RUTGERS UNIVERSITY
School of Business - Camden

Optimization and Spreadsheet Modeling (Management Science)
52:620:321:01-02
Term: Spring 2018
Monday and Wednesday 8:00-9:20pm (Section 01) and 9:35-10:55pm (Section 02)

Professor: Meng Li
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Office Phone: (856) 225-6494
Office Hours: Monday and Wednesday
E-mail: meng.li@rutgers.edu
11:00am-12:00pm or by appointement

Course Description
The focus of the course will be to study the methodologies of Optimization, operations research and quantitative methods to aid decision-making. Various problems encountered in the real world will be formulated and their solution techniques will be discussed. Instructor reserves the right to adapt and change the syllabus schedule as appropriate to suit the pace of learning by the students.

During the course, we will move rapidly. Anyone who has neither read the material (see tentative schedule) nor given a hearty attempt at the homework problems will be at a loss during class sessions. You are strongly advised to attend class regularly. Please stay offline during class sessions. Web surfing, shopping, watching sports, checking emails, texting, etc. are distracting for your fellow students and for me, your instructor.

Learning Goals/Objectives
After completing this course, students should be able to:

- Develop critical thinking skills necessary to solve optimization problems;
- Analyze problems with appropriate Spreadsheet modeling.

Course Materials
Introduction to Management Science; Anderson, Sweeney and Williams, 12th edition, Southwestern Cengage Learning, ISBN 13: 978-0-324-39980-6. (Note: CD-ROM not required)

Prerequisites
In addition to the prerequisite courses, you should be comfortable with basic concepts of elementary probability theory. Some working knowledge of basic Excel will also be assumed so that we can focus on the problem solving aspects of the course.

Class Procedure
Class sessions will be a combination of lecture, problem solving and discussion. Lecture outlines will be available on course website. ***You should come to class having read the chapter material and be prepared***. Also, for each class session, ***you should bring to class a printed copy of that day's lecture outline and take notes in class***. The material covered in class will follow the lecture outline and is designed to clarify and complement the text material.

Learning Assessments
(1) In-class Assignment:
After every chapter or important concept taught in the class, you will be assigned a problem or two from the chapter learned. Each student will be required to attempt and solve the prob-

lem in-class. You will work individually. You may ask for help from me, if required. You will be graded on your understanding from the lecture and the attempt made to solve the problem. If you miss class and can't submit the complete exercise in class due to medical reason, you have to provide the valid medical report for late submission.

(2) Exams:

There will be three exams during the session. The exams will test your ability to analyze, model and solve real-world problems. The exams can serve as a tool for self-evaluation, provide feedback and deepen the learning. Please note that the exams will not merely be an exercise in number crunching. They will devote significantly on "why?" and "how?" of analysis and require you to interpret the solutions creatively and critically.

The exams will be ***closed*** book and ***closed*** note.

(3) Homework:

Homework will help you practice what you learn. Usually you will have one week to finish your homework assignments. Once the homework solution is posted on Sakai, the later homework will not be accepted.

Evaluation / Grading Policy
Exam 1 25%
Exam 2 25%
Exam 3 25%
In-class Assignments 15%
Homework 10%

Class Participation

It is expected that you will (1) attend class regularly and arrive on time, (2) listen attentively in class, and (3) contribute often to class discussions.

Class Attendance/Participation:

It is the student's responsibility to regularly attend classes. Students are responsible for all announcements made during class. You are also responsible for getting notes and learning what was covered in class if you have to miss a class. You are highly encouraged to come to my office hour regarding to the class, homework and any other question. Classroom behavior should not interfere with the instructor's ability to conduct the class or the ability of other students to learn from the instructional program. You are expected to participate in the class professionally. Professionalism consists of class participation, timeliness, cooperation, respect for colleagues and the instructor, etc. Examples of Professionalism:

- Regular on-time class attendance;
- Minimize unscheduled personal breaks;
- Fully prepared for each class, e.g. reading all chapters prior to the class in which they are covered;
- Respect views and opinions of your colleagues and instructor;
- Phones and wireless devices are ***turned off***.
- Chatting with your friend, reading unrelated material such as newspaper or surfing on the internet is ***strictly prohibited***.

Technology Tools

We will make extensive use of Microsoft Excel with Solver enabled. To complete the homework, you will need to have a computing device that can run a full copy of Microsoft Excel (Apple iPad usually does not work for this).

Communication:

Sakai/Canvas

Posted will be the syllabus, resources (articles and examples), Power point slides, announcements, guides, etc. To access this system, go to http://sakai.Rutgers.edu or http://canvas.rutgers.edu log in, and click on the course tab Course Optimization and Spreadsheet Modeling on the top bar.

Rutgers email - USE YOUR RUTGERS EMAIL ADDRESS

All communications to students will be done using the Rutgers email address provided to you. Please forward your Rutgers email to your personal email if necessary. **Not checking your Rutgers email is not an excuse for missing any communications.**

Always add 52:620:321 in the subject line and allow one business day for a response. If you need detailed explanation about the class material or homework, I encourage you to come see me during my office hours. Due to the nature of the material, it is usually more efficient to discuss the question in person.

Academic Integrity

Policy found at http://academicintegrity.rutgers.edu/academic-integrity-at-rutgers.

Students are responsible for understanding the principles of academic integrity and abiding by them in all aspects of their work at the University. Students are also encouraged to help educate fellow students about academic integrity and to bring all alleged violations of academic integrity they encounter to the attention of the appropriate authorities.

Academic Integrity means that you (the student) must:

- properly acknowledge and cite all use of the ideas, results, or words of others,
- properly acknowledge all contributors to a given piece of work,
- make sure that all work submitted as your own in a course activity is your own and not from someone else
- obtain all data or results by ethical means and report them accurately
- treat all other students fairly with no encouragement of academic dishonesty

Adherence to these principles is necessary in order to ensure that:

- everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments
- all student work is fairly evaluated and no student has an inappropriate advantage over others
- the academic and ethical development of all students is fostered
- the reputation of the University for integrity is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld. Violations are taken seriously and will be handled according to University policy.

If there are questions on how to comply, please contact Mary Flaherty in the Rutgers-Camden Dean of Students office: marykreb@camden.rutgers.edu or contact the appropriate Associate Dean or Area Head at the School of Business.

Student Code of Conduct http://studentconduct.rutgers.edu/university-code-of-student-conduct

Violations of the Student Code of Conduct are considered serious infractions of student behavior and students who violate the code are subject to penalties relative to the level of the matter. In general, students may not disturb normal classroom procedures by distracting or disruptive behavior. Examples of disruptive behavior include, but are not limited to, the following:

- Repeatedly leaving and entering the classroom without authorization
- Answering cellular phone or allowing pager to beep
- Making loud or distracting noises
- Repeatedly speaking without being recognized, interrupting the instructor or other students, or otherwise acting in disregard of the instructor's requests
- Threats or violence

Violations of the code should be reported to the Dean of Students office deanofstudents@camden.rutgers.edu or 856-225-6050.

If the violation is immediate and a potential threat is a concern, call the Rutgers-Camden police at 856-225-6111

Disability Services/Accommodations

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation:

https://ods.rutgers.edu/students/documentation-guidelines.

If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the Office of Disability Services web site at:

https://ods.rutgers.edu/students/registration-form.

Ajeenah Nuriddin-Little
(856) 225-2722
Rutgers-Camden Disability Services:
Rutgers-Camden Learning Center
Armitage Hall, Room 240
311 North Fifth Street, Camden, NJ 08102-1405
Web page: https://learn.camden.rutgers.edu/disability-services
E-mail: Ajeenah.nuriddin-little@camden.rutgers.edu

Important Administrative Dates

Tuesday, January 16 – First day of Spring 2018

Tuesday, January 23– Last day to drop a class without a "W" (this can be done through WebReg)

Monday, April 2 – Last day to withdraw from one or all classes with a "W". (This can be done through WebReg) For more information, see the registrar's website

http://registrar.camden.rutgers.edu/

Saturday, March 10 – Sunday, March 18– Spring recess

Monday, April 30 – Last day of classes

Thursday, May 3 – Wednesday, May 9 - Final Exam Period

CLASSROOM POLICIES

Exam Make-up Policy
If, for a university approved reason, you cannot take an exam at the scheduled time you must give the professor written notice at least one week in advance so that other arrangements can be made. If the situation does not allow for advance notification (for example, emergency hospitalization), contact the professor as soon as possible after a missed exam. Make-up exams for non-university approved reasons are not guaranteed. The professor reserves the right to request written documentation to support your absence (such as a doctor's note, an obituary, or military orders).

GRADING

The assignment of final grades, the course requirements will be weighted approximately as follows:

First exam	25%
Second exam	25%
Final exam	25%
In-class Assignment	15%
Homework	10%

Grade Ranges
Letter Grade Description
A Highest grade (90% and above)
B+ Work of distinction (84.5% to 89.4%)
B Work of distinction (79.5% to 84.4%)
C+ Average work (74.5% to 79.4%)
C Average work (69.5% to 74.4%)
D Passing, but unsatisfactory (60% to 69.4%)
F Failure without credit (Below 60%)

Tentative Sequence of Topics

Meeting	Date	Text Chapter	Topics
Week 1	1/17	Chapter 1	Introduction to Management Science
Week 2	1/22	Chapter 2	Introduction to Linear Programming
	1/24		Excel Solver
Week 3	1/29	Chapter 3	Linear Programming – Graphic Method
	1/31		
Week 4	2/5	Chapter 3	Linear Programming – Sensitivity Analysis and Application
	2/7		
Week 5	2/12		LP Applications
	2/14		Exam Review
Week 6	2/19		**Exam 1**
	2/21	Chapter 6	Network Optimization
Week 7	2/26	Chapter 6	Network Optimization**--**Application
	2/28		Excel Solver
Week 8	3/5	Chapter 5	Integer Programming
	3/7		
Week 9	3/19	Chapter 5	Integer Programming
	3/21		Exam Review
Week 10	3/26		**EXAM 2**
	3/28		
Week 11	4/2	Chapter 14	Simulation
	4/4		
Week 12	4/9	Chapter 12	Decision Analysis
	4/11		
Week 13	4/16	Chapter 15	Forecasting
	4/18		
Week 14	4/23	Chapter 15	Forecasting
	4/25		
Week 15	4/30		Exam Review