

EAST CAROLINA UNIVERSITY
College of Business
Detailed Course Information

I. Course
OMGT 3223 Business Decision Modeling
II. Instructor & Textbook Information
<p>All instructors in the College of Business are either academically or professionally qualified to teach their courses. All graduate classes are taught by faculty with terminal degrees in the relevant field of study. Faculty who teach online courses also teach face-to-face campus courses.</p> <p>To review current textbook information visit the bookstore's website: http://epos2.sequoiars.com/ePOS?form=cat.html&cat=1&store=458 and follow the link at the bottom of the page.</p>
III. Expanded Course Description
<p>The goal of the course is to cover the quantitative methods used to formulate and solve problems in business, management, economics, and the social and life sciences using spreadsheets as the main development avenue.</p> <p>Pre-requisites for this class are: Minimum grade of C in MIS 2223, MATH 1066 or 2119 or 2121 or 2171, MATH 2283.</p>
IV. Course Objectives
<ul style="list-style-type: none">• The main objectives of this course are to introduce students to a statistical decision making framework, have them use that framework to identify and structure problems faced by every decision maker, and then to model and solve these problems using spreadsheet software. Each topic discussed will be accompanied by examples illustrating its application to the solution of real problems in different business disciplines (e.g., Finance, Marketing, IS, Management, etc.)• Students who successfully complete the course will develop skills and judgment in becoming more effective and efficient problem solvers. Practical, "real life", problems are addressed in the course. Techniques as well as mathematical models are presented for seeking solutions to these problems. The ability to produce professional quality reports, written and verbal. Use of spreadsheets will be a major vehicle for modeling.
V. Course Topics
<p>Listed below are the five topical areas that are covered in this course. Details for each topic are required coverage unless designated as optional. In addition to these modeling topics, students will be expected to formally evaluate model outputs and to then communicate the results. Evaluation and communication includes, as appropriate, comparing trade-offs, risks, returns and estimating the value of information, and communicating their meaning.</p> <ul style="list-style-type: none">• Spreadsheet Modeling Basics<ul style="list-style-type: none">Basic spreadsheet concepts and functionsBackground and process for spreadsheet modelingApplied spreadsheet modeling – Using basic functions

Optional: Goal Seek & curve fitting, Visual Basic Macro Recorder and introduction to Visual Basic in spreadsheets
Application of spreadsheets to Group Decision Support Systems

- Basics and Structure of Decision Analysis Problems
Components of decision analysis
Linking decision analysis components and spreadsheets
Development of payoff tables within spreadsheets
Quantifying uncertainty
Probability
Performing sensitivity analysis
Development of decision trees within spreadsheets
Optional: Multi-criteria decision making
- Regression Models for Good Decision Making
Graphs and tables
Summary measures and statistics
Development of multiple regression models within spreadsheets
Optional: Linear regression review and Non-linear regression
- Optimization Models
Development of linear optimization models using Solver and/or spreadsheet templates
Optional: Graphical linear programming review and Non-linear optimization models
- Simulation Models
Simulation background – why use simulation?
Random number generation – other basics of simulation models
Probability distributions and expected value
Development of spreadsheet simulation models (event and/or time driven)
Simulation's role in and effect on managerial decision making
- Optional topics
Hypothesis testing, Queuing methods, Neural network models, and Expert system models

VI. Required Coursework

Exact requirements may vary, but typically, to successfully complete this course, the student will be required to complete three exams, a battery of quizzes, at least two homework assignments, at least one case study, and participate in discussion forums including group assignments.

VII. Course Communication & Interaction

The course makes use of discussion forums and group assignments. Students are expected to check their email for weekly email correspondence and peruse the course website for announcements and informational postings related to the course (e.g., homework solution sets posted after the homework has been turned in).

VIII. Computer/Technical Requirements Additional Notes/Comments

The university recommends specific technology when taking an online class. These recommendations can be found at: <http://www.ecu.edu/ace> . All online courses require ready access to the Internet and a suitable personal computer.

In addition to the university requirements this class requires:

- a PC that supports Office and Windows, preferably 2000 and XP or 2003 is recommended

- reliable Internet access (cable or DSL is recommended due to bandwidth size of video lectures)

IX. Additional Information

Disabilities: ECU seeks to comply fully with the Americans with Disabilities Act (ADA). The Department for Disability Support Services adapts the generalized services to the specialized needs of individuals with disabilities. Students requesting accommodations based on a disability must be registered with the Department for Disability Support Services located in Slay 138 (252) 737-1016 (Voice/TTY). Additional program information is available at <http://www.ecu.edu/cs-studentlife/dss/>

Calendar: Online classes typically follow the standard ECU [academic calendar](#) for the semester in which they are taken.

X. Additional Notes/Comments

ECU maintains accreditation with [The Association to Advance Collegiate Schools of Business \(AACSB\)](#). To comply with the constant quality improvement objectives of the AACSB, adjustments are made to all course requirements. Contact the instructor for this class the semester you plan to take it to obtain detailed information.

This course is a great early course in the undergraduate business program because in it students learn to write-up cases and become proficient in developing and using spreadsheets, spreadsheet add-ins, and in using online communication tools like Discussion Forums and Chat.