

DSCI350: MANAGEMENT DECISION ANALYTICS

COURSE NUMBER : DSCI 350

CREDITS : 3

PREREQUISITE : MATH 210

ECTS CREDITS : 6

OFFERED : SPRING

SEMESTER HOURS : 45

COURSE DESCRIPTION :

The purpose of the course is to enable the students to use quantitative approaches in practical business decision-making. During the course, the students will learn how a modeling process may help them to structure decision situations, and to improve his/her decision-making skills. It is hoped that the students will be familiar with the basic concepts of Decision Analysis, Project Scheduling, and Linear Programming, and should be able to use a modeling approach to improve decision-making processes.

COURSE OBJECTIVES:

It is hoped that the students will be familiar with the basic concepts of Decision Analysis, Project Scheduling, and Linear Programming, and should be able to use a modeling approach to improve decision-making processes.

The emphasis of the course will be placed on the ability to

- Structure a decision-making process.
- Formulate a model of the situation.
- Solve the model, using a computer.
- Interpret the results.

EXPECTED LEARNING OUTCOMES:

Upon completion of this course, students should be able to:

- Define Management Science / Operations Research and its application fields.
- Use decision analysis criteria in situations where uncertainty is dominant and use decision trees when modeling sequential decisions under risk.
- Understand and use the notions of *critical activities*, *earliest* and *latest times*, as well as *slack*, in the context of the management of a project and understand the usefulness of a project management software system.
- Identify and formulate a linear programming problem. Solve a linear program, using a spreadsheet program such as Microsoft Excel, and interpret the results.