Course Guide to GE 450  
Decision Analysis I

*Making good decisions is man’s most difficult and crucial task. It lies at the heart of all human problems.*

~M. Asimow, 1962

We have all made decisions in the past, but we may not have considered carefully why or how a decision was made. This course will give you an introduction to decision analysis, the field of normative decision-making which brings clarity of action about the choices we ought to make.

Throughout the course, we will develop rules of thought that will transform complex decisions into simpler decision situations where the course of action is clear. We will create powerful distinctions that will improve your personal decision-making and enable you to help yourself and others with their own decisions.

**Instructor:**

Andrea Hupman  
Hupman1@illinois.edu  
Transportation Building 205  
Office hours: Wed. 2 – 4 pm, and by appointment

**Teaching Assistant**

TBA  
TBA  
TBA  
TBA

**Lecture**

Day: Tuesdays and Thursdays  
Time: 2:00 p.m. to 3:20 p.m.  
Location: 253 Mechanical Engineering Building

**Required Course Tools**

- **i>clicker:** Register your i>clicker on the course Compass 2g site by September 11th. See “Using i>clickers” on page 6 for more information.
Recommended Text

*Foundations of Decision Analysis Manuscript*, by Ronald A. Howard and Ali E. Abbas. The manuscript is in the final stages of becoming a text book to be published by Prentice Hall. The manuscript is available through the Illini Union Bookstore.

Course Web Site

Compass2g will be used to post important announcements, documents, and homework assignments. It can be accessed at [https://compass2g.illinois.edu](https://compass2g.illinois.edu) using your NetID and password. Grades will also be posted on Compass. Please check it regularly.

Class Sessions

Class sessions include a mix of lecture, discussion, demonstration, and directed inquiry. The course material has been carefully developed to demonstrate lessons that have been learned through the practice of teaching decision analysis to both executives as well as undergraduate and graduate students. Try to appreciate the philosophy and depth of what is presented in class, even if it may appear deceptively simple at times.

Participation in class will greatly enhance your and your classmates’ learning. Participation will be stimulated through the use of i>clicker questions, but participation goes well beyond this. You are encouraged to ask questions and contribute your thoughts in class. Please say your name before asking or answering a question in class; this will help me get to know you throughout the semester.

Course Objectives

The study of decision analysis is beneficial in a variety of ways, both personal and professional. In pursuit of intellectual growth and development and mastery of the fundamental concepts of decision analysis, students will:

- Explain key decision analytic concepts and distinguish between similar concepts.
- Analyze the elements of decision quality for real-life situations.
- Construct spreadsheet models to derive insights and help gain clarity of action.
- Formulate and conduct analyses of case-based decision situations.
- Create and justify recommendations for decision scenarios based on the fundamental principles of decision analysis.
Registration and Wait List

Historically, the registration for this class has filled quickly. A waiting list is maintained by the Department of Industrial and Enterprise Systems Engineering at:

https://my.ise.illinois.edu/undergraduate/waitlist/

If you are not yet registered for the course, check seat availability add your name to this wait list if the course is full. Note: the instructor cannot add additional seats to the course.

Grading and Assignments

Participation, Attendance, and In-Class Assignments

Students who attend class and participate will gain the most from this course. Class attendance and participation is therefore required. Participation is monitored by both participation in discussions and by in-class assignments that include i>clicker questions.

Your responses to i>clicker questions will result in a daily i>clicker score. Some i>clicker questions will be graded on correctness; others will be graded only for participation. Your 3 lowest i>clicker scores will be dropped from your grade.

See the “Using i>clickers” section on page 6 for details about registering and maintaining your i>clicker.

Homework Assignments

Homework will be assigned throughout the semester. The format of the homework will vary and will include reading, definitions, multiple choice questions, quantitative problems, reflection, and spreadsheet models. Detailed instructions for each homework will be provided at the time it is assigned.

Case Studies

Students will form groups of 3-4 in which to complete the case study assignments. Each case assignment is an opportunity to see larger sized problems than those encountered in the homework assignments. Many of these cases will require spreadsheet modeling. They will also require a report detailing your analysis, findings, and recommendations.

Exams

There will be one midterm exam and one final exam.

- Midterm Exam: Thursday, October 16, in class
- Final Exam: TBD
Extra Unit Requirement

Students may register for an optional 4\textsuperscript{th} credit hour. Student electing to take the course for 4 credit hours are required to complete a course project. The extra unit project will consist of 10\% of the final grade. The weighted sum percentages reported in the “Grading” section will each be reduced by 10\% to accommodate the extra unit project.

There are two options for the project:

1. Create a case.
   Create a case study. Then, conduct an analysis of the case. Document the case, your analysis, findings, and recommendations in a report.
   The case could be based on a decision in the news in which you provide the information necessary to conduct the analysis. Or, it could be a decision that you or a friend has faced in the past or will face in the future. The decision is up to you, but the case must be original and have sufficient complexity to warrant a complete decision analysis.

2. Your choice.
   Submit a 1-page proposal for a course project of your choice to the instructor by October 16. In the proposal, include the format and goals of the proposed project and how it will demonstrate your mastery of decision analysis. The instructor will review the proposals and may require modifications before giving final approval.

Grading

Your final grade will be calculated as a weighted sum according to the following percentages:

- Homework: 20\%
- Class Participation/In-Class Assignments: 20\%
- Case Studies: 30\%
- Midterm: 15\%
- Final: 15\%

Final letter grades will be assigned based on the following scale. The instructor reserves the right to lower the minimum score for a letter grade, but will not raise the minimum score.

\begin{tabular}{|l|l|l|}
\hline
A+ & 97-100\% & A & 93-96\% & A- & 90-92\% \\
B+ & 87-89\% & B & 83-86\% & B- & 80-82\% \\
C+ & 77-79\% & C & 73-76\% & C- & 70-72\% \\
\hline
\end{tabular}
Course Policies

Accommodations

Any student requiring special accommodations for any reason should contact the instructor as soon as possible.

Academic Integrity

We will follow university regulations for academic integrity: (http://admin.illinois.edu/policy/code/). These standards will be enforced and infractions of these rules will not be tolerated.

Students who violate academic integrity will receive a “0” on that exam or assignment and may receive a failing grade in the course. Using someone else’s i>clicker, copying or paraphrasing a friend’s assignment, and plagiarism are all forms of cheating and will not be tolerated. Plagiarism is writing that is taken from another source but presented as one’s own: either ideas or actual text. Paraphrasing remains plagiarism. Any cheating incident will be reported to the appropriate university administrators with possibly more severe penalties imposed by the university.

Late Submission Policy

Developing professionalism is important. Turning assignments in on time contributes to the development of professionalism. Therefore, late assignments will not be accepted unless you have previously contacted me and obtained permission to do so. Such permission will only be granted in extraordinarily rare cases.

Using i>clickers

i>clickers are required during every class, and clicker points make up a significant portion of the participation/in-class assignments component of your final grade.

Your grade depends on the proper registration, maintenance, and use of your i>clicker. Failure to register your device and maintain it properly will result in missing assignments and valuable points, which cannot be made up.

You must register your i>clicker on the GE450 Compass 2g site by September 11th, in order to receive credit for your i>clicker responses. You must have come to class at least once and voted on at least one question in order to complete this registration properly. Once you have responded to a question with your i>clicker remote, go to this course in Illinois Compass 2g and click on the link at the left titled “Register your i>clicker HERE.”
Enter your i>clicker Remote ID in the required field and click Submit. Do not register anyone else’s i>clicker under your name, or use anyone else’s clicker in class.

Maintaining the function of your i>clicker includes ensuring it is in good condition, works properly, and has adequate battery life. We recommend you carry extra AAA batteries with you throughout the semester to avoid missing clicker points due to dead batteries.

If your barcode is faded or missing visit the Illini Union bookstore – they can look it up for you. For troubleshooting issues, visit the “Help Page” on our course Compass 2g site. For class-related i>clicker problems, visit the Instructor Hupman’s office hours within 1-week of the assignment in question.

**Bringing a fellow student’s i>clicker to class is cheating** and a violation of the University Student Code. If you are caught with a remote other than your own or have votes in a class that you did not attend, you will forfeit all clicker points and may face additional disciplinary action. See “Academic Integrity” on page 5 for more information.

If you have lost or broken your i>clicker remote, you will have to purchase another one. Please visit Instructor Hupman’s office hours with your new clicker so that we can manually register your new remote. This must be completed before you begin using it.