

GE 450 Syllabus – Fall 2016

In this course we will learn some important concepts that will enable engineers to make sound decisions in professional and personal lives. The topics under consideration are: Multi-criteria decision making, Group decision making, Decision tree modeling, Game theory, and Risk management. Within each of these topics we will cover various methods and tools, which may be applied to technical decisions that must be made when present or future states of nature are uncertain, and multiple attributes are considered. These methods take into account the decision maker's assessment of risk and uncertainty and his or her attitude towards risk.

Instructor

Ketan Date

date2@illinois.edu

8 Transportation Building

Office hours: Tuesdays and Thursdays 11 am to 12 pm or by appointment

TA

Siyao Luan

luan1@illinois.edu

205 Transportation Building

Office hours: Wednesdays and Fridays 11 am to 12 pm or by appointment

Lecture

Day: Tuesdays and Thursdays

Time: 9.30 am to 10.50 am

Location: 253 MEB

Required Text

Engineering Decision Making and Risk Management by Jeffrey W. Herrmann

Additional Reading

Foundations of Decision Analysis by Ronald Howard and Ali Abbas.

The instructor also will assign some additional reading material before each class.

Course Website

Compass2g will be used to post important announcements, documents, and homework assignments. It can be accessed at <https://compass2g.illinois.edu> using your NetID and

password. Grades will also be posted on Compass. Please check it regularly. We will also use the Discussion Forum feature of Compass2g for Q&A about the course content.

Class Sessions

Class sessions include a mix of lecture and discussion. There will be several in-class assignments and surprise quizzes. There will not be any make-up quizzes; however, the lowest class assignment grade will be dropped from grade calculations.

Homework Assignments

Homework will be assigned throughout the semester in weekly/bi-weekly fashion. Late submissions will not be accepted under any circumstances; however, the lowest grade will be dropped from grade calculations.

Exams

There will be two midterms and one final exam. See the course calendar for more information.

Class Project

Students taking an additional 4th credit are required to complete a class project. The class project will involve reading latest journal articles on an interesting decision problem/application; writing a summary report including literature review and possible extensions/improvements; and a 15 minute presentation in front of the class. Students are free to explore the decision analysis literature for a suitable topic. See calendar for more details.

Grading

10%	In-class exercises and quizzes
20%	Homework
20%	Exam # 1
20%	Exam # 2
30%	Final Exam

A+ 97-100%	A 93-96%	A- 89-92%
B+ 88-91%	B 84-87%	B- 81-84%
C+ 77-80%	C 73-76%	C- 70-73%

Academic Integrity

We will follow university regulations for academic integrity: (<http://admin.illinois.edu/policy/code/>). Students who violate academic integrity will receive a "0" on that exam or assignment and may receive an "F" grade in the course. Discussing a homework assignment in a group is encouraged as long as each student writes the answer in his/her own words. Plagiarism is considered a serious violation of academic integrity and will be dealt with utmost severity.