

## MA 2210: Mathematical Methods in Decision Making D term 2016

**Professor:** Suzanne L. Weekes  
**Email:** [sweekes@wpi.edu](mailto:sweekes@wpi.edu)  
**Office:** 202D Stratton Hall, WPI

**Lectures:** MTRF 10:00 – 10:50 Stratton Hall 309

**Conference:** W 10:00 – 10:50 Stratton Hall 202      **Teaching Assistant:** Corre Steele  
[clsteele@wpi.edu](mailto:clsteele@wpi.edu)

**Office Hours:** **Prof. Weekes** Mon, Thurs 1:30 – 3:00 pm in SH 202D, and by appointment  
**Corre Steele** Wed, Fri 1:30 – 2:30 pm in Student Math Lounge 0<sup>th</sup> floor Stratton Hall

**Text:** *Introductory Operations Research*, by F. Hillier & G. Lieberman ISBN 978-0-07-352345-3

**Web Page:** Information about the course will be maintained on the course web page at  
<http://www.wpi.edu/~sweekes/MA2210>

**Lecture & HW Schedule** [http://users.wpi.edu/~sweekes/MA2210/Schedule\\_D2016.html](http://users.wpi.edu/~sweekes/MA2210/Schedule_D2016.html)

**Overview:** This course introduces students to the principles of decision theory as applied to the planning, design and management of complex projects. It will be useful to students in all areas of engineering, actuarial mathematics as well as those in such interdisciplinary areas as environmental studies. It emphasizes quantitative, analytic approaches to decision making using the tools of applied mathematics, operations research, probability and computations. Topics covered include: the systems approach, mathematical modeling, optimization and decision analyses. Case studies from various areas of engineering or actuarial mathematics are used to illustrate applications of the materials covered in this course.

Recommended background: **MA 1024**

Suggested background: **Familiarity with vectors and matrices**

**Grading:** The final grades will be computed using:

**HW/Projects** 40%

**Exam I** 30%

**Exam II** 30%

**Homework:** Homework assignments will be posted on the course website. Each homework assignment is due at the beginning of lecture on the due date. [http://users.wpi.edu/~sweekes/MA2210/Schedule\\_D2016.html](http://users.wpi.edu/~sweekes/MA2210/Schedule_D2016.html)

Late assignments without prior consent of the professor will not be accepted and will receive a grade of 0. Feel free to turn in homework early, if you know that you will not be able to

attend a class session. Extensions will be granted only in the event of unforeseen emergencies or in extenuating situations that you discuss with the professor well in advance. Your work should be very legible and done neatly. If the work is not presentable, and is illegible, you will not receive credit for it. Please staple the sheets of your assignment together.

**Exams:** There will be two in-class exams. Students are expected to attend every lecture and, hence, be able to take the exams on the dates on which they are scheduled.

**Make-up exams** are essentially not given and will only be considered in the event of a documented emergency.

**Absence from Class:**

If you need to miss class for some reason, e.g. participating in a competition, or religious observance, please discuss this with me at the beginning of the term.

**Academic Integrity:**

Please read the Student Guide to Academic Integrity at WPI <http://www.wpi.edu/offices/policies/honesty> and all its pages. For example, the link "What Constitutes Academic Dishonesty?" gives some examples of academic dishonesty; i.e. acts that interfere with the process of evaluation by misrepresentation of the relation between the work being evaluated (or the resulting evaluation) and the student's actual state of knowledge.

Each student must familiarize himself/herself with WPI's Academic Honesty Policy. All suspected cases of dishonesty will be fully investigated.

Ask Prof. Weekes if you are in any way unsure whether your proposed actions/collaborations will be considered academically honest or not.

**Students with Disabilities:**

If you need course adaptations or accommodations because of a disability, or if you have medical information to share with me that may impact your performance or participation in this course, please make an appointment with me as soon as possible.

If you have approved accommodations, please go to the Exam Proctoring Center (EPC) in Morgan Hall to pick up Letters of Accommodation.

If you have not already done so, students with disabilities who need to utilize accommodations in this class are encouraged to contact the Office of Disability Services (ODS) as soon as possible to ensure that such accommodations are implemented in a timely fashion. This office can be contacted via email: [DisabilityServices@wpi.edu](mailto:DisabilityServices@wpi.edu), via phone: (508) 831-4908, or in person: 137 or 124 Daniels Hall.