Methods of Decision Analysis

Main Teacher
Maria del Mar Roselló Canal

Recommended Prerequisites
This subject presents no recommended prerequisites.

Corequisites
There are no corequisites.

Incompatibilities
This subject presents no incompatibility.

Previous Knowledge
Basic knowledge about statistics and probability.
Basic knowledge about calculus.

Subject Description
Managerial decisions mostly:
i) involve risk and/or uncertainty   ii) yield consequences over time   iii) require trade-offs between multiple attributes   iv) are made in competitive environments.

Objectives & Knowledge
The purpose of this course is to introduce the basics of managerial decisions, and to provide an elementary training as a decision analyst.

By the end of the course, you will be able to do statistical inference, meaning that you will use concepts from statistics to think about how to solve problems and make decisions in a structured way. Moreover, you will be familiar to the challenges of managerial decisions, as well as to the nature of individual decision making in general.

Syllabus
The syllabus is tentative and can still be subject to change.

Week 1. Probability Review
Week 2. Conditional probability and Bayes' Theorem
Weeks 3 & 4. Decision Trees
Week 5. Multi-Criterion Decision Making
Week 6. Time discounting and Net Present Value
Mid-term Exam (No Class)
Easter (No Class)
Week 7. Risk, Rationality and Utility
Weeks 8&9. Simple Linear Regression
Weeks 10&11 Use of Excel Tools
Weeks 12&13. Forecasting
Week 14. Heuristics and Biases
Week 15. Final Review
Methodology:  
The course will be very participative. For example, you will present in class your answers to some decisions problem. Other times, there will be class discussions based on the homework that you need to prepare beforehand. Sometimes, you will work in groups. This requires you to read the materials in advance and come prepared to class.

EVALUATION  
Attendance and participation (5%+5%=10%)  
Coursework (10%)  
Mid-term exam (40%)  
Final exam (40%)  

Course grades will be published in the school´s information system.

Retake policy: If you fail the course (with a weighted average grade below 5), you are granted a retake exam which retests all the material covered in the course. Your course grade will then account to the weighted average of your i) retake grade (80%), and ii) original grade for the coursework, attendance and participation (20%).

Academic dishonesty is unacceptable and will not be tolerated. Any student who attempts to compromise or devalue the academic process will be sanctioned.

Deadlines for all activities and assignments are strictly enforced.

EVALUATION Criteria  
No information available

Bibliography  
REQUIRED MATERIAL

Materials: All materials, including lecture notes, exercises and cases needed for the class will be made available in printed or electronic form.

RECOMMENDED TEXTBOOK  
□ Decision Analysis for Management Judgment□. Paul Goodwin and George Wright. Wiley 2009. This book is available at the school library, so that you do not need to buy it.

Additional material
No information available