will be used to strengthen students’ abilities to make business decisions. The course uses case studies and assignments that require communication and interaction. Techniques covered will include (but are not limited to) linear, integer, and non-linear programming, sensitivity analysis, and implementation issues.

Learning Objectives/Outcomes: At the end of this course, the student will have developed a sound conceptual understanding of the role that management science plays in the decision-making process. The sub-goals that support this overarching goal include:

1. Be able to explain what a model is, and to give examples of different types of models.
2. Be able to use spreadsheet program to perform basic data analysis
3. Be able to calculate probabilities for some basic distributions
4. Be able to create decision trees and apply the expected monetary value criterion of decision making
5. Be able to create linear regression model, check model assumptions and apply it for prediction
6. Be able to formulate and solve linear programming problems and conduct sensitivity analysis
7. Be able to implement simple optimization models

Online/Hybrid Course Outline
This schedule is subject to change by the instructor. Any changes to this schedule will be communicated in class or via class email or Canvas announcement. Additional readings and activities may be added.

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Topic</th>
<th>Activities</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>Week 1 – Aug 26</td>
<td>Introduction to course, chapter 1</td>
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<td>Week 2 – Sep 2</td>
<td>Chapter 2</td>
<td></td>
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<td>Week 3 – Sep 9</td>
<td>Chapter 3</td>
<td>Quiz / HW 1</td>
<td>September 13</td>
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<td>Week 4 – Sep 16</td>
<td>Chapter 4</td>
<td></td>
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<tr>
<td>Week 5 – Sep 23</td>
<td>Chapter 6</td>
<td>Quiz / HW 2</td>
<td>September 27</td>
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<tr>
<td>Week 6 – Sep 30</td>
<td>Chapter 10</td>
<td>Quiz</td>
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<tr>
<td>Week 7 – Oct 7</td>
<td>Exam I (Chapter 1-4, 6)</td>
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<tr>
<td>Week 8 – Oct 14</td>
<td>Chapter 11</td>
<td></td>
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<tr>
<td>Week 9 – Oct 21</td>
<td>Chapter 12</td>
<td>Quiz / HW 3</td>
<td>October 25</td>
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<tr>
<td>Week 10 – Oct 28</td>
<td>Chapter 13</td>
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<td>Week 11 – Nov 4</td>
<td>Exam II (Chapter 10-12)</td>
<td>Quiz / HW 4</td>
<td>November 8</td>
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<td>Week 12 – Nov 11</td>
<td>Chapter 13 continued</td>
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<tr>
<td>Week 13 – Nov 18</td>
<td>Chapter 14</td>
<td>Quiz / HW 5</td>
<td>November 28</td>
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<td>Week 14 – Nov 25</td>
<td>Thanksgiving Break</td>
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<td>Week 15 – Dec 2</td>
<td>Exam III (Chapter 13, 14)</td>
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Note: There will be graded classwork throughout the semester
Course Evaluation Methods
This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percent of Final Grade</th>
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<tbody>
<tr>
<td>Quizzes</td>
<td>20%</td>
</tr>
<tr>
<td>Classwork / Attendance / Participation</td>
<td>10%</td>
</tr>
<tr>
<td>Homework / Case Studies</td>
<td>40%</td>
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<tr>
<td>Exam</td>
<td>30%</td>
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100%

Exams, quizzes and classwork should be taken as scheduled. **There will be no make-up exam, quizzes or classwork except for documented emergencies** (See Student Handbook).

Grading Policy
90% and above: A
80% - 89.99%: B
70% - 79.99%: C
60% - 69.99%: D
<60%: F

General Class Policy
Students must virtually attend the class during scheduled lecture hours. Use of Excel would be REQUIRED for this course. Please write your course name in the subject line of any email correspondence with me. There will be no make-up quizzes, homework, and exams. **Late homework submission will not be graded except for medical emergencies**. Please plan ahead and do not wait for the last moment to complete/submit your work. If you have any question about your grade in any homework, quiz or exam, you must let me know within 5 days after I assign your grade. Students are expected to attend all classes. It is your responsibility to make up anything you missed if you are absent from class. Participation will be evaluated based on the quality of the participant’s discussion. It is not acceptable to dominate any discussion. I trust that everyone will act with civility throughout the course. If anyone doesn’t, the student code of conduct will be enforced and offenders will be asked to leave the class for the day, or forever, depending on the perceived level of distraction. Inappropriate comments, exclusionary remarks/jokes, or any other means of treating any person in a less-than-welcoming way is grounds for immediate dismissal from the course.

University Policies and Procedures

Students with Disabilities (ADA Compliance):
**Chapter 7(7.004) Disability Accommodations for Students:**

The University of North Texas at Dallas makes reasonable academic accommodation for students with disabilities. Students seeking accommodations must first register with the Disability Services Office.
(DSO) to verify their eligibility. If a disability is verified, the DSO will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, DSO notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet/communicate with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information see Disability Services Office. You may also contact them by phone at 972-338-1777; by email at UNTDdisability@untdallas.edu or at Building PL, room 1104.

**Disruptive Behavior in an Instructional Setting:**

Students are expected to engage with the instructor and other students in this class in a respectful and civil manner at all times to promote a classroom environment that is conducive to teaching and learning. Students who engage in disruptive behavior will be directed to leave the classroom. A student who is directed to leave class due to disruptive behavior is not permitted to return to class until the student meets with a representative from the Dean of Students Office. It is the student’s responsibility to meet with the Dean of Students before class meets again and to provide the instructor confirmation of the meeting. A student who is directed to leave class will be assigned an unexcused absent for that class period and any other classes the student misses as a result of not meeting with the Dean of Students. The student is responsible for material missed during all absences and the instructor is not responsible for providing missed material. In addition, the student will be assigned a failing grade for assignments, quizzes or examinations missed and will not be allowed to make up the work.

The Code of Student’s Rights, Responsibilities, and Conduct (Policy 7.001) describes disruption as the obstructing or interfering with university functions or activity, including any behavior that interferes with students, faculty, or staff access to an appropriate educational environment. Examples of disruptive behavior that may result in a student being directed to leave the classroom include but are not limited to: failure to comply with reasonable directive of University officials, action or combination of actions that unreasonably interfere with, hinder, obstruct, or prevents the right of others to freely participate, threatening, assaulting, or causing harm to oneself or to another, uttering any words or performing any acts that cause physical injury, or threaten any individual, or interfere with any individual’s rightful actions, and harassment. You are encouraged to read the Code of Student’s Rights, Responsibilities, and Conduct for more information related to behaviors that could be considered disruptive.

**Canvas Instructure Accessibility Statement:**

University of North Texas at Dallas is committed to ensuring its online and hybrid courses are usable by all students and faculty including those with disabilities. If you encounter any difficulties with technologies, please contact our ITSS Department. To better assist them, you would want to have the operating system, web browser and information on any assistive technology being used. Canvas Instructure Accessibility Statement is also provided.
NOTE: Additional instructional technology tools, such as Turnitin, Respondus, Panopto, and publisher cartridge content (i.e. MyLab, Pearson, etc.) may NOT be fully ADA compliant. Please contact our Disability Office should you require additional assistance utilizing any of these tools.

Course Evaluation Policy:
Student’s evaluations of teaching effectiveness is a requirement for all organized classes at UNT Dallas. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider students’ evaluations to be an important part of your participation in this class.

Assignment Policy: (According to the instructor’s discretion while working in concert with the division/program’s guidelines).

Exam Policy: (Online exams and the ability to retake is solely at the instructor’s discretion). NOTE: Online exams may be proctored on campus per instructor’s discretion.

Academic Integrity:
Academic integrity is a hallmark of higher education. You are expected to abide by the University’s code of Academic Integrity policy. Any person suspected of academic dishonesty (i.e., cheating or plagiarism) will be handled in accordance with the University’s policies and procedures. Refer to UNT Dallas' Student Code of Academic Integrity for complete provisions of this code.

Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabrication of information or citations, facilitating acts of dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students.

Web-based Plagiarism Detection: Please be aware in some online or hybrid courses, students may be required to submit written assignments to Turnitin, a web-based plagiarism detection service, or another method. If submitting to Turnitin, please remove your title page and other personal information.

Classroom Policies

Online Attendance and Participation:
The University attendance policy is in effect for this course. Class attendance in the Canvas classroom and participation is expected because the class is designed as a shared learning experience, and because essential information not in the textbook will be discussed in the discussion board. Online presence and participation in all class discussions is essential to the integration of course material and your ability to demonstrate proficiency.

Attendance for this online or hybrid course is considered when you are logged in and active in Canvas, i.e., posting assignments, taking quizzes, or completing Discussion Boards. To maintain financial aid award eligibility, activity must occur before the census date of the session or term of the course. Refer to UNT Dallas' Registrar for specific dates. If you are absent/not active in the course shell, it is YOUR
responsibility to let the instructor know immediately, upon your return, the reason for your absence if it is to be excused. All instructors must follow university policy 7.005 covering excused absences; however, it is the instructor’s discretion, as outlined in the course syllabus, of how unexcused absences may or may not count against successful completion of the course.

**Inclement Weather and Online Classes:** Online classes may or may not be effected by campus closures due to inclement weather. Unless otherwise notified by your instructor via e-mail, online messaging, or online announcement, students should assume that assignments are due as scheduled.

**Online “Netiquette”:**
In any social interaction, certain rules of etiquette are expected and contribute to more enjoyable and productive communication. Emails, Discussion Board messages and/or any other forms of written communication in the online environment should use proper “netiquette” (i.e., no writing in all caps (usually denotes yelling), no curse words, and no “flaming” messages (angry, personal attacks).

Racial, ethnic, or gender slurs will not be tolerated, nor will pornography of any kind.

Any violation of online netiquette may result in a loss of points or removal from the course and referral to the Dean of Students, including warnings and other sanctions in accordance with the University’s policies and procedures. Refer to [UNT Dallas Student Code of Conduct](#). Respect is a given principle in all online communication. Therefore, please be sure to proofread all of your written communication prior to submission.

**Diversity/Tolerance Policy:**
Students are encouraged to contribute their perspectives and insights to class discussions in the online environment. However, offensive & inappropriate language (swearing) and remarks offensive to others of particular nationalities, ethnic groups, sexual preferences, religious groups, genders, or other ascribed statuses will not be tolerated. Disruptions which violate the Code of Student Conduct will be referred to the Dean of Students as the instructor deems appropriate.

**Technology Assistance:** In order to successfully access the materials in an online or hybrid course, UNT Dallas advises that your computer be equipped with the minimum system requirements listed on the first page of the syllabus. If you experience difficulty accessing or using components of the course, try using Google Chrome browser. If you still experience technical difficulties, first, notify your instructor. If the problem is still not resolved, call Student Assistance (Distance Learning) at the phone number listed on the first page of the syllabus. Also, no matter what browser you use, always enable pop-ups. For more information see:

- [UNT Dallas Canvas Technical Requirements](#)
- [Canvas Instructure Supported & Unsupported Operating Systems](#)

**Disclaimer:** The instructor reserves the right to make changes to this syllabus during the semester