

## OPER3203 Decision Modeling & Analysis

**Instructor:** Dr. Cem Saydam

**Email:** saydam "at" uncc.edu

**Office hours:** To be determined

**Course content:** Accessible via [canvas.uncc.edu](https://canvas.uncc.edu)

**Textbook:**

*Spreadsheet Modeling & Decision Analysis: A Practical Introduction to Management Science*, Cliff T. Ragsdale, South-Western, 7<sup>th</sup> Edition, 2014

**ISBN13: 9781285418681**

**Hardware and Software requirements:**

- Windows OS, Excel 2016/2013/2010 and Analytic Solver Platform for Education (ASPE)
- Available via PCs in lab 339 and in the open labs 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.”
- Students who have a Windows PC/laptop with Excel 2016/2013/2010 or running VMWare & MS office on their Macs will be able to download and install the 140 day license of ASPE. Instructions will be distributed during the first week and posted on Canvas.

**Class Format: HYBRID**

Hybrid courses have been described as "the most prominent instructional delivery solution" since they provide the ever-growing and increasingly diverse academic world with the flexibility of fully online learning along with valuable collaboration achieved through face-to-face student-student and student-instructor interaction.

As such, the format of this course will be hybrid. Face-to-face class sessions will be held during the regular time blocks each week, unless otherwise specified. **Self-study days will be marked on the course schedule as SELF STUDY and will be identified throughout the semester based on the nature and pace of the current material.**

**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, goal and multi objective 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 and a cumulative final.

The lowest of the five exams and the lowest three of the eight mini-quizzes will be dropped.

- o Some or parts of exams are closed book and some parts will be on the computer (via Excel and ASPE).
- o Mini-quizzes are generally closed book. 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 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.

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](http://legal.uncc.edu/policies/up-407)" 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>

**Statement on Diversity:**

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.

**Miscellaneous:**

- 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 keep copies.
- All electronic & telecom equipment such as **cell phones**, **beepers**, etc. must be kept **silent** during the lecture.

**Important Dates:**

First day of class for OPER 3203: Jan 10

Spring break: Mar 6-11

Last day to drop a course with a "W": Mar 20

Last day of class for this section: May 2

Final Exam date & time: May 9, 8-10:30 am

**Academic Calendar:** <http://registrar.uncc.edu/printable-calendar>