COLLEGE OF BUSINESS UNT

DSCI 3870: Management Science
Course Outline: Fall 2017
Section 1594: Tuesday & Thursday   2:00 — 3:20 PM, BLB 250

INSTRUCTOR INFORMATION

Instructor: Fouad H. Mirzaei
Office: 319 E – BLB
E-mail: *foad.hassanmirzaei@unt.edu*
Telephone: (940) 565 3668

Office Hours: Wednesday 11:00 am – 2:00 pm & Thursday 3:30 – 5:00 pm, or by appointment
(The details of test office hours to be announced during lectures)

COURSE OBJECTIVES

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' ability to make business decisions. The course uses case studies and assignments that require communication and interaction, to strengthen students' understanding. Techniques covered will include linear, integer, and non-linear programming, network optimization and implementation issues. This course may seem challenging, but it will provide you with "current" and "marketable" skills in the field of Quantitative Analysis/Business Analytics.

Prerequisite(s): Please see UNT Undergraduate Catalog, 2017-2018
(It is assumed that students taking this course have completed the college algebra course and also have a good foundation in calculus, basic statistics and probability theory as covered in the basic statistics course. Although some review of elementary concepts and terminology is provided in the textbook, it is not intended to replace a complete course, but rather to refresh your memory. While a high degree of mathematical skill is not necessary in an "applied" course such as this, there are certain insights into the course that are gained through the mathematics involved.)

REQUIRED TEXTBOOK

Anderson, Sweeney, Williams, Camm, Cochran, Fry and Ohlmann, *An Introduction to Management Science: Quantitative Approaches to Decision Making,* 14th Edition, © 2015 South Western Educational Publishing (an imprint of Cengage Learning) ISBN-10: 1111823618, ISBN-13: 9781111823610.

You can also purchase or rent the digital version of the textbook at the following address: http://services.cengagebrain.com/course/site.html?id=1978092

(It is alright if you have bought the 13th Edition of this textbook, which has "Cochran, Fry and Ohlmann" missing in the authors roll. In this syllabus, I put down the problem numbers in the 14th edition – if the 13th edition numbers are different, I noted that in parentheses.)

If you intend to enroll in DSCI 4510 later, please don't sell your book (either edition). We will be using it in DSCI 4510 too.

MEANS OF COMMUNICATIONS

From the instructor to students: *In-class announcements, e-mails, course website, Office hours*
From students to the instructor: *Brief in-person discussion before/after class, Office hours, e-mails*

If you need any additional assistance, simply contact me via email. I am here to help you.

REQUIRED RESOURCES

Business or scientific calculator; must be able to perform at least the following functions: square, square root, raise to nth power, extract nth root, logarithm. The lack of a calculator does not excuse the student from making math errors on exams. Graph paper will also prove to be quite useful.

ASSIGNMENTS/READINGS

Problems, including those marked as "Self test" from the textbook will be assigned as the course progresses. Some "Self test" problems are already assigned in the "Tentative Course Agenda" which appears later. The student is responsible for solving these problems in a timely manner. The assigned problems will not be collected or graded. However, I can provide you feedbacks if you want.

Students are also welcome to see me if they have difficulty solving any of the assigned problems. Some of the problems are challenging. You can work together on homework assignments in groups of up to four people. It is OK to turn in just one paper with the names of the group members who worked on it. I will also provide you real business cases and hand out readings (magazine articles, newspaper clippings etc.).

EVALUATION

Grades are a measure of the performance of a student in individual courses. Each student shall be judged on the basis of how well he or she has command of the course materials.

Exam 1 = 26%
Exam 2 = 26%
Exam 3 = 26%
MS-Excel Certification = 10%

+ 12% your best performance over three exams

Letter Grades:
   90% + = A   80% + = B   70% + = C   60% + = D   Below 60% = F

All exams will be multiple choice or a combination of multiple choice and problem formulation/analysis. The exams will be open book, open notes. Laptops and calculators will also be allowed.

Students are responsible for their materials on an exam. There will be no loaning or sharing of books, calculators, or other items, or sharing of any type of information among students while taking the exam. If the student fails to bring his or her required materials, she or he must perform the exam to the best of his or her ability without them. Students are encouraged to collect the exams when they are returned.

Exams are not cumulative of previous exam coverage. Exam information and marks will be posted on course website. Since exams are not cumulative, please take all three exams. Missed exams will receive zero marks unless a legitimate excuse is presented. If you miss an exam, please follow the steps below:

Step 1: If you miss an exam for any acceptable reason, please e-mail the instructor as soon as you are able about the reason why you missed the exam.

Step 2: Then, you may provide the instructor proof in the form of an official document as soon as you are able with proper documentation. Your documentation should be acceptable based on an interpretation of College of Business or University policy.

Step 3: After the instructor receives an acceptable proof, the instructor will then e-mail you to schedule a make-up exam.

MS-Excel Certification. Our industry partners have emphasized the need for our students to have spreadsheet skills and we have listened. COB has a new initiative to certify all COB students in MS-Excel at no cost to the student. In this inaugural semester of this initiative all DSCI 3870, LSCM 3960, and OPSM 3830 courses are incorporating certification as part of the course grade. Fine-tune your Excel skills using Lynda.com software (free to UNT students) and reserve a time slot to complete your certification testing at the Sage Testing Center during the week of **23-October in one of 26 available time slots.** Details and the testing sign-up link will be provided during your lecture session.

ATTENDANCE & PARTICIPATION

The student is expected to attend each class session and actively participate in class proceedings by asking relevant questions and keeping up with the material discussed in earlier class sessions.

DISABILITIES

The College of Business Administration complies with the **Americans with Disabilities Act** in making reasonable accommodations for qualified students with disability. If you have an established disability as defined in the "Act" and would like to request accommodation, please see your instructor as soon as possible. Office hours and phone number are shown at the top of this syllabus.

LAPTOPS & CELL PHONES

You may bring your laptop/tablet computers to class, but you will NOT be permitted to have them open during the lectures, unless authorized by the instructor. You may not use cell phones or other electronic communication devices in class. Out of respect for your classmates, please turn your cell phones off, or set to vibrate mode.

HONOR CODE

http://facultysuccess.unt.edu/academic-integrity:

As an institution of higher education, UNT is committed to creating and sustaining an environment that facilitates students' academic, personal, and ethical development. This commitment balances freedom of individual choice and expression with the expectation that individual members of the community will:

- Be honest
- Demonstrate self-respect and respect for others
- Demonstrate respect for the law and University policies, procedures, and standards.

Engaging in any form of academic dishonesty, such as plagiarism (***representing the work or ideas of others as one's own without giving proper acknowledgment***), cheating (e.g., ***using unauthorized resources or assistance on coursework, copying the work of another person, falsifying data, sabotaging the work of others, and the unauthorized use of electronics, media, or data***), or other acts generally understood to be dishonest by faculty or students in an academic context will subject the student to disciplinary action. Any UNT policy regarding grounds for Dismissal from the Course is effective in this course.

CAMPUS CLOSING POLICY

In the event of an official campus closing, please check your UNT e-mail account (EagleConnect) for instructions about how to turn in various assignments, how the due dates are modified, etc. I will do my best to accommodate your needs.

Please do not hesitate to contact me, if you need to discuss anything.

TOPICS AND TENTATIVE LECTURE SCHEDULE

This schedule is subject to change according to the needs of the class. I will try my best to give you advance notice about any changes.

WEEK	TOPICS/CASES	Practice Problems
Week 1	Course Introduction	Chapter 1 STE – 8, 12
Week 2	An Introduction to LP	Chapter 2 STE – 1, 2, 6, 13, 24
Week 3	An Introduction to LP (continued) – Case Problem 1: Workload Balancing	Chapter 2 STE – 34, 42, 43
Week 4	*Review for Exam 1*	

Week 5: Exam 1, Tue, Sep 26th

WEEK	TOPICS/CASES	Practice Problems
Week 5	Linear Programming *Sensitivity Analysis and Interpretation of Solution*	Chapter 3 STE – 6, 10
Week 6	Linear Programming *Sensitivity Analysis and Interpretation of Solution*	Chapter 3 STE – 12, 13
Week 7	Linear Programming *Sensitivity Analysis and Interpretation of Solution* – Case Problem 1: Product Mix	Chapter 3 STE – 12, 1
	LP Applications in Marketing, Finance and Operations Management	Chapter 4
Week 8	LP Applications in Marketing, Finance and Operations Management (continued)	Chapter 4 STE – 1, 15

Week 9	Tue, Oct 24th NO CLASS TODAY *Please take the MS-excel certification exam this week.*

| Week 9 | LP Applications in Marketing, Finance and Operations Management | Chapter 4 STE – 19 |
| | – Case Problem 3: Textile Mill Scheduling | |

Week 10   *Review for Exam 2*

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<tr><td>Week 10: EXAM 2, Tue, Nov, 7th</td></tr>
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Week 11	Distribution and Network Models	Chapter 6 STE – 1, 2, 6
Week 12	Distribution and Network Models	Chapter 6 STE – 11 (17), 17(9), 23, 29
	Integer Linear Programming	Chapter 7
Week 13	Integer Linear Programming	Chapter 7

Week 13 Thu, Nov 23th, No Class – Thanksgiving Holiday

| Week 14 | Integer Linear Programming | Chapter 7 |
| | – Case Problem 1: Textbook Publishing | STE – 2, 5, 7 |

Week 15   *Review for Exam 3*

<table>
<tr><td>Week 16: Exam 3, Thu, December 14th
1:30 AM to 3:30 PM, in our classroom.</td></tr>
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Some or all of the Case Problems may be solved in class. Self test Problems will not be collected or graded. However it is imperative for students to solve these problems and also go through any assigned readings in order to be better prepared for the examination.

"STE" above stands for Self test Exercises that appear in the book.

You can check deadlines at:
http://essc.unt.edu/registrar/schedule/spring/withdraw.html

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DSCI 3870
STUDENT DATA SHEET

Name:

Major Field:

MINOR FIELD (If Applicable):

Classification (FR, SO, JR, SR):

Email (Students are <u>required</u> to have EagleConnect by University policy and regularly check the "<u>Official</u>" folder in their account for class related emails. You can easily set an Auto-Forward to your preferred (i.e. hotmail, yahoo etc.) email account from within EagleConnect if you don't log in regularly. Please provide your EagleConnect address below):

There is an urban legend that this course is "Stats III". That is far from the truth. Were you under the same impression? Please feel free to comment.

Are you taking this as a "required" course? As an optional elective?

Do you intend to work in the field of decision modeling or related areas in the future? In any case, please pen a few words on your prospective future career choice i.e. after college.

Please read the above syllabus and agree to abide by the class policies and procedures set forth therein. **Please get an EagleConnect account and check it regularly for "official" announcements.**