

Case Studies in Management Science

*Cases and applications of group-oriented operations research
for real-world management applications.*

22 QA 786-001, 4 Graduate Credit Hours
Spring Quarter, 2007 – 2008
Mondays and Wednesdays, 4:30 P.M. – 5:45 P.M.
214 Carl H. Lindner Hall

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Office Hours: Tuesdays and Thursdays, 9:30 A.M. – 11:00 A.M., and by
appointment.

Course Prerequisites QA750 “*Optimization Modeling*”, QA760 “*Stochastic Modeling*”, QA771 “*Simulation Modeling*”, or permission of the instructor.

Course Objectives

- To develop the application of operations research/management science, including:
- a.* Ability to thoroughly describe, analyze, and model real-world problems.
 - b.* Cooperation with peers.
 - c.* Integration of previously learned material from other courses.
 - d.* Communication with clients who may have markedly different vocabularies.
 - e.* Written and verbal presentation of all materials.

Grading Policy

Grades will be determined by:

- I.* Class attendance and participation (3 Hours Contact Time)
- II.* Oral and written presentations.
- III.* Outside of Class Group Meetings with Group feedback.
- IV.* Professional Visits with the Client and Client feedback. (1 Hour Contact Time)
- V.* Instructor evaluation.

Important Message

You represent the Department of Quantitative Analysis and Operations Management, the College of Business, and the University of Cincinnati to the business community and need to commit yourself to the obligations of the course. It is very important to maintain a high level of professionalism, including appropriate dress and courteous behavior during discussions with clients.

Information Resources

Extensive use of ***Blackboard Learning and Community Portal System TM Version 7*** will be employed for students to access documents such as PowerPoint slides, the syllabus, or assignments, and for communication such as announcements and postings for office hours. Email communication will be maintained through Blackboard and this requires that you keep a functioning email address registered, a setting you control. You may access Blackboard at: <http://blackboard.uc.edu/> and the ***Contact Support Team*** for Blackboard may be accessed at the Blackboard Technology Resources Center, 410 Zimmer Hall, Blackboard@UC.edu, (513)556-1602.

Course Procedures

For quarters when several case scenarios are available, you may have the opportunity to request a particular one, and you will have the opportunity to ask any questions for each. You will find out the group membership and the case you are assigned to the following day. For some quarters, the case project you are working on may be a fixed and known singular client. Among activities that you will want to include in your case are:

- Thorough description of the case scenario.
- Client visit(s) for discovery – questions and answers.
- Brainstorming – group with client and group only.
- Research. Have similar applications been documented? Have methodologies under consideration for the analysis been published?
- Group oral presentations of proposals with class feedback.
- Update presentations every other week.
- Written proposals submitted and presented.

Clients

Keep in mind that the clients are taking time from their busy schedules to participate in this problem solving effort. It is our obligation to give forethought to the problem well before any meetings with the client. This may mean finding appropriate literature or just thinking about what you need to know to understand the problem. The client is not going to present a lecture. Although we may contact the client several times after the initial visit to the class, it would be unfair to repeat questions several times.

Case Proposal

The proposal written for the client should include:

- A thorough qualitative description of the organization, its background, and objectives.
- Identify the key decision makers.
- Describe and display any models of any type that are likely to be useful. Note that there is no need for a mathematical model but they are often appropriate.
- Determine the necessary data requirements.
- Implementation considerations.
- Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis.

Oral Reports

Oral reports may be required for the proposal, biweekly updates, and final report.

- It is very important to prepare carefully for all oral presentations with consideration for:
 - a. Appropriate audio/visual aids.
 - b. Verbal presentation skills.
 - c. Appropriate handouts.
- Everyone throughout the term is expected to participate at least once in the oral presentation(s).

Final Report

The final report for the client should include:

- 1-2 page Executive Summary
- Background information and literature review – essentially include all information from the Proposal.
- Analysis and models employed. Show any mathematical development or equations in an appendix.
- Results obtained and recommended actions.
- Any need for further analysis.
- Implementation considerations including a cost analysis for implementing suggested actions.
- References, appendices, computer programs, data, and any other supporting documents.

Notification of Grades

Grades will not be given over email or telephone for any circumstances nor will they be posted. Secretaries are not authorized to release any grades. I do not release final grades personally to you if you find me in my office. The only way to get your final grade is through an official UC process such as the UC on-line computer services.

Withdrawal Policy

The university policy will be followed regarding the awarding of a W grade, i.e., the W grade will be given only if a student withdraws before the officially stated university deadline. According to UC policy you may withdraw until **5:00 P.M., Tuesday, May 22, 2008**. After this date, the W grade is no longer an option.

Absences

While absences from class are extremely discouraged, sometimes exceptional circumstances arise that require missing a class. In the event that you do miss a class, it is the student's responsibility to contact someone in the class, a graduate teaching assistant, or the professor to obtain handouts, additional course policies and procedures, homework assignments, and to determine the material that was covered. Please note that the teaching assistants or professor will be pleased to assist you in identifying any material that you have missed or to answer specific questions regarding missed materials. However, a repeat or detailed synopsis of the missed lecture will not be performed.

Special Needs Policy and Disability Services

If you have any special needs related to your participation in this course, including identified visual impairment, hearing impairment, physical impairment, communication disorder, and/or specific learning disability that may influence your performance in this course, you should meet with the instructor to arrange for reasonable provisions to ensure an equitable opportunity to meet all the requirements of this course. At the discretion of the instructor, some accommodations may require prior approval by Disability Services.

Some students utilize the resources available from Disability Services. If this results in any changes of usual procedures for any examination, project, or homework, please notify the professor and process the required paperwork immediately. A copy of the paperwork must be given to the professor. For all such cases, the end of the second week of the quarter is the deadline for processing paperwork from Disability Services. If paperwork from Disability Services is pending, please discuss the situation with the Professor before the end of the second week of the quarter.

Incomplete Policy

The university policy will be followed regarding the awarding of an I grade, i.e., the I grade will be given only if a student is unable to complete the course and has an excused absence from the final. Students receiving an I grade must contact Dr. Rogers during the first week of the immediately following quarter to arrange a method for completing the course. If you will not be able to schedule a meeting during the first week of the immediately following quarter then prior arrangements should be made regarding when you will be able to meet at the time an I grade is requested. Unless an acceptable reason exists to postpone completing the course during the next academic quarter, all work necessary to change an I grade must be finished during the immediately following quarter or your grade will be converted to an F.

Auditing and Pass/Fail Options

Auditing or taking the course with a Pass/Fail option will not be options for this course.

Grade Improvement

Grades will be earned for the required work only. No additional work will be accepted for "extra credit" or "grade improvement".

Academic Integrity Policy

The University Rules, including the *Student Code of Conduct*, and other documented policies of the department, college, and university related to academic integrity will be enforced. Any violation of these regulations, including acts of plagiarism or cheating, will be dealt with on an individual basis according to the severity of the misconduct. Please refer to the *Student Code of Conduct* at <http://www.uc.edu/studentlife/conduct/conduct.html>.

It is expected and encouraged that students should discuss readings, homework assignments, and case reports with each other unless otherwise specified. When doing homework and cases, try on your own, ask for help from anyone, and get the work completed. However, getting an exercise or case worked through to a solution is not necessarily learning. Make sure you know what the problem is, what the solution is, and what the solution implies. Merely copying someone's work will not guarantee this.

Classroom examinations will be "closed-book" and, along with any take-home examinations, are to be the sole work of individual students. A grade of F for the course will be assigned to anyone receiving assistance or assisting another during any in-class or take-home examinations. Furthermore, any other academic misconduct during an in-class or take-home examination will result in immediate dismissal and a course grade of F. Academic misconduct for an in-class examination includes, but is not limited to, inappropriate behaviors such as: talking; passing any physical thing(s) such as notes, calculators, or writing devices; scanning the room and your classmates and potentially their work; peering at another individual and/or their work; communication of any type with a classmate; and behavior disruptive to the examination. Further disciplinary action for any academic misconduct may be taken that could result in dismissal from the university.

A grade of F for the course will be given to anyone receiving assistance from or assisting another individual or group for assignments for which the work is to be that of each individual student or group. Integrity of take-home assignments is of paramount importance. Should there be an indication that any take-home assignment or examination is to be performed by an individual or limited number of participants, violating this policy will be determined as academic misconduct and a grade of F will be assigned for the course. Plagiarism or representing someone else's work as your own will result in a course grade of F. Further disciplinary action for any academic misconduct mentioned in this section may be taken that could result in dismissal from the university.

Tentative Course Outline

<u>Day</u>	<u>Activity</u>
3/31	Introduction to Kroger Case – Doug Meiser, Leigh Anne Brown, and Heinrich Stander
4/2	Introduction to Landrum and Brown Case – Doug Goldberg Introduction to L&B. Overview of Airport QA Applications. Airport Client Brief – Statement of Problem
4/7	“Introduction to Operations Research” “I’m a Motivational Speaker”
4/9	Team Updates and Brainstorming Session
4/14	L&B Team Presentation of Proposed Methodology, Statement of Objectives, Data Requirements and Schedule – L&B Representative will attend
4/16	Team Updates and Brainstorming Session
4/21	Kroger Team Proposal Presentation
4/23	Team Updates and Brainstorming Session
4/28	L&B Team Presentation of Data Analysis – L&B Representative will attend.
4/30	Team Updates and Brainstorming Session
5/5	Kroger Team Presentation of Initial Findings
5/7	Team Updates and Brainstorming Session
5/12	Team Updates and Brainstorming Session
5/14	Kroger Team Presentation of Alternative Solutions/Preliminary Findings
5/19	L&B Team Presentation of Alternative Solutions/Preliminary Findings – L&B representative will attend.
5/21	Team Updates and Brainstorming Session
5/26	Memorial Day – UC Closed
5/28	Team Updates and Brainstorming Session
6/2	Kroger Team Final Presentation Practice
6/4	4:30 P.M. – L&B Team Final Presentation Practice 6:00 P.M. – 110 Lindner Hall – Cincinnati/Dayton INFORMS Chapter Reception and Meeting 7:00 P.M. – 112 Lindner Hall – E. Leonard Arnoff Memorial Lecture on the Practice of Management Science – Michael Trick 8:00 P.M. – Lindner Hall Lobby – Reception
6/9	2:15 P.M. – 4:15 P.M. is official Final Exam Slot. Kroger Team Final Presentation L&B Team Presentation of Final Recommendations to Airport Board