SCMS 3711 (online)

Analytical Tools for Business

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3 credit hours
Off. Hours: By appointment. Please call me on my cell.

Recommended Books

The recommended books for the course are: Levine “Statistics for Managers Using Microsoft Excel”, ed5, ed6, ed7 or ed8; and Balakrishnan “Managerial Decision Modeling with Spreadsheets” ed2 or ed3. The podcasts were made from the Levine5e and Balakrishnan2e books. These two books are available on the internet and some nearby off campus bookstores.

Note: I am allowing you to choose your books to save money. It might be less expensive to buy both the Levine and Balakrishnan books on the internet. The test will basically come from the podcasts and PPT’s and will be open book. As more online course information becomes available the syllabus could be updated.

Discussion Forums & Topics:

Go to elearn.memphis.edu to have group discussions on all the chapters in the book. Each student will be required to “host” 1 or more chapter discussion forums (some chapters are larger than others). I will assign chapters. I will not require the homework to be turned in. However, students must post one completed homework problem associated with the chapter in the discussion forum that they are assigned to host. If you purchased the Levine and Balakrishnan books, then the homework problems are listed at the end of the syllabus.

Students hosting each chapter can decide who will post which problems. Each student must post at least one problem for the chapter that they host. In addition, all students must complete the critical thinking project. (The critical thinking project, due to be completed at the end of the semester, should be submitted in the “dropbox” of the class website). I will have more on that later.
The chapter discussion forums will include the discussion of homework problems for each chapter. I know that some problems are more difficult than others, but regardless of that, be sure to point to the concepts that each homework problem addresses. Also, students can work together on the more difficult and longer problems. The hosts will be responsible for “mastering” the topics of their respective chapters and posting the homework. In other words, to “host” the discussion chapter simply means the time when that particular student is “in charge”, or “guarding the fort” so to speak. The hosts are the first recourse for other students who might have questions or need help. They will help with homework and download solutions to homework problems. It’s sort of a “security blanket” for other students, because I will sometimes be teaching other courses and cannot be online at all times. The host will be on the lookout for “lost souls” wandering around the “cyberspace” of our online course for his or her assigned time period. It’s just an idea that I came up with in my first online class and students have expressed positive opinions of it. Hopefully, it’s to assure that all homework solutions and related chapter discussions will be posted for all to see.

Please note, if there are not enough homework problems, then the host(s) should discuss or summarize concepts mentioned in the chapter, or, if possible, discuss real life experiences that you might have had with chapter topics either through chance or in the work place.

So, at the first chance to log in when the semester starts, please go to “elearn.memphis.edu” and find the course (SCMS 3711-???) and select it. I have some notes and instructions for all of you in the link. Then click on “Discussion” in the upper right hand corner of the screen and it will take you to a list of all of the discussion forums. I will select the chapters for the hosts. It is a good idea to print this page. This page has critical dates listed.

Podcast:

You will be assigned a chapter for hosting (see section above on Discussion Forums). Then all of you should start viewing the podcasts. The podcasts are loaded in the website. Just click on “content”, then “course resources” and the Levine and Balakrishnan playlists are located there. The first podcast you should view is titled “chapter 13 part a” or “lev13a”.

I know that many of you are still learning about online courses. I think that once you get the basics down it will be a very positive experience for all of you. Again, I am only a phone call or email away.

Technical Support:

Please call UM Technical Support Services at 678-8888 if technical problems arise.

Course description and objectives:

This course discusses analytical concepts and tools useful in understanding, assessing, and controlling operations of business. The major objectives are both an understanding of the statistical techniques and analytical methods introduced in the course and comprehension of a framework for the application of these tools to business problems and business research activities. Sustainable competitive advantage requires making the right strategic decisions and decisions that are informed and guided by evidence. The major objective of this course is to provide executives
with a broad theoretical as well as practical knowledge of various quantitative tools that are used to support and improve strategic decision making process. The focus is on how to utilize various decision support tools for making better decisions as opposed to learning the tools for their sake. The course provides basic knowledge and skills for model-assisted decision making based on hands-on experience with relevant tools and technologies adopted from the fields of statistics, optimization, and simulation. The course introduces and examines the critical role of model-assisted decision making processes in approaching a host of strategic issues and problems, both stochastic and deterministic. The emphasis will be on problem framing and decision technologies. Applying case study-based approach and utilizing value-chain processes, we focus on problem framing, model building, and decision-making approaches and technologies for a host of strategic decisions in the areas that include, but are not limited to: linear programing, both graphical and computer methods, transportation, assignment, and network models, decision analysis, queuing models, simulation modeling, multiple regression, and forecasting models. Extensive use is made of MS Excel and a variety of software tools provided by the textbook to support a host of topics.

Evaluation:

The final grade in the course is determined by three regular semester exams and the homework postings on the discussion forums along with a final project (Critical Thinking Project case study). The exams will be online and multiple choice. Failure to turn in all tests on time could result in a drop of one letter grade.

The following scale is used:

A = 92 percent of total points possible
B = 82 – 91
C = 72 - 81
D = 68 - 71
F = 67 and less

Class participation and attendance:

No make-up work is provided for assignments or tests. However, exceptions are made for emergencies. All tests must be completed ON TIME to receive credit. Because of the difficult nature of this material, students are expected to complete all required reading assignments, podcast viewing, and homework problems. The podcasts are labeled according to the book and chapter, i.e. the first podcast of chapter 13 of the Levine book will be labeled “lev13a”.

Content:

Chapters 13 thru 16 of the Levine book will cover simple linear regression, multiple regression, model building, and time-series forecasting. Chapters 1, 2, 5, 9, and 10(partial) of the Balakrishnan book will conclude the course. (Again, please note that both books are contained in one book.) Topics to be covered in the Balakrishnan book include: linear modeling: graphical and computer methods, sensitivity analysis, queuing models, transportation/assignment/network models, decision analysis, and simulation models. See table of contents in book for full detail of coverage. Also
attached to the syllabus below are detailed lists of reading and homework assignments. Certain topics may be stressed more or less than others.

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**Grading**

Hosting/reg. analysis/Critical Thinking Project 25% (30 pts dis.forum, 30 pts. reg., 40 pts CTP)
Test I - 25% (100 pts.)
Test II - 25% (100 pts.)
Test III - 25% (100 pts.)

That's a total of 400 possible points. Please be aware that all tests must be taken solo. A student could be randomly selected to verify test results.

**WARNING**

Students must have earned a minimum of 45 credit hours and have met specific course prerequisites with a minimum grade of “C” to be eligible for all 3000 and 4000 level courses. In addition to these requirements, students seeking a degree in the Fogelman College of Business and Economics must have (1) completed all required lower division business courses with a minimum grade of “C” in each; (2) minimum of 2.25 GPA (2.5 for accounting majors) in all required lower division business courses and MATH 1830, 1421, or 1910, and (3) 45 hours of course work including MATH 1830, 1421, or 1910; COMM 2381 and 9 hours of English.

**BBA Degree Program Learning Outcomes**

The Fogelman College has established the following learning goals for all students successfully completing the BBA degree:

- Graduates will be effective communicators.
- Graduates will demonstrate critical thinking skills.
- Graduates will be knowledgeable about ethical factors in the business environment.
- Graduates will be knowledgeable about the global business environment.
- Graduates will be proficient users of business presentation and analysis technology.

The learning outcomes for this degree program are located on the following URL. Notice that Goals indicate Learning Outcomes for the degree program. The objectives under each learning outcome indicate what must be done to reach the learning outcome. Faculty members in the Fogelman College developed these learning outcomes and periodically assess students to determine the level that the learning outcomes are being met. URL: [https://www.memphis.edu/fcbeassessment/](https://www.memphis.edu/fcbeassessment/)

**Course 3711 Scheduled Reading and Podcast Assignments**

The exact dates for the reading schedule can also be found on the elearn.memphis.edu website in the “discussion” and “content” sections. Simply click on each chapter module in the “content” section and a brief discussion of what we will cover in that chapter and the dates for covering that chapter are listed. The instructor may adapt the pace and the order of presentations to fit the needs of the class. These reading and homework assignments are in addition to viewing the online podcasts.
Please note the following for your upcoming tests:

You have at the least 24 hours (it’s usually more) to take the open book, multiple-choice test. Once the test has been activated, you have a five hour time limit to finish the test. You must take the test solo. You cannot log off and resume the test at a later time. Please remember, there is always the random chance that you will be asked to verify the results of the test under supervision. Start the test any time you want, but make sure that you give yourself enough time to complete the test. In other words don’t wait till there’s only 30 minutes left on the clock! ☺ There is no time limit on any question. I want the test to be as adaptive to your schedule as possible. Online classes should not be as restrictive with schedules as face to face classes.

**Statistics Scheduled Reading Assignments**

The following schedules are strictly tentative. The instructor may adapt the pace and the order of presentation to fit the needs of the class.

**8/17 – 8/28**
Introduction and Review of Basic Statistical Concepts:
Podcasts: lev13a – 13e from the Levine podcasts in the content section.

**8/29 – 9/14**
Simple and Multiple Regression
Podcasts: lev14a – 14d (Levine podcasts)

**9/7 – 9/8**
**Test 1**: Podcasts: lev13a – 13e, lev14a – 14d. The exact start time and end time for Test 1 can be found on the class eleam.memphis.edu website in the “quizzes” section.

**9/9 – 9/16**
Data Mining and multipole regression:
Podcast: lev15a – 15b (Levine podcasts)

**9/17 – 10/2**
Time Series Analysis and Forecasting:
Podcasts: lev16a – 16g (Levine podcasts)

**10/3 – 10/4**
**Test 2**: Podcasts: lev15a – 15b, lev16a – 16g. The exact start time and end time for Test 2 can be found on the class eleam.memphis.edu website in the “quizzes” section.

**10/5 – 10/8**
Spreadsheet Models:
Podcasts: bala1a (balakrishnan podcasts)

**10/9 – 10/17**
Linear Optimization Models:
Podcasts: bala2a – 2d (balakrishnan podcasts)
10/18 – 10/26
Network Flow Models:
Podcasts: bala5a – 5d (balakrishnan podcasts)

10/27 – 11/6
Queuing:
Podcasts: bala9a – 9d (balakrishnan podcasts)

11/7 – 11/9
Monte Carlo Simulation:
Podcasts: bala10a – 10d (balakrishnan podcasts)

11/10 – 11/17
Critical Thinking Project due. Please put in “dropbox” on website. Refer to elearn.memphis.edu website in the “content” and “discussion” sections.

11/18 – 11/19
Test 3 (Chapters 1, 2, 5, 9, and 10 of Balakrishnan podcasts: bala1a, bala2a – 2d, bala5a – 5d, bala9a – 9d, bala10a –10d). The exact start time and end time for Test 2 can be found on the class elearn.memphis.edu website in the “quizzes” section.

Business Statistics Homework Assignments for Camm book
Data files are located in the Content section of the class website in “Course Resources”
Problem Solutions are located in the Content section of the class website

Homework Chapter 4: 1, 2, 4, 9.
Homework Chapter 5: 4, 5, 7, 10, 17, 23
Homework Chapter 7: 1, 2
Homework Chapter 9: 1, 10.
Homework Chapter 11: 1, 5
Homework Chapter 12: 2, 4

I am not that concerned with which book you buy. The main point is to read them and use them as resources as you watch the podcasts and take the tests. However, if you did buy the Levine and Balaikrishnan books, then here are the homework problems to accompany those books.

Business Statistics Homework Assignments for Levine and Balakrishnan Books
Data files are located in the Content section of the class website in “Course Resources”
(Note: complete solutions can be found on the eCourseware website)

Levine (recommended homework problems)
Homework Chapter 13: 1, 2, 4, 12, 16, 26, 32, 34, 40, 56
Homework Chapter 14: 2, 4 a-d, 10 a-d, 24
Homework Chapter 15: 1, 2, 12, 13, 14, 19
Homework Chapter 16: 1, 2, 6, 10, 24, 25, 32

Balakrishnan
Homework Multiple Regression, Forecasting – chapter 11: 1-12, 13, 19, 31
Homework LP Modeling - chapter 2: 13, 22
Homework Transportation, Assignment & Network Models – chapter 5: 12, 27
Homework Queuing Models – chapter 9: 11, 33
Homework Simulation Models – chapter 10: 15, 20

Academic Integrity:
The University of Memphis has clear codes regarding cheating and classroom misconduct. If interested, you may refer to the Student Handbook section on academic misconduct for a discussion of these codes. Should your professor have evidence that cheating has occurred, he/she may take steps as described on the campus’ Office of Student Conduct website. If you have any questions about academic integrity or plagiarism, you are strongly encouraged to review the Fogelman College's Website on Academic Integrity.

Student Services:
Please access the FCBE Student Services page for information about:

- Students with Disabilities
- Tutoring and other Academic Assistance
- Advising Services for Fogelman Students
- Technical Assistance

COVID-19 Notice
As a student enrolled in an FCBE course, please be advised of the resource websites listed below for student accommodation requests, health and safety requirements on campus, classroom conduct, and reporting a suspected COVID-19 illness. If you have questions about the items listed, please email your instructor.

Student Accommodation Requests
The University of Memphis is taking all necessary precautions to minimize risk to include careful scheduling of classes, sanitizing and cleaning, and educational/information promotion. However, it is understood that some individuals may be unable to attend on-ground sessions this fall. The University provides a process for students with medically
documented reasons (or medically documented reasons for individuals under their care) that prevent them from attending face-to-face classes to request accommodations for remote instruction.

Disability Resources for Students (DRS) is the University of Memphis department who has been given the responsibility of hearing and approving requests for modifications due to COVID-19 and the virus that causes it. Even if you do not have a disability, but are in need of a modification due to age, living with an at-risk individual or some other circumstance, you must work with DRS. Students seeking accommodations consistent with ADA guidelines must present medical documentation to the Office of Disability Resource Services which will work with the academic departments to provide reasonable accommodations. If faculty or students identify as someone who may be at higher risk for severe illness from COVID-19 due to age or underlying health conditions, or have family members in the "high risk" category, accommodations will be granted to the extent feasible. (Centers for Disease Control (CDC) has provided additional information on who may be at high risk for severe illness at https://cdc.gov/coronavirus/2019-ncov/need-extra-precautions/index.html

To start your COVID-19-related request, complete the Student Introduction Form found at https://yukon.accessiblelearning.com/Memphis/ApplicationStudent.aspx. When asked for the primary disability, use the dropdown menu to find your COVID-19 request status. Once you've completed this form, you will be contacted via your University of Memphis email about documents needed to support your request. Once documentation is received and reviewed, you will be informed regarding next steps.

For more information, browse https://www.memphis.edu/drs/covid19-info.php

The University of Memphis values diversity, and, therefore, students with diverse learning preferences and needs are welcome in this course. You are encouraged to speak with your instructor privately if there are aspects of instruction or design of a course that result in barriers to inclusion or accurate assessment of achievement. If barriers are preventing anyone with a temporary injury or a physical, mental, or cognitive condition from participating fully in this course, please contact Disability Resources for Students (DRS) to submit an official request for course accommodations. You may contact DRS by calling 901-678-2880, emailing drs@memphis.edu, or visiting 110 Wilder Tower.

For more information, browse https://www.memphis.edu/drs/

Health and Safety Requirements on Campus
Students should check their UofM email. Each student received an educational video addressing the important role that each of us play in maintaining the safety and health of our community prior to their return to campus, along with a video about how to properly wear a face covering. Students must watch both videos included in the unique link and submit their intent to comply with the expectations.

Physical distancing of at least 6 feet between individuals remains in place in all campus spaces. This includes the interior of buildings and outside. Face masks are required in all
indoor and outdoor public spaces. All surfaces and computer workstations must be sanitized prior to use. Students must sit only in approved seats or lab workstations. All those on campus must abide by University social distancing and mask protocols, including any contractors or visitors.

For more information, browse [https://www.memphis.edu/coronavirusupdates/plan/agreement.php](https://www.memphis.edu/coronavirusupdates/plan/agreement.php)

**Classroom Conduct**

Face masks or face coverings are required by all faculty, staff, and students in classrooms and on campus. Students without face coverings a first time will be asked to leave the class. Further violations will be referred to the Office of Student Conduct. Students who choose not to follow the face covering requirements will forfeit the right to be on campus.

For more information, browse [https://www.memphis.edu/coronavirusupdates/plan/ongroundinstruction.pdf](https://www.memphis.edu/coronavirusupdates/plan/ongroundinstruction.pdf)

**Report Process for Suspected COVID-19 Illness**

To protect the campus community and student health and wellness, the Student Health Center is providing virtual appointments for patients. Visit My Patient Portal to schedule a virtual appointment or call 901.443.1397 or 901.443.6438 between 9 a.m.-4:30 p.m. Virtual appointments are available from 10:30 a.m.-2 p.m., Monday through Friday. After you schedule an appointment on the MyPatient Portal, a provider will reach out with instructions for a Telehealth virtual appointment, which you may access through a personal electronic device.

If you have symptoms of coronavirus (persistent fever, cough, difficulty breathing) or had contact with a confirmed or suspected case of coronavirus, please call the Student Health Center at 901.443.1397 or 901.443.6438 between the hours of 9 a.m.-4:30 p.m. After hours, please call the COVID-19 public information numbers, 833.556.2476 and 877.857.2945, available from 10 a.m.-10 p.m. daily, or the 24-hour COVID-19 hotline at 800.232.4636.

For more information, browse [https://www.memphis.edu/health/](https://www.memphis.edu/health/)