MA2210 Syllabus

Instructor: William J. Martin
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  11-12 MR, or by appointment
    . . . or just stop by

MA 2210 – D01-D02, D Term 2012
Math. Methods in Decision Making
Text: "An Introduction to Management
Science" (edition 13e), by
Anderson, Sweeney, Williams, Camm, Martin
Meetings: 10-10:50 MTRF, SH309
PLA: Ryan Wormald

The goal of this course is to introduce mathematical tools used in decision making. Thus the course consists of a brief survey of an area known as "Operations Research" or "Management Science". The topics covered range from linear programming to network models to decision trees to queueing models. Familiarity with these powerful tools of analysis and cost-efficiency gives a competitive edge to engineers, scientists and managers in the complex world of business. Students will be expected to master a wide range of mathematical techniques which have proven effectiveness in a vast array of areas of application.

TERM SCHEDULE

Here is a rough outline of what we will cover in the 28 lecture periods:

Mar. 12 to Mar. 16	*Linear Programming, Simplex*	Chapters 2 & 17
Mar. 19 to Mar. 23	*Sensitivity, Applications*	Chap. 3 & 4
Mar. 26 to Mar. 30	*ILP and Networks*	Chap. 6 & 7
Apr. 2 to Apr. 6	*Networks, Assignment, PERT/CPM*	Chap. 9
Apr. 9 to Apr. 13	*Queueing Theory*	Chap. 11
Apr. 17 to Apr. 20	*Decision Trees*	Chap. 13
Apr. 23 to Apr. 27	*Markov Processes*	Chap. 16
Apr. 30 to May 1	*Wrap Up*	as needed

Specific reading assignments will be given weekly. These amount to roughly 40 pages of reading expected of the student each week.

GRADES

A: 100 % – 88 %;   **B**: 87.99 % – 74 %;   **C**: 73.99 % – 60 %

GRADING SCHEME

Homework (best 5 out of 7 assignments):	25 %
3 Tests (Mar. 30, Apr. 13, May 1):	75 %

Assignments will be due at 4:00pm on the following dates: **Mar. 16**, **Mar. 22**, **Mar. 29**, **Apr. 5**, **Apr. 12**, **Apr. 20**, **Apr. 26**. The staff will provide a bin for these assignments in the Mathematical Sciences Department Office, SH108.

No late assignments will be accepted for credit.

There will be **no** make-up tests. All students are expected to attend all tests.

ACADEMIC HONESTY

Each student is expected to familiarize him/herself with WPI's Academic Honesty policies which can be found at

$$\texttt{http://www.wpi.edu/offices/policies/honesty}$$

All acts of fabrication, plagiarism, cheating, and facilitation will be prosecuted according to the university's policy. If you are ever unsure as to whether your intended actions are considered academically honest or not, please see Professor Martin.

STUDENTS WITH DISABILITIES

Students with disabilities who believe that they may need accommodations in this class are encouraged to contact the Disability Services Office (DSO) as soon as possible to ensure that such accommodations are implemented in a timely fashion. The DSO is located in the Student Development and Counseling Center and the phone number is 508-831-4908, e-mail is `DSO@WPI.EDU`

If you are eligible for course adaptations or accommodations because of a disability (whether or not you choose to use these accomodations), or if you have medical information that I should know about, please make an appointment with me immediately to discuss these matters.

INFORMATION ON THE WEB

The course web page is

$$\texttt{http://users.wpi.edu/\~{}martin/TEACHING/current.html}$$