

Maryland in Europe Graduate Programs
Bowie State University

Quantitative Methods for Decision Making
MGMT 585

9 June - 31 July 2003

Instructor: Dr. Ken J. Kovach

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Consultation: Before class or upon appointment

Course Description: Acquaints students with the quantitative techniques commonly used in the decision-making process. Sample topics include concepts of decision-making and decision analysis, linear programming, sensitivity analysis, transportation and assignment problems, forecasting and time-series analysis, inventory concepts, PERT, and mathematical simulation. Prerequisite: College algebra and either undergraduate statistics or MGMT 584, or permission of the program director.

Course Objectives: Upon completion of this course, participants should have an understanding of:

1. problem definition and orientation;
2. a structured approach to data analysis in decision-making;
3. skills in model development, solutions, testing, and validation;
4. business applications such as forecasting, production scheduling, inventory control, capital budgeting, plant location, quality control, and investment options; and
5. the use of statistics in business research.

Required Text:

Anderson, D.R., Sweeney, D. J., & Williams, T.A. (2001). *Quantitative methods for business*. (8th ed.). St. Paul, MN: West Publishing Company. ISBN 0-324-02133

Supplemental Material-software: Anderson, D. R., Sweeney, D. J., Williams, T. A.; Joseph, D.A. (1999). *The management scientist* (5.0). St. Paul, MN: West Publishing Company.

Note: While the software is not required, it is a great opportunity to use current programs for the text problems and real-world applications.

Credit Hours: Three (3)

Meetings: Term 5 2002/2003 (Tues & Thurs-1930-2230 hrs)

Location: Harrogate

Grading:

Participation	- 30 points	A = 90 -100 points
Midterm exam	- 35 "	B = 80 - 89 "
		C = 70 - 79 "
Final exam	- 35 "	F = below 70 "
Total	- 100 points	

Participation: Student participation includes active communication, positive attitude towards learning, completion of assigned tasks, and communication. Case study analysis will be assigned by the instructor. Software programs may be used for chapter work; however, no software will be allowed for the exams. For each week, readings, problem work, case work, and other taskings may be identified in the course schedule or by the instructor. Due dates for individual work will be established. Participation points will be assessed based on active participation and submission of reports on time. Total value = 30 points.

Examinations: A midterm examination will include course material involving Chapters 1 thru 6. The exam will be an open book exam, valued at 35 points. UMUC policies for exams will be closely followed, as applicable. Student work should be shown on the exam to account for full credit. Even though the right answer may not be given, credit for accurate work will be allowed. A final exam (Chapters 7, 8, 9, 10, 12, and 13) will be similarly applied (35 points). The exams will consist of short essays and work problems. Some work problems may be partially answered: the student will be required to complete the answers. The midterm will be during the 9th class while the final will be scheduled during the last class.

Teaching Method: This course will be conducted primarily through f2f instruction. Powerpoint files may be obtained by visiting the instructor's UMUC web page and downloading files under MGMT 585. Problem solving, student reports and case analysis will be used to facilitate learning. Adjustments to the syllabus may be made as required, and notification will be made to students as soon as known. While statistics, per se, may be complex, the major concern is to have each student understand what managerial statistics are and how they can be used in making business and personal decisions.

Class Policies: The main concern is communications! It is very important that you communicate any concerns to the instructor at the earliest. During these troubled times, you may be away from the course for various periods of time. If you cannot communicate this, have a partner or friend notify the instructor or the UMUC field representative of any unexpected absences. At the least, try to keep the instructor informed. You will also be expected to read the assigned chapters, practice the problems, review the cases assigned, and complete required work at the established due dates. The instructor reserves the right to alter the planned schedule when necessary for class benefit. Notice will be given prior to any requirement. Again, communications is the bottom line! Incompletes are not automatic. Students having good reason to extend the course (personal leave, vacations, and so forth are not good reasons) may request an extension to the instructor prior to the end of the course. Incompletes will not be assigned after the course is over. Academic integrity and code of civility will be expected under UMUC rules.

Course Schedule

The following class schedule will be general in nature in order to allow you to focus on the required material for each session. You are required to read the assigned chapters for the week, review the end-of-chapter even numbered problems and chapter self-tests, and answer specific odd-numbered problems. Note: Review the Appendices in the text for self-test and even-numbered correct answers. Case studies will also be assigned for specific classes.

Week	Session Dates	Topics
1	10/12 June	Introduction/Orientation Ch 1

Assignments:

Read Introduction and review all course materials.
Review the Management Scientist program and pages 24-26 of the text. Read Ch 1 (course text).
Practice the even-numbered problems and Self-Test items-answers in the back of the text. Provide a brief bio of yourself.
Work Ch 1 problems 1, 3, 5, 7, 13, & 17 and prepare to discuss these in class. Do this procedure for all work problems.
Review MGMT 585 powerpoint files in the instructor's faculty web page (<http://faculty.ed.umuc.edu/~kkovach>).

Objectives:

1. Comprehend the course objectives and learning outcomes.
2. Discuss research hypothesis and methodology.
3. Become familiar with key statistical terms.
4. Demonstrate knowledge through assigned work problems.
5. Understand the course requirements.
6. Demonstrate knowledge through completion of assignments.
7. Introduce student participants.

2	17/19 June	Chs 2 & 3
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Assignments:

Read Chapters 2 & 3 (text). Practice even-numbered problems and the Self-Tests. Work Ch 2 problems 3, 5, 9, 11, & 15.
Work Ch 3 problems 5, 7, 11, 19, & 25.
Review powerpoint presentation files.

Objectives:

1. Explain probability concepts.
2. Discuss the concepts of probability distributions and random variables.
3. Demonstrate subject knowledge by problem completion.
4. Develop review and application techniques.

3	24/26 June	Chs 4 & 5
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Assignments:

Read Chapters 4 & 5. Practice even-numbered problems and Self-Tests. Work Ch 4 problems 9, 13, 21, & 23.
Work Ch 5 problems 3 & 9.

5. Demonstrate completion of critical path and project completion time.

8 29/31 JulyCh 13

Final Examination

Assignments:

Read Ch 13 and review practice and self-test problems. Work problems 9 and 19. Review chapters covered since midterm for final examination. Complete all remaining tasks required.

Objectives:

1. Discuss inventory models for independent demand.
2. Determine optimal solution of inventory ordering.
3. Complete all course work.
4. Assess student knowledge and performance.

Instructor Short Bio

Ken J. Kovach has been a faculty member for the University of Maryland since 1993 and also has taught research, statistics, and managerial courses for several other universities. Since 1981, he has taught 400+ graduate/undergrad courses in a variety of subjects. Ken previously served 23 years in the U.S. Air Force, first enlisted and then commissioned, in logistics, plans, operations, transportation management, aerial delivery, command staff, and airborne command positions.

Within distance education, he has continually taught over the internet since 1995 after developing three university programs for Embry-Riddle and one business management certificate program for the National Business Aviation Association. He has developed research guidelines for various universities and serves mainly as the chair on graduate research project committees. Ken is active in various professional associations, to include the American Counseling Association, American Statistical Association, and Transportation Administration. His recent publication was Corporate Aviation Management.

Ken's bachelor of science was from the University of Tennessee in business, master of arts in guidance and counseling from Wayne State University, and doctorate in higher education from Nova University. He has a British wife, Sally, and two daughters, Katie and Chris.