The University Of North Carolina at Greensboro
Bryan School of Business and Economics
Department of Information Systems and Supply Chain Management

MBA 701-03 (Online): Quantitative Analysis for Decision Making (Fall 2023)
Location: Online
Virtual Check-in: Select Thursdays 8:00pm – 9:00pm

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Office Hours: Virtual office hours by appointment

COURSE DESCRIPTION
The availability of large amounts of data to today's business organizations and the opportunity it offers to make better decisions that can improve both financial and operational performance means that data analytics will continue to play an increasingly important role in today's world. This course introduces students to a variety of quantitative methods and tools to analyze data from various business domains to improve fact-based decision making. Specific topics covered in the course include descriptive statistics and data visualization, hypothesis testing, confidence intervals, regression analysis, decision analysis, optimization modeling, and simulation modeling.

COURSE OBJECTIVES
The course goals are to: (i) Demonstrate the wide range of situations in which quantitative analysis improves decision making and creates competitive advantages; (ii) Develop students' analytical thinking skills; (iii) Develop students' mastery of analysis using spreadsheet models.

Upon completing the course, students should be able to:
- *Describe* a set of data using histograms, scatter diagrams and summary statistics.
- *Compute* statistics from sample data to support confidence interval estimation, hypothesis testing and regression analysis.
- *Infer* the statistical precision of insights derived from confidence interval estimation, hypothesis testing and regression analysis.
- *Construct* effective models of decision-making situations using principles of professional spreadsheet design.
- *Compute* optimal solutions to decision making models for the management of a wide range of situations in which quantitative analysis improves decision making.
- *Analyze* spreadsheet simulation models and decisions with uncertain outcomes by using multiple criteria for optimality and risk.

PRE-REQUISITE COURSES AND REQUIREMENTS
Pre-M.B.A. workshop in statistics and spreadsheet skills or a spreadsheet-based undergraduate course in probability and statistics.
- To meet this requirement, students must meet the passing grade for Excel Prep Course (Please refer to *Excel Prep Course* section of this syllabus for further information).

COURSE TEXTBOOK AND OTHER MATERIALS
1. MindTap® Business Statistics, Instant Access for S. Christian Albright & Wayne L. Winston, *Business Analytics: Data Analysis and Decision Making*; 7th Edition. 2017.

- MindTap® is an online learning resource that includes e-text, videos of worked examples, flashcards and many other study resources.
  MindTap® is required to complete graded problem sets and quiz assignments. Students may purchase access to MindTap® directly from Cengage, or a printed access card from the UNCG Bookstore.
- Cengage also offers various product options that include combinations of e-text, print, and digital platform. Students can learn more about these options by visiting:

https://www.cengage.com/c/business-analytics-data-analysis-decision-making-7e-albright/9780357109953PF/

2. Laptop installed with MS Excel 2010 or later and the following add-ins: Solver, Analysis Toolpak, SolverTable, Palisade Decision Tools Suite (StatTools, @Risk, PrecisionTree, NeuralTools, TopRank, and Evolver). Please note that the examples provided in the text are based on Excel 2016.

Special Note for Mac Users:
- Some of the Excel features used in this course are not supported by Mac OS and by extension, Excel for Mac. As such, Mac users will need to use a Windows emulation program (e.g., Bootcamp, Parallels, Vmware Fusion, etc.), along with Windows, to participate in the course.
- Mac users with computers running on the M2 chip are likely to face additional problems that prevent the Windows-based software that we will use in class from running on their computers. UNCG has a limited number of remote licenses to available to students whose computers do not support the software used in class. Such students should contact the instructor as soon as possible.

COURSE STRUCTURE
This course meets for one semester of instruction. This course will be taught 100% asynchronously online and will combine standard e-learning with supplemental video conference sessions (see "Virtual Check-in Session" section below). This course uses a discussion-oriented inverted classroom model, wherein students are responsible for reviewing the course materials posted online BEFORE attempting follow-up quizzes or participating in the web meetings. This approach allows time to address more challenging problems and in-depth discussions of the subject matter during the web meetings. Web meetings are designed to check-in on students' understanding of the materials posted online and their progress with any assignments.

Canvas:
The course will use UNCG Canvas as a course management tool to post important information. This information includes course syllabus, tests, grades, videos, links to join video sessions, recordings of all class sessions, reading articles, announcements, and other instructional materials. To access Canvas, visit: http://canvas.uncg.edu.

Students must have an active UNCG email account to access Canvas. Canvas works best using the Mozilla Firefox browser or Google Chrome. It is the student's responsibility to check Canvas regularly for important announcements, such as class notes, emails, and grades among others.

Class Notes and Video Recordings
Because this class is a paced asynchronous online class, lecture videos and associated lecture notes will be released on the weeks that they are specified to be covered in the course schedule (please refer to the course schedule at the end of this document). Specifically, lecture videos and the associated lecture notes will be posted in Canvas by 10:00am on the specified Mondays. To access the video recordings, please navigate to the corresponding module in Canvas. The associated lecture notes and assignments will also be available in Canvas.

Virtual Check-in Sessions
The professor will host virtual check-in sessions from 8:00pm-9:00pm, on certain Thursdays (please refer to the course schedule at the end of this document) as a forum to clarify concepts related to the materials posted online. These virtual check-in sessions will take the form of workshops/tutorials where the professor will discuss any questions that students may have about course concepts. Attendance to these check-in sessions is optional and video recordings of any sessions that hold will be available in Canvas.

Note that although the instructor has reserved time for the check-in sessions, there will be no video recordings on the weeks that no students show up for the sessions. Further, the actual duration of the sessions will vary depending on student turnout and extent of student engagement. Remember, it is each student's responsibility to be familiar with materials posted online and to come prepared with specific questions for the instructor to discuss. Students can join the weekly check-in sessions via the Teams meeting link provided in Canvas. For instructions on how to join virtual check-in sessions via Teams, please see the file "*How to Join Teams Sessions & Watch Teams Session Recordings.pdf*" posted under "Getting Ready for MBA701" module in Canvas.

Discussion Forums
I have created two discussion boards in Canvas:
- Ask your Instructor Discussion Board
- What's Going on in Class Discussion Board

Ask your Instructor Discussion Board
Please use this discussion board to ask any general questions you may have about the class, so I can respond to them in public. Chances are that if you have a question, someone else has the same one!

What's Going on in Class Discussion Board
The purpose of this discussion board is to facilitate collaboration among students enrolled in the class. Please use this discussion board to communicate with your classmates. I encourage everyone to subscribe to this discussion forum. That way, you can easily reach out to your classmates (or easily be reached by other students). Please note that I do not participate in the "*What's Going on in Class?"* discussion board. The best way to reach me is via the "*Ask Your Instructor*" discussion board.

Excel Prep Course
This course relies on Microsoft Excel and some of its powerful add-ins to implement the data analysis techniques that will be covered in class. It is important for students to note that although Microsoft Excel will be used extensively throughout the course, the course is not designed to teach students how to use Excel. Rather, the course focuses on how to address business problems using various quantitative methods. Excel only serves as a tool to implement these data analysis methods. As such, students are expected to have working knowledge of Microsoft Excel prior to the start of the class. The Excel Prep course provided through the MBA office will help students assess their level of Excel proficiency. Students must achieve a score of 80% on each of the assigned proficiency quizzes in order to earn course credit for the Excel Course. Students may attempt the Excel Prep Quizzes as many times as needed before the due date posted on Canvas.
- To take the Excel Prep Course, please click on the *"(ORG) Excel 365 Prep Course (Graduate)"* app on your Canvas dashboard)

MindTap
Problem-Sets and Quizzes will be administered via MindTap, the online software accompanying the text. **Students are therefore required to purchase access to MindTap**. To access or register for MindTap, please see the link provided in Canvas. A video guide is also provided in Canvas.
Quizzes
There will be a quiz at the end of every module/topic area to test students' understanding of the concepts discussed in class. The objective of the quizzes is to reinforce key concepts discussed in class. The quizzes will be short and relatively simple. All quizzes will be administered via MindTap. Unless otherwise stated, quizzes will be due at 11:59 p.m. on the Sunday following the quiz assignment. At the end of the semester, the quiz with the lowest score will be dropped from students' final grades.

Homework Assignments
The course also includes homework assignments. The homework assignments could take the form of worked problem sets and/or essay questions. The problem sets provide an opportunity to practice the quantitative methods covered in class, and typically include complex computation problems. The essay questions provide an opportunity to reflect on the

managerial implications of the quantitative methods covered in class. Unless otherwise stated, all homework assignments will be due at 11:59 p.m. on the Sunday following the problem set assignment. At the end of the semester, the homework assignment with the lowest score will be dropped from students' final grades.

Important:
Please note that the instructor does not grant extensions nor provide opportunities for makeup quizzes/homework assignments. Students will earn a score of zero for each assignment that they fail to submit by the due date. If a technical problem prevents a student from submitting an assignment by the due date, the instructor may grant the student an opportunity to complete the assignment, **strictly on the condition that the student provides evidence of the technical problem (**e.g., a screenshot of the error message clearly showing the date and time the error occurred). It is the student's responsibility to ensure that he/she captures evidence of the technical error (including **date and time)** at the time that it occurs. Students are therefore advised to ensure that they have a reliable computer and internet access ready before attempting each assignment.

Grades
The point allocation and resulting letter grades for the course are detailed below:

Quizzes	35% of the overall grade
Homework Assignments	45% of the overall grade
Excel Prep Course	15% of the overall grade
Participation and Professionalism	5% of the overall grade
Total	100%

The required performance for each letter grade is given below. Note, that final grades averages are not rounded off to the next higher integer. For example, a 92.99 is an A-, not an A.

A	93-100 %
A-	90-92.99 %
B+	87-89.99 %
B	83-86.99 %
B-	80-82.99 %
C+	77-79.99 %
C	70-76.99 %
F	Below 70 %

GENERAL
Laptop/Computer Policy
This is a computer intensive class. Please ensure you have a working computer/laptop with you during the web sessions!

Some of the advanced Excel functions are not supported by Excel for Mac. As such, only PC Windows-based computers, or Mac Computers with Excel running on a Windows emulation program are appropriate for this course.

Virtual Office Hours
The Professor's virtual office hours are designed to assist students with individual issues that they may have with the class. The discussion board is the preferred forum to raise questions about understanding of class materials. Students are STRONGLY encouraged to contact the Professor by posting a message on the "Ask Your Instructor" discussion forum at the first sign of any problem or lack of understanding. Do not wait until it is too late! The instructor will respond to all questions posted on this forum within 24 hours. To avoid repeat questions, students are encouraged to review the discussion thread before posting questions.

Attendance Policy
Students are strongly encouraged to watch all videos, given the quantitative and hands-on nature of the course.

Exam/Assignment Make-Up Policy
This course does not require a mid-term nor a final exam. Final grades are based on quizzes, homework assignments, and participation/professional conduct in class. Submission of assignments may not be missed for the convenience of the student. The assignment due dates are published in the course schedule, and it is expected that students will schedule their other activities around these dates. If an assignment is to be missed due to an approved university absence, students must inform the Professor before the due date (if not possible, no later than 24 hours afterwards) and you must furnish the Professor with the original documentation (copies will not be accepted) why the absence should be excused. There will be no make-ups for missed assignments without a university approved excuse.

If excuse is approved, students are allowed to complete the assignment on the date agreed by the Professor and the student. An assignment, whether regularly scheduled or make-up, that is missed without an approved excuse will be assigned a grade of ZERO.

UNCG Academic Integrity Policy.
By submitting an assignment, each student is acknowledging their understanding and commitment to the Academic Integrity Policy on all major work for the course. Refer to the following URL: https://osrr.uncg.edu/academic-integrity/

Accommodations/ADA Statement.
UNCG seeks to comply fully with the Americans with Disabilities Act (ADA). Students requesting accommodations based on a disability must connect with the Office of Accessibility Resources and Services (OARS) in 215 Elliott University Center, (336)334-5440, https://oars.uncg.edu//

Religious Obligations Statement
UNCG respects and acknowledges the diverse religious beliefs and practices of our students. If you have any religious obligations that may affect your attendance, assignments, or participation in this course, please let the Professor know at the earliest opportunity. We are committed to working with you to make reasonable accommodations that allow you to fulfill your religious obligations while also engaging in the course material and activities. For more information more information on UNCG's Religious Obligations policy, visit: https://catalog.uncg.edu/academic-regulations-policies/university-policies/

Attendance Policy for University Sponsored Events
The University recognizes the importance of certain extra-curricular and co-curricular activities (including travel days) that enhance student learning, personal development, and professional growth. Instructors will excuse absences of students for participation in University-sponsored events under the following conditions:
1. Students who expect to miss one or more class meetings due to participation in University-sponsored activities should:
   - Notify the instructor(s) at least five class days in advance;
   - Arrange to complete all missed work in advance of the absence whenever practicable as judged by the instructor(s). When missed work cannot be completed in advance, the instructor(s) should provide students with the opportunity to make up the work. Students should be aware, however, that not all kinds of work can be made up. The instructor(s) have the discretion to deny make-up work if (i) alternative assignments place an unreasonable demand on the instructor, (ii) the original assignment is such that not completing it at the originally assigned time impedes student learning
   - Present relevant documentation of participation in a relevant University-sponsored activity to the instructor(s) upon request.
Students who expect to miss more than three class periods of any single course of any kind in a term or more than two consecutive meetings of a laboratory course in order to participate in University-sponsored activities should inform the instructor at the beginning of the course. In the case that the faculty member cannot make reasonable accommodations for make-up work, the student may appropriately be advised to drop the course.

*****HAVE A GREAT SEMESTER!…******