OPER3203 Decision Modeling & Analysis

Instructor: Dr. Cem Saydam
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Office hours: To be determined

Course content: Accessible via canvas.uncc.edu
Textbook:
Spreadsheet Modeling & Decision Analysis: A Practical Introduction to Business Analytics, Cliff T. Ragsdale, South-Western, 8th Edition, 2018 (7th Ed. will also work).
ISBN13: 9781305947412
Free online (eBook) IF you have "CENGAGE UNLIMITED" ($119.99/semester or $179.99 a year)

Hardware and Software requirements:

- Windows OS, Excel 2016/2013/2010 and Analytic Solver Platform for Education (**ASPE**)
- Students are required to purchase a 140-day license copy of ASPE from Frontline systems for $25. Instructions for this will be emailed and posted in canvas separately.
- ASPE is available via PCs in lab 339 and in the open lab on the second floor in the Belk COB
    - **ASPE does not run on Mac OSX – the following is from their website:**
    - "We highly recommend that you ask students to use a dual-boot or virtual machine setup (such as Parallels or VMWare Fusion) on their Macs, with Windows and Microsoft Office for Windows installed alongside Mac OSX. A Mac with this setup makes an excellent host for Analytic Solver Platform for Education."

Class Format: HYBRID
This course will be delivered in a hybrid format using a combination of face-to-face lecture meetings and online content. Face-to-face class sessions will be held, on average, once a week with a corresponding weekly online session scheduled for self-study of course materials. ***While hybrid course sections provide increased flexibility to students, they require a commitment to invest additional time and effort outside of scheduled class sessions.***

In Fall 2018 face-to-face class sessions will be held mostly on Tuesday of each week, **with a few exceptions we will have class on Thursday, marked "FACE TO FACE". Self-study** days will be marked on the course schedule as well and will be identified throughout the semester based on the nature and pace of the current material on "**canvas.uncc.edu**".

Catalog Course Description: Prerequisite: OPER 3100 with a grade of C or above. Analytical approach to understanding the management process and solving management problems with emphasis on model formulation, solution techniques, and interpretation of results. Specific topics covered in this course include: techniques such as linear, integer, network, and goal programming, queuing theory and applications, decision support via

Monte Carlo simulation, decision making under uncertainty and risk, decision trees, and multi-criteria decision making. Excel along with ASPE are the main analytical tools.

Learning Objectives: To provide students, primarily in the fields of business and economics, with a sound conceptual understanding of the role management science plays in the decision making process. Emphasis is placed on quantitative approaches to decision making as well as how they can be applied and interpreted. Specific topics covered in this course include fundamental techniques such as linear programming, integer programming, queuing theory, and simulation.

In summary, the ability to develop models to support decision making is one of the critical areas of competency that should be demonstrated by students who have successfully mastered the OSCM major. These skills will be measured by the following learning outcomes:
- Students develop decision models to determine the best allocation of limited resources.
- Students develop Monte Carlo based simulation models to support decision making under uncertainty.

Attendance Policy: Everyone must attend all in lab quizzes, exams and post-exam reviews. Since the entire course content is available via the recorded lectures lab sessions will focus on framing and solving problems, working additional examples.

Philosophy of teaching: I demand meaningful learning which can be interpreted by being able to translate the ideas, free of errors, into your own words and solve problems that are **structurally different** from those presented in class and textbook(s). Hence, always try to learn the materials by concentrating on the underlying principles. I will try to make you think by asking you questions and problems which may not be directly covered during the class lectures.

Grading:
Eight mini-quizzes, four mid-terms (each 50 min) and a cumulative final (2.5h).
The lowest of the five exams and the lowest three of the eight mini-quizzes will be dropped.

- Some or parts of exams are closed book and some parts will be on the computer (via Excel and ASPE).
- Mini-quizzes are generally closed book and computer. Specific instructions will be posted or emailed for each mini-quiz.

Exams: 100 points ea. x 4 (best) = 400
Mini-quizzes: 20 points ea. x 5 (best) = 100

Final letter grades will be based on the following percentages: A 100-90, B 89-80, C 79-70, D 69-60, F 59-0.

Should a student miss an exam, that student will receive a grade of zero. In the event that the excuse is approved (must provide proper documentation, e.g., doctor's note, accident report, speeding ticket copy and a selfie with the officer) then the student will take the make-up within three school days. Students who miss more than one mid-term exam should drop the class otherwise will be given an F.

Attending a wedding or other ceremonial events are not excusable absenteeism. Also, please let grandma and grandpa live another semester ☺

No make ups for missing mini-quizzes (note: 3 out of 8 are automatically dropped).

I will review the exam only once and in class. Absent students forfeit their chance to review their exam. Therefore, it is very important that all students are present during these reviews.

Posting grades: Via Canvas.

Assignments & Group work: I expect each student enrolled in this class to do the suggested problems on their own. At the same time you are encouraged to study in groups, solve the suggested problems together, and simply help each other learn the material.

Student workload: This 3-credit **hybrid** course requires 1h 15m of classroom or lab instruction and about seven (7) hours of out-of-class student work each week for approximately 15 weeks. Out-of-class work include but is not limited to: required reading, reviewing, studying recorded lectures, working suggested problems and more, practicing Excel based decision modeling tools, and studying for exams and quizzes.

Class Cancellation: In the event that I am unable to attend class or the University is closed unexpectedly, assume the material will be moved forward to the next meeting or made available via online (course webpage).

Academic honesty/integrity: THE UNC CHARLOTTE CODE OF STUDENT ACADEMIC INTEGRITY governs the responsibility of students to maintain integrity in academic work, defines violations of the standards, describes procedures for handling alleged violations of the standards, and lists the applicable penalties. The following is a list of prohibited conduct in that Code as violating these standards: A) Cheating; B) Fabrication and Falsification; C) Multiple Submission; D) Plagiarism; E) Abuse of Academic Materials; and F) Complicity in Academic Dishonesty. For more detail and clarification on these items and on academic integrity, students are strongly advised to read the current "UNCC undergraduate catalog" and specifically policy no. 407 http://legal.uncc.edu/policies/up-407. The instructor may ask students to produce **identification** at examinations and may require students to demonstrate that graded assignments completed outside of class are their own work.

Religious Accommodation for Students: The University of North Carolina at Charlotte is committed to diversity, nondiscrimination and inclusiveness, and to supporting its students, regardless of religious affiliation or non-affiliation, in accordance with state and federal laws and regulations. As part of this commitment, the University makes good faith efforts to accommodate a student's religious practice or belief, unless such accommodation would create undue hardship. Details associated with this policy can be found by visiting https://legal.uncc.edu/policies/up-409

Miscellaneous:

The Belk College of Business strives to create an inclusive academic climate in which the dignity of all individuals is respected and maintained. Therefore, we celebrate diversity that includes, but is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status.

UNC Charlotte is committed to access to education. If you have a disability and need academic accommodations, please provide a letter of accommodation from Disability Services by Friday of the first week of classes. For more information on accommodations, contact the Office of Disability Services at 704-687-0040 or visit their office in Fretwell 230.

Also, note:

- The instructor reserves the right to change the course outline, and the course contents.
- There will be no extra credit offered for any individual student during the semester.
- The instructor will keep all exams. Students may see them in class or during my office hours.
- All electronic & telecom equipment such as desktop PCs, laptops, and in particular cell phones, beepers, etc. must be kept silent during the lecture.
- Cell phones must be kept in bags or pockets. Can't be used as calculators.

Important Dates:
Students should note the important dates such as the last course withdrawal date and dates for their finals via the **Academic Calendar:** http://registrar.uncc.edu/printable-calendar

Full course schedule is available via http://canvas.uncc.edu