OPMA 4303 / OPMA 5321: Intro to Management Science (Combined Section)
Fall 2016 Syllabus

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Office Hours:	Monday 11:00am-12:00pm or 4:00pm-5:00pm
	Wednesday 4:00pm-5:00pm or by appointment.

Course Number:	OPMA 4303-001 / OPMA 5321-001
Course Title:	Introduction to Management Science
Class Meetings:	Wednesday 7:00pm-9:50pm in PKH 102

Description of Course Content: Introduction to optimization and quantitative analysis of business problems. Topics include applications of linear and integer programming, network analysis, simulation, game theory, queuing theory, other operations research tools, basic business analytics, and decision-making processes in business organizations.

Student Learning Outcomes: Students will be able to demonstrate knowledge, ability, and proficiency in the following tasks:

- Understand and apply a variety of management science techniques with widely-used software applications including electronic spreadsheets, enterprise resource planning systems, and data analytics tools.
- Select appropriate quantitative techniques for specific types of business problems.
- Understand and explain fundamental concepts and assumptions associated with specific quantitative techniques.
- Correctly formulate quantitative models to find optimal solutions to business and process problems.
- Interpret and communicate quantitative solutions and other information from computer output.
- Design and evaluate management decision-making processes in business organizations.

Prerequisite Knowledge:

Students should have a basic understanding of simple algebra, and should also be familiar with Microsoft Excel. Prior course work in Business Statistics and in Operations Management will be helpful.

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Required Textbooks and Other Course Materials:

Two textbooks are required for this course:

1. *Spreadsheet Modeling & Decision Analysis: A Practical Introduction to Business Analytics, 7th Edition.* Cliff T. Ragsdale, Cengage Learning, ISBN 978-1-285-41868-1. This is a traditional management science textbook that emphasizes decision support modeling in Microsoft Excel.

2. *Practical Analytics: Applied Analytics Concepts Using Market-Leading Software Tools.* Nitin Kale and Nancy Jones. Epistemy Press, ISBN 978-0-9856008-9-1. This is a value-priced e-book that is preferred over the paperback version. The e-book contains live web links that can be executed seamlessly as the text is read. The e-book and the paperback version are available directly from the publisher (http://epistemypress.com/).

Students may also be required to purchase case studies, user licenses for in-class simulations, or other supplemental materials. Additional suggested readings will be posted in Blackboard and/or made available from the UTA Library.

What's New / What You Should Know About This Course:

1. This is a combined-section course that will be useful to students majoring or concentrating in INSY, OPMA, Business Analytics, and other disciplines at the graduate and undergraduate level.

2. This course uses SAP University Alliances curriculum materials—including SAP's predictive analytics and data visualization solutions. For that reason the course is eligible to be counted toward the SAP Student Recognition Award. Information on the Award will be posted in the Blackboard course portal.

3. This course includes a team research project that will involve an original team research paper and a team presentation to the class. Details for each section will be provided in a Team Project Assignment Document that will be posted in the Blackboard course portal. A separate list of research topics will be assigned to each section (graduate and undergraduate).

4. The team research presentations are an important part of the learning experience in this course. With that in mind, students should attend and take notes during all team presentations. The course examinations will include questions on (a) the content of team presentations, (b) question and answer discussions that follow each team presentation, and (c) the instructor's summary and wrap-up comments that follow each team presentation.

Descriptions of Major Assignments and Examinations: The full course grade will be determined as follows:

Component	Points Possible
Exam 1 (Mid-term)	100
Exam 2 (Comprehensive final)	100
Homework and Class Participation	100
ERP Analytics Cases	100
Team Research Paper/Presentation	100
Total Possible	500

Detailed specifications regarding requirements and grading standards will be posted in the Blackboard course portal.

Grading: Points earned and accumulated will be used in the following grade calculation:

Points Earned	Letter Grade
450-500	A
400-449	B
350-499	C
300-349	D
299 and Below	F

Grades are earned on the basis of performance, not given on the basis of effort or need. Your grade represents your performance in this course, not your potential as a student or as a human. If you feel an error has been made in the calculation of your grade, you may contact the instructor via e-mail. Grades are otherwise non-negotiable.

Blackboard Course Portal: Blackboard is the online content management utility for courses at UTA. Course announcements, assignment instructions, and assessments will be available on the Blackboard portal for this class. Each student is responsible for establishing access to the Blackboard course portal, for activating utilities such as the Respondus Lockdown Browser as needed, and for contacting the UTA Help Desk as needed to resolve any technical problems with Blackboard.

Detailed instructions for individual and team assignments will be posted in the Blackboard course portal. Homework/quiz assignments, and possibly some exams, may also be completed in Blackboard. Students should use Mozilla Firefox or Microsoft Internet Explorer as the browser for any Blackboard work; the Google Chrome browser is not supported. Students should use the Blackboard portal to initiate any e-mail communication with the Instructor, as this will cause your course number and section number to be displayed in the subject line of the e-mail message.

Course Schedule and Due Dates: Examinations, assignments, and due dates are presented in the Course Schedule below. The instructor reserves the right to modify the Course Schedule, course content, and point values associated with graded components as needed in response to events that occur during the semester. Any such changes will be discussed during class meetings. It is the student's responsibility to be aware of these changes.

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Meeting #	Day	Date	Topic	Readings	Assignments Due
1	Wed	8/31	Course Intro and Rules of Engagement Ragsdale Ch 1: Intro to Decision Analysis Kale Ch 1: Data Analytics Overview Software Download/Install Instructions Moneyball is a Verb	Course Syllabus Pgs 1-13 Pgs 15-30	
2	Wed	9/7	Form Project Teams Ragsdale Ch 2: Intro to Optimization/LP Kale Ch 5: Slicing & Dicing (Pivot Tables) Introduce ERP Analytics Case 1 Discussion: Reading Article #1	Pgs 17-25, 28-39 Pgs 94-115	
3	Wed	9/14	Team Research Project Kickoff Ragsdale Ch 3: Spreadsheet LP Solutons Kale Ch 7; Basic Visualizations Discussion: Reading Article #2	Pgs 46-71, 75-93, 113-11 Pgs 130-145	Personal Profile Questionnaire Homework Assignment 1
4	Wed	9/21	Ragsdale Ch 4: Sensitivity Analysis Kale Ch 9: Advanced Visualizations Introduce ERP Analytics Case 2 Discussion: Reading Article #3	Pgs 139-171 Pgs 159-171	ERP Analytics Case 1
5	Wed	9/28	Ragsdale Ch 5: Network Modeling Kale Ch 10: Data Mining Discussion: Reading Article #4	Pgs 187-222 Pgs 174-182	Homework Assignment 2
6	Wed	10/5	Ragsdale Ch 6: Integer LP Kale Ch 11: Descriptive Models Introduce ERP Analytics Case 3 Discussion: Reading Article #5	Pgs 245-267 Pgs 183-193	ERP Anaytics Case 2
7	Wed	10/12	Ragsdale Ch 9: Regression Analysis Kale Ch 12: Predictive Models Discussion: Reading Article #6	Pgs 433-446 Pgs 194-212	Homework Assignment 3
8	Wed	10/19	Ragsdale Ch 12: Simulation Discussion: Reading Article #7 Introduce ERP Analytics Case 4 Midterm Exam Review	Pgs 619-667, 679	ERP Anaytics Case 3
9	Wed	10/26	Exam 1 Midterm / Ragsdale Ch 1-6, 9 Kale Ch 1, 5, 7, 9-12; Articles 1-6		
10	Wed	11/2	Exam 1 Recap Kale Ch 13: Big Data Analytics Discussion: Reading Article #8	Pgs 213-223	Homework Assignment 4
11	Wed	11/9	Ragsdale Ch 13: Queuing Discussion: Reading Article #9 Introduce ERP Analytics Case 5 Special Topics / Software Demonstration	Pgs 703-725	ERP Anaytics Case 4
12	Wed	11/16	Ragsdale Ch 14: Decision Analysis Kale Ch 14: Decision Support Discussion: Reading Article #10	Pgs 736-773, 793-794 Pgs 224-235	Homework Assignment 5 Team Research Papers Due
13	Wed	11/23	Team Research Presentations		ERP Anaytics Case 5
14	Wed	11/30	Team Research Presentations		
15	Wed	12/7	Final Exam Review		
16	Wed	12/14	Final Exam-Comprehensive	8:15pm-10:45pm	

Assignment Deadlines and Late Submissions: The personal profile assignment, individual and/or team homework assignments, SAP Analytics Case assignments, and team research project

deliverables are due to be submitted in Blackboard by 11:59pm Central time on the due date specified in this Syllabus, in the Blackboard course portal, or announced in class.

Late submission of the personal profile assignment, individual and/or team homework assignments, and SAP Analytics Case assignments will not be accepted for credit. Points will be deducted from the personal profile assignment, individual and/or team homework assignments, and/or SAP Analytics Case assignments if they are submitted in a form other than the required electronic format (i.e., via e-mail). Late submission of team research project deliverables will result in a penalty of 10% of the total available points for each calendar day after the specified due date.

Make-Up Exams: Make-up exams are generally not available in this course. Exceptions will be applied to special circumstances such as (a) conflicts with participation in University-sponsored events, or (b) military service obligations.

In those rare cases, the conflict must be communicated to the Instructor via UTA e-mail in advance of the time slot scheduled for the exam. At the Instructor's discretion, the make-up mechanism may be (a) double-counting the number of points earned on the next scheduled exam, (b) a different exam from the one administered on the scheduled date, or (c) an individual case study or research paper assignment.

Documentation of circumstances requiring a make-up exam will be required, and misrepresenting such circumstances is a violation of the University's Academic Integrity policy.

Expectations for Out-of-Class Study: A general rule of thumb at UTA is that for every credit hour earned, a student should spend 3 hours per week working outside of class in a 16-week Fall or Spring semester course. Hence, a 3-credit course would have a minimum expectation of 9 hours of reading, study, etc. Accordingly, in addition to the time required to attend each class meeting, students enrolled in this 3-credit course should expect to spend an average of at least 9 hours per week of their own time in course-related activities. This would include reading the required materials, completing assignments, preparing for exams, working on team projects, etc.

The weekly time requirements detailed above are necessarily **doubled** for courses presented in an 8-week format.

Attendance Policy: At The University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I have established the policies set out here for attendance policy and class participation credit.

Regular class attendance is an absolute necessity for success in this course. If you must miss class for any reason, you are responsible for the material you missed and will need to work with your classmates (not the instructor) to obtain class notes and otherwise determine what you missed. Any class attendance and lateness policies introduced in this class include by reference all provisions for grade adjustment or drop policies included in the applicable Graduate or

Undergraduate Catalog in effect at the start of the semester. No student will be dropped from the class rolls for never attending class or for accumulating excess absences.

You should be advised that exams in this course routinely include material on which you can gain working knowledge only through class attendance. Examples include in-class discussion of case studies, team research presentations, and practice problem solutions demonstrated by the instructor during class meetings.

Class Participation Credit: Your class participation is a significant element of the learning experience in this course.

You are presumed to be participating at a satisfactory level if you are able to (a) contribute in a positive way to class discussion voluntarily or when called upon by the instructor, (b) contribute to in-class team exercises dealing with textbook discussion questions, case studies, enterprise resource planning application exercises, or other assigned readings, and (c) contribute effectively to team research assignments and presentations.

When your team is called on to participate in an in-class exercise, negative grade adjustments may be applied if you are absent, ineffective, or unprepared.

Work outside of class: Exams and homework/quiz assignments are to be completed by each student individually. You are not to collaborate with (or receive assistance from) anyone else on these assignments.

Laptops and other electronic devices: Use of these devices in the classroom is acceptable as long as the use of these devices does not distract students or the instructor in any way. The instructor reserves the right to designate the classroom as an electronic device-free zone at any time.

Classroom behavior: Students in this class will likely come from a variety of cultures and educational backgrounds. Although standards for classroom conduct vary across cultures, we will conform to expectations that are common in higher education in the U.S. Unless the instructor *specifically* says otherwise, during classroom sessions students should abide by the following policy: If you're not talking with the instructor, you should not be talking at all. Your participation in classroom discussion is required and assumed. Negative grade adjustments may be applied if you fail or refuse to participate in classroom discussions, behave in a way that disrupts the class, or leave the classroom early without consulting the instructor.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. Students will not be automatically dropped for non-attendance. Repayment of certain types of financial aid administered through the University may be required as the result of dropping

classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/aao/fao/).

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA), and Section 504 of the Rehabilitation Act. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the Office for Students with Disabilities (OSD). Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:

The Office for Students with Disabilities, (OSD) www.uta.edu/disability or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability.

Counseling and Psychological Services, (CAPS) www.uta.edu/caps/ or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

Non-Discrimination Policy: The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos.

Title IX Policy: The University of Texas at Arlington ("University") is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. For information regarding Title IX, visit www.uta.edu/titleIX or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or jmhood@uta.edu.

Academic Integrity: Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.
I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System Regents' Rule 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at http://www.uta.edu/oit/cs/email/mavmail.php.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit http://www.uta.edu/sfs.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabus. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is at a location to be discussed in our first class meeting. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based

learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

The English Writing Center in the UTA Central Library (411LIBR): Hours are 9 am to 8 pm Mondays-Thursdays, 9 am to 3 pm Fridays and Noon to 5 pm Saturdays and Sundays. Walk In Quick Hits sessions are available during all open hours Mon-Thurs. You can register and make appointments online at http://uta.mywconline.com. Classroom Visits, Workshops, and advanced services for graduate students and faculty are also available. Please see www.uta.edu/owl for detailed information.

Other Library Resource Information:

Library Home Page	http://www.uta.edu/library
Subject Guides	http://libguides.uta.edu
Subject Librarians	http://www.uta.edu/library/help/subject-librarians.php
Database List	http://www.uta.edu/library/databases/index.php
Course Reserves	http://pulse.uta.edu/vwebv/enterCourseReserve.do
Library Tutorials	http://www.uta.edu/library/help/tutorials.php
Connecting from Off- Campus	http://libguides.uta.edu/offcampus
Ask A Librarian	http://ask.uta.edu

The following URL houses a page where we have gathered many commonly used resources needed by students in online courses: http://www.uta.edu/library/services/distance.php.

The subject librarian for your area can work with you to build a customized course page to support your class if you wish. For examples, visit http://libguides.uta.edu/os and http://libguides.uta.edu/pols2311fm .

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), or 2-3003 (campus phone). You may also dial 911. For non-emergencies, contact the UTA Police Department at 817-272-3381.

The UT Arlington Police Department is available to escort students and faculty members from buildings on the campus to designated parking areas on request.