

ITOM 3306—0011 and 7021
OPERATIONS MANAGEMENT
Summer, 2014

INSTRUCTOR: Dr. Ellen Allen

OFFICE: 398 Crow

PHONE / EMAIL: (214) 768-4158 / ellen@mail.cox.smu.edu

OFFICE HOURS: Mondays, Tuesdays and Wednesdays 5:00-5:50pm,
and by appointment

(Check course Blackboard calendar for any changes in office hours.)

CLASS MEETS in 186 Crow:

Section 0011: MTW 2:00-5:00pm

Section 7021: MTW 6:00-9:00pm

PREREQUISITES: MATH 1309 or 1337, ECO 1311, ECO 1312, ACCT 2301 or 2311, STAT 2301 or 2331 or ITOM 2305 or EMIS 4340 or EMIS 5370, ITOM 2308

COURSE DESCRIPTION: An introduction to several common business analytics models and their applications in solving operational business problems. Topics include optimization (in particular linear programming), decision analysis, computer simulation, and project scheduling. Coursework includes problem-solving and case assignments from a wide range of functional areas in business. When you complete this course you should have an understanding of how to structure and solve a variety of common business analytics problems. You should be able to recognize problems which could be solved using the various techniques covered in the class, and to model and solve many of them. In addition you should have an understanding of how to read and interpret computer generated solution reports (from Excel).

CORE LEARNING OBJECTIVES: Upon completion of ITOM 3306, the student shall be able to

- **Decision Analysis Strategies**
 - Select the best alternative for a decision problem, using any of several criteria
- **Linear Programming Applications**
 - Formulate a simple linear optimization problem
 - Read and interpret the Microsoft® Excel Solver reports
- **Project Management**
 - Formulate a project network and find the critical path
- **Computer Simulation**
 - Create a Monte Carlo simulation model for a simple business system
- **Microsoft® Excel Skills**
 - Demonstrate proficiency in using Microsoft® Excel to model and solve the types of problems listed above.

TEXT: This course uses a custom textbook. It consists of selected chapters from *Quantitative Methods for Business, 12th edition*, by Anderson, Sweeney, Williams, Camm, Cochran, Fry, and Ohlmann. You may choose to buy the custom book from the SMU bookstore or the complete text, a printed book, an e-book, or individual e-chapters from the publisher at <http://www.cengagebrain.com/shop/search/9780840062338>. Please be sure you get the 12th edition of the text. If you get an older edition, your chapter numbers, page numbers, and homework problem numbers will not be correct.

BLACKBOARD: <http://courses.smu.edu> Grades, announcements, a calendar, the syllabus, lecture notes, example files, homework solutions, old exams, study guide problems, and links to other websites will be available via Blackboard. Just go to the above web page, and log in using your 8-digit SMU ID and password.

*******STRATEGIES FOR SUCCESS*******

HOW TO SUCCEED IN ITOM 3306: Students in prior semesters have found these techniques to be effective:

- Attend every class
- Read the assigned chapters in the text. Some students benefit by reading the material before class, using class time to clarify their understanding through the lecture. Other students find they learn best by listening to the lecture and then reading the chapter to fill in the gaps in their learning. Either way is fine. Find what works best for you.
- ***Keep up with the homework problems, doing all the problems as we cover the material in class. I cannot stress this enough!*** Students who discipline themselves to stay current with the homework, asking questions as they arise, almost always do well on exams. Students who are disappointed with their performance on the first exam frequently admit to me, “Well I did some of the homework problems,” or “I tried to do all the homework problems the weekend before the exam,” or even, “I understood the problems you worked in class, so I didn’t do any of the problems on my own.”
- ***Use the study guide which is posted on Blackboard.*** It contains a plethora of extra problems, worked out in detail. The more problems you work as you study, the less likely you are to be surprised by something “new” in an exam problem. This study guide is like having a private tutor! If you’re not confident about your understanding of any topic, just open the study guide to the chapter of concern, try to work the problems, and then study the solutions in the guide.
- Download the lecture notes for each topic from the course web page. Bring them to class to minimize the amount of note taking you will need to do.
- ***Make friends with Excel.*** If you’re already comfortable with Excel, great! If not, there’s no time like the present to make your peace with it. You’ll be using it throughout your BBA studies and throughout your career.

*******COURSE POLICIES*******

ASSIGNED SEATING: You may select your own assigned seat. On Monday, June 2, please sit in the chair you would like to keep for the semester. **Note that your extra credit team will include students seated near you, so keep that in mind as you select where you want to sit!**

HONOR CODE: Students must adhere to the Honor Code of Southern Methodist University. As set out by the students, punishable acts include *cheating, fabrication, facilitating academic dishonesty, plagiarism, impeding Honor Council investigation*. Students share responsibility for enforcing the code: “Students who are aware that others in a course are cheating or otherwise acting dishonestly have the responsibility to inform the professor and/or bring an accusation to the Honor Council.” For more information on the SMU Honor Code, visit:

http://www.smu.edu/studentlife/PCL_05_HC.asp

IMPORTANT: There is a “zero-tolerance” policy toward cheating in this class. Any student who cheats will receive an automatic F in the course, a referral to the Honor Council, or both.

DISABILITY ACCOMMODATIONS: Students needing academic accommodations for a disability must first be registered with Disability Accommodations & Success Strategies (DASS) to verify the disability and to establish eligibility for accommodations. Students may call 214-768-1470 or visit <http://smu.edu/alec/dass.asp> to begin the process. Once registered, students should then schedule an appointment with the professor to make appropriate arrangements. Any student seeking such arrangements ***must bring the documentation of his/her eligibility to the professor in her office to discuss the necessary accommodations. Documentation letters will not be accepted before, during, or after class in the classroom. Please handle this during the first 2 days of class.***

RELIGIOUS OBSERVANCE: Religiously observant students wishing to be absent on holidays that require missing class should ***notify their professors in writing at the beginning of the semester***, and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence. (See University Policy No. 1.9.)

EXCUSED ABSENCES FOR UNIVERSITY EXTRACURRICULAR ACTIVITIES: Students participating in an officially sanctioned, scheduled University extracurricular activity will be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. ***It is the responsibility of the student to make arrangements with the instructor prior to any missed scheduled examination or other missed assignment for making up the work.*** (University Undergraduate Catalogue) In this class that means:

- (1) Students must provide the professor with appropriate written documentation of the extracurricular activity ***before the absence occurs.***
- (2) If a quiz is given on a day of a student's excused absence, the student will be given the opportunity to take a different quiz, ***provided he or she schedules a time to do so within one class period after returning from the extracurricular event.***
- (3) If the student will be missing an exam, the student ***must arrange with the professor to take the exam before the regularly scheduled exam time.*** (Late exams are never given, as specified in the exam policies.)

Note: There are no other "excused absences" in this class.

*******GRADING*******

All students begin the semester with zero grade points. Each student will have the opportunity to earn (at least) 1000 grade points during the course. (Note that the Blackboard site will reflect the number of grade points you have accumulated in the course.) Course grades will be assigned based on the following criteria:

Grade Points Earned	Grade
≥ 930	A
≥ 900	A-
≥ 870	B+
≥ 830	B
≥ 800	B-
≥ 770	C+
≥ 730	C
≥ 700	C-
≥ 670	D+
≥ 630	D
≥ 600	D-
< 600	F

➡ Note that 929 is not ≥ 930, so 929 is an A-. Neither is 899 ≥ 900, so 899 is a B+. ⬅

GRADE POINTS:

ITEM	DATE	GRADE POINTS
EXAM I	Mon., 06/09/14	300
EXAM II	Wed., 06/18/14	300
EXAM III	Tue., 07/01/14	300
QUIZZES, ATTENDANCE, CLASS PARTICIPATION		100

The exams will be 80-minute, open-book, open-notes, open-computer, in-class exams. Sample exams (with solutions) will be made available on Blackboard before each exam. Students may use the internet or Excel Help features during exams. The only restriction is that students may not use any computer application which communicates with other humans. (So, no email, no Facebook, etc.) During exams (and quizzes) there will be

- **no sharing of calculators**
- **no use of the calculator feature on cell phones**

Cell phones must be silenced during exams. A 10-point penalty will be assessed on the grade of any student whose cell phone (or pager, etc.) is audible during an exam.

Leaving the room during exams is discouraged. A 10-point penalty will be assessed on the grade of any student who chooses to leave the room (and return) during an exam.

Make-up exams will not be given. If, for any reason, a student misses one of the three exams, he or she may take a **comprehensive** 3-hour final exam in its place. This comprehensive exam must be individually scheduled with the instructor. (Note: If you know you will miss an exam, you may see the instructor, at least a week prior to the scheduled exam time, and you may be able to arrange to take the exam **early**. **Late exams are never given for any reason.**)

Note: There is no comprehensive final exam in this course. ☺

QUIZZES: There will be several pop quizzes during the semester. **There is no way to make up a quiz;** however, one attendance/quiz grade will be dropped. Quizzes are worth 10 points each.

ATTENDANCE: Attendance will be taken occasionally throughout the semester. If you are in your assigned seat at the time attendance is taken, you will receive 10 attendance grade points. If you are absent, or if you arrive after attendance is taken or if you leave class before attendance is taken, or if you attend a section other than the one in which you are enrolled, you will not receive these ten grade points. **There is no way to make up an attendance grade.** It's as simple as that! Recall that your lowest quiz/attendance grade will be dropped.

CLASS PARTICIPATION: Class participation is encouraged! Asking questions and volunteering in class are great ways to learn. Your questions and comments also enrich the class for your fellow students. Each student starts the semester with 5 participation points. This value may be increased to as many as ten points or decreased to as few as zero points, depending on the student's participation in class.

Participation grades will be higher for students who ask meaningful questions, who volunteer answers, and so forth. Participation grades will be lower for students who fail to participate, who chat, read, text, play on Facebook or YouTube, or otherwise distract themselves or their classmates. Participation grades will also be

lower for students who monopolize the class, or ask questions which have already been answered, indicating that they weren't paying attention.

Note that the first homework problem (which you are required to submit) contributes toward your participation grade.

Your participation grade will be added to your quiz and attendance grades (after dropping the lowest quiz/attendance grade) to constitute 100 points of your total (1000 point) grade.

Note that **you are responsible for everything covered in class**. If you must miss a class, be sure to **get the notes and announcements from a reliable classmate**. Asking the professor, "Did I miss anything important?" is not advised. Of course you missed something important!

You are also responsible for checking your SMU email account and for checking the course Blackboard page for announcements and calendar notices.

HOMEWORK: Notice that homework is not (explicitly) a part of your grade. **Past experience indicates that doing your homework on time can be very beneficial to your grade!** Not only will some exam questions resemble homework problems, so will some quiz questions and some team exercises. Solutions to homework problems will be made available on Blackboard. As time allows, requested homework problems will be solved in class.

EXTRA CREDIT TEAM EXERCISES: Students will be grouped into teams of about 4 people, with other students who are seated nearby. From time to time, team exercises will be assigned. Students will work with their teammates to complete the exercises during the time allotted in class. A student will then be selected at random to provide and explain the answer to the exercise. If that student is successfully able to answer and explain the solution, his or her entire team will receive 5 extra credit grade points. If the student is unable to explain the solution, he or she may call on one teammate to explain it. If that teammate is able to explain the solution, the team will receive 2 extra credit points. If the designated teammate is unable to explain the solution the instructor may randomly select another student to answer the question. Note that **it is in your best interest to work with your team to be certain that you understand the solution and that all your teammates understand the solution as well!**

GRADE CHANGES/QUESTIONS: Questions about grading and/or requests for changes to grades must be submitted in writing along with the original graded item plus justification for each request, within one class period of the date the graded item is returned in class. **After one class period from the date graded items are returned, no such requests will be entertained.**

HOW TO LOSE POINTS: Cell phones must be silenced during exams. **A 10 grade point penalty will be assessed on any student whose cell phone (or pager, etc.) is audible during an exam.**

Students should remain in the room during exams. **A 10 grade point penalty will be assessed on any student who leaves the room and returns to continue working on an exam.**

Students must refrain from texting or using non-course web sites during class. **A 10 grade point penalty will be assessed on any student who is seen texting or using non-course web sites during class.**

COURSE EVALUATIONS: In accordance with Cox procedures, time will be provided during class on Monday, 06/30/14, for students to complete course evaluations.

*******COMPUTER ISSUES*******

Excel 2013 will be used in the classroom. If you have another version of Excel, you are responsible for knowing how to use it to accomplish the assignments. All quizzes and exams will be completed using Excel 2013.

MISCELLANEOUS: *The professor reserves the right to make changes to the syllabus as necessary. Changes will be announced in class and posted on the course Blackboard page.*

ITOM 3306 SCHEDULE

DATES	TOPIC	READING	HOMEWORK
06/02/14 – 06/04/14	Introduction	Chapter 1 Sections 1.1, 1.2, 1.3, 1.4, 1.5, and appendix 1.2	Complete the Podcast assignment (posted on Blackboard) (and submit it by 6/03/14) Problems By hand: #3, 4, 7, 11, 13, 15 Excel: Check your answers to #13, 15 using Excel's Goal Seek Tool.
	Decision Analysis	Chapter 4 Sections 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, and appendix 4.1	Problems By hand: #1, 2, 5, 7, 9, 11, 14, 21, 25 Excel: Use Treeplan to check your calculations for #21, 25
06/09/14	EXAM I		
06/10/14 –06/17/14	Optimization: Linear Programming	Chapters 7 Sections 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, and appendix 7.1	Problems By hand: #1, 3, 7, 8, 11, 24, 31 Excel: verify #11, 24 and 31
		Chapter 8 Sections 8.1, 8.2, 8.3, 8.4 (omitting “Simultaneous Changes”), 8.5, 8.6, and appendix 8.1	Problems Solve using Excel and <u>use the Excel reports to answer the questions</u> in #5, 6, 7, 8, 20
		Chapter 9 Sections 9.1, 9.2, 9.3, and appendix 9.1	Problems Formulate, solve using Excel, and <u>use the Excel reports to answer the questions</u> in #1, 3, 8, 15
	Integer Programming	Chapter 10 Sections 10.1, 10.2 Lecture notes posted on Blackboard	Problems Formulate, solve using Excel, and <u>use the Excel reports to answer the questions</u> in #3 and 5 Problem IP problem (posted on Blackboard)
06/18/14	EXAM II		
06/23/14-06/30/14	Project Scheduling	Chapter 13 , sections 13.1, 13.2, 13.3	Problems By Hand: #3, 4, 6, 13, 15, 20(formulate) Excel: #20(solve)
	Computer Simulation	Chapter 16, sections 16.1, 16.2, 16.3, 16.4, and appendix 16.1 Supplemental reading (on Blackboard)	Problems By hand: #1, 3, 6, 8 Excel: #13, 15 ¹ , 17, 21, and the “Dates” problem (posted on Blackboard)
07/01/14	EXAM III		

¹ This problem is to simulate the rolling of two dice.

Please detach, and sign the following form and submit it at the beginning of class on Tuesday, 06/03/14.

ITOM 3306

I have read the course syllabus and I understand the course policies and grading. Specifically, I understand that

1. This course has a zero-tolerance policy toward cheating. This means I will receive an F in the course and/or an Honor Council referral if I cheat on a quiz or an exam or any other work submitted for grading.
2. There are no late exams and no late quizzes and no way to make up an attendance grade. This is true even if I am ill or hospitalized, even if I have a car accident or car trouble on the way to class, even if I am delayed by traffic, even if my grandmother passes away, and even if I have a family emergency.
3. If I have a grading question or a grade change request, I must submit the graded work with a note attached describing the issue and why I'm requesting reconsideration, and this must be submitted within one class period after the graded work has been returned to the class.
4. The best way to succeed in this class is to work **all** the homework problems as we cover the material in class.
5. If I leave the classroom and return to continue working on an exam or if my cell phone is audible during the exam, I will lose 10 grade points.
6. If I am seen texting, using Facebook, email, or any other non-course related program during class, I will lose 10 grade points.

Signature: _____

Printed Name _____

Date _____

Section (please circle) 0011

7021