



THE UNIVERSITY of NORTH CAROLINA
GREENSBORO
Inspire. Change.

MBA 701.51
QUANTITATIVE ANALYSIS
FOR DECISION MAKING

FALL 2015: Bryan 205 Wed. 2:00 – 4:45 PM. 8/19/15 to 12/4/15

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Office hours:

Schedule Appointment

Walk-Ins:

*Email 3 preferred slots

Mon. 5:00-6:00 PM;

Mon. – Fri.

Tue. 11:00 AM - 12:00 PM

Thu. 1:00 PM – 2:00 PM

STUDENT LEARNING OBJECTIVES (SLOs)

This course develops quantitative methods and spreadsheet skills to support management practice and decision making including: hypothesis testing, confidence intervals, regression analysis, decision analysis, optimization and simulation modeling. The course goals are: 1) Demonstrate the wide range of situations in which quantitative analysis improves decision making and creates competitive advantages; 2) Develop students' analytical thinking skills. 3) Develop mastery of analysis using spreadsheet models, and effective communication of results.

Upon completing the course, the student should be able to:

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

COURSE MATERIALS

- *Business Analytics: Data Analysis and Decision Making. 5E.* S. Christian Albright & Wayne L. Winston. 2015. Cengage Learning.
- 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)*
- **Course Pack.** Digital and hard copies via **Harvard Business Publishing**. See link on Canvas.

COURSE SCHEDULE

A summary of lecture topics, assignment due dates, and exam dates is provided in Canvas under *Syllabus*. The schedule is tentative; some areas may take longer while others may finish more quickly. A summary of upcoming assignments and due dates is available in the *Assignments* section. Lectures, assignments, and exam are also seen under *Calendar*. To review details of any lecture, assignment, or exam, click on the hyperlink provided in the *Syllabus*, *Assignments*, or *Calendar* sections of Canvas.

COURSE POLICIES

1. Course Format. This course meets for one semester of instruction with time devoted to lecture, guided computing exercises, in-class lab assignments, and case discussion. Prior to class, complete the assigned reading and exercises. A detailed class schedule is available in Canvas under “Calendar.”
2. Bring your laptop to every class to follow along with demonstrations and participate in lab exercises. It is strongly recommended that you bring your textbook to every class to follow along. Bring case materials on days of case discussion. Tip: download all relevant files before class so that you have them available regardless of the UNCG Network status.
3. Course Website. The course website is <https://uncg.instructure.com/> (Canvas). Announcements, slides, spreadsheets, supplementary notes, assignments and grades will be posted to Canvas. Please confirm that you are receiving Canvas notifications in your inbox.
4. Non-class use of laptops, phones and tablets is prohibited and is a distraction for you and those around you. Please step outside to handle any urgent emails or phone calls. The instructor reserves the right to dismiss you from the course if you continue unapproved use of technology-enabled devices during class meetings after a warning.
5. Graded Assignments. Your course grade is comprised of two exams, two problem sets, one analysis project, two online tutorials, four case reports and case discussion according to the following weights. If necessary, changes to due dates below will be updated via Canvas.

Assignment Group	Due	Weight	Number
Problem Sets	Weekly. Tuesdays at 2 PM	30%	11 (drop lowest)
Exam 1	Part 1: 10/14, 2-3:30 PM Part 2: due 10/20, 2 PM	25%	2 parts
Exam 2	Part 1: 12/4, 3:30-6:30 PM Part 2: due 12/3, 11:59 PM	25%	2 parts
Case Reports	Case 1 due 10/9, 11:59 PM Case 2 due 11/24, 2 PM	10%	2
Participation & Case Discussion	Case Discussions: 10/7 & 11/18	6%	2
Excel Tutorial	8/28, 11:59 PM	4%	1
	Total	100%	

6. Grading Criteria.

Your final course average will determine your minimum course grade according to the following table. You may increase your course grade through good class participation.

Letter Grade	F	C	C+	B-	B	B+	A-	A
Minimum Numerical Score	<68	68	78	80	82	88	90	94

The following criteria will apply to the grading of assignments.

A: Work demonstrates clear understanding of the material under study, but also a superior ability to utilize that material in the assignment. All criteria are met. Work goes beyond the task and contains additional or outstanding features.

B: Work demonstrates a good understanding of the material, and utilizes the material well in the assignment to meet the criteria with few errors or omissions.

C: Work minimally demonstrates a basic or technical understanding of the material under study, and uses some relevant material in the assignment. Work may not address one or more criteria or may not accomplish what was asked.

F: Work is incomplete, inappropriate, or shows little or no comprehension of the material

7. Guidelines for Submitting Assignments. Completed assignments and exam files will be uploaded to Canvas. Your grade will be based upon (1) how well you conduct your analysis and (2) how professionally you communicate your results and ideas.

- **Submit your assignments as one MS Word or PDF document and one Excel workbook showing the steps of your analysis.**
- The report should summarize the analysis and solution for each problem including a brief overview of the task at hand.
- Reference in the body of your report the attached Excel workbook.
- Worksheets should be organized and annotated to readily communicate your results.
- Demonstrate clearly that you understand the principles and techniques being studied.
- Conclusions of the analysis should be explicitly stated. Briefly state the implications of your analysis and answer any questions asked in the statement of the problem.

8. Exams. Exams will be given at the dates and times listed in the above schedule.

- The exams are given in two parts: Part 1 is given in class on the date listed; Part 2 is a take home exam to be submitted by the date above.
- Both parts are open note, open book, open laptop, but no communication of any kind is allowed, either verbal, written, or electronic except with the instructor. Cell phones must be turned off and stowed away.
- You must notify the instructor at least 1 week prior if you have a conflict for an exam. Documented proof may be requested for a make-up exam to be scheduled.
- Requests to correct grading errors must be made within one week of return of grades.

9. Problem Sets. **Completing weekly problem sets is critical to developing the wide variety of quantitative skills covered during the class.** Weekly assignments help you keep pace in the course as future material builds on earlier material. Problem sets will be due most weeks at 2 PM on Tuesday. Details for each problem set are provided in Canvas. Each student must individually attempt and comprehend all of the problems, but students are encouraged to work together so long as each student submits his or her own individual work. Each student

should submit one report (MS Word or PDF) and one Excel workbook by the due date. Problem set reports should include clear answers to each of the questions listed. Reference in the report any work completed in an attached Excel file.

10. Case Report assignments are posted on Canvas. **You may work in 3-4 member teams for the case project reports, but all students should be individually prepared to discuss the case in class.** Each team will submit one report (MS Word or PDF) and one Excel workbook by the due date above. Case reports should begin with an executive summary of the key issues of the case, your methodology, and your recommendations. Describe your assumptions, methods, and answers to any case questions in the body of the report. Reference in the report any work completed in an attached Excel file.

Self-evaluation and peer evaluations for case assignments will be required and an individual's grade may be penalized if there is sufficient evidence he/she has not taken acceptable responsibility for the assignment or does not complete the evaluation. Case teams should discuss expectations at the beginning of the semester. All team members should take responsibility for making sure all parts of the assignment meet the agreed expectations.

11. Excel Refresher. Throughout the course students will use Microsoft Excel extensively as it is one of the most powerful and widely available tools for quantitative analysis across all functions and industries of business. The course itself, however, is not a course in how to use Microsoft Excel, but rather a course in how to analyze and interpret important business problems using quantitative analysis methods. **You are expected to begin the class with a foundation of core Excel skills already established and it is your responsibility to improve your Excel skills on your own outside of class** if necessary. The Excel Refresher will help you to assess your preparedness for using Excel in the course, build the necessary fundamental skills, and practice areas of weakness. In order to earn any credit for the assignment, you must obtain an 80% level of proficiency on the quiz, but you may take the assignment up to 3 times before the due date (no more than once every 24 hours).

12. Case Discussion and Class Participation includes being prepared for class, being involved in class discussion, and being engaged with the material outside of class. You are expected to be thoroughly prepared to discuss assigned readings and cases. You may be called upon at any time to share your perspective, work with other students, or respond to a question. You are encouraged to attend office hours and email the instructor with questions and insights. Participation is essential because: 1) discussion about a business situation is most fruitful with multiple perspectives; 2) articulating your thoughts and questions demands that you be clear and precise; 3) it promotes critical thinking and maximizes your learning efficiency. Effective communication and participation are vital business skills in any organization.

Participation in case discussion is an important part of your grade. The instructor assigns case discussion grades based on the quantity and quality of your participation. The quality of participation is measured by how well you explain your own critical analysis, contribute original ideas, make comparisons based on outside experience or readings, offer critical questions for the class to consider, respond to questions raised by others, and offer feedback to your teammates. If you plan to miss a case discussion, please notify the instructor one week in advance so that an appropriate make-up assignment may be issued.

13. UNCG Academic Integrity Policy. You are expected to be familiar with and abide by the UNCG Academic Integrity Policy. The Policy may be found at:

<http://sa.uncg.edu/handbook/academic-integrity-policy/>

On team assignments, each individual team members must take responsibility for all parts of the assignment or face a potential penalty. On individual assignments, you are not to share details of your work including computer files or printed output from your computer analysis. Prohibited actions also include working together side-by-side on separate computers. Specifically, on exams you are not to communicate with others in any way or share any of the exam materials with others. Violations of the Code will result in penalties ranging from an F on the assignment to an F in the course.

14. Bryan School Faculty Student Guidelines. The Bryan School faculty has approved a set of guidelines for the conduct of classes. They can be found at the following link

http://bae.uncg.edu/wp-content/uploads/2012/08/faculty_student_guidelines.pdf

Be professional.

Have integrity.

Treat the classroom like a business meeting.