OTTO VON GUERICKE UNIVERSITÄT MAGDEBURG

Production and Logistics

Business Decision Analysis

Module objectives and intended study results:

The students

- develop an understanding of structured and evidence-based methods to make important decisions in complex managerial decision situations involving conflicting objectives, uncertainty, and individual preferences,
- become acquainted with typical decision-making situations,
- have the ability to structure and model decision problems, to apply appropriate solution methods and communicate their decision-making process,
- develop an understanding of the importance of subjective judgments often required in decision making and can counter common biases and pitfalls,
- are encouraged and empowered to independent and self-reliant work.

Content:

Many business decisions are hard, and decision-makers have to deal with a complex environment, high levels of uncertainty, multiple conflicting objectives, or even different perspectives. Good decisions are based on structured and evidence-based approaches. This course will deal with structuring decision situations with decision trees, formulating and solving linear programs to support multiple interdependent decisions, and including topics such as sensitivity analysis, the value of information, and mult criteria decision making. Since the methods are quantitative, and we apply math and statistics methods, exercises are provided practice the skills acquired in class.

We will apply an application oriented approach with new methods applied directly to examples in the lecture and reinforced in th exercises.

Spreadsheet software tutorials are supported by › DataCamp (https://www.datacamp.com/) , an intuitive learning platform for data science and analytics. Learn any time, anywhere and become an expert in R, Python, SQL, and more. DataCamp's learn-by-doi methodology combines short expert videos and hands-on-the-keyboard exercises to help learners retain knowledge. DataCamp offers 350+ courses by expert instructors on topics such as importing data, data visualization, and machine learning. They're constantly expanding their curriculum to keep up with the latest technology trends and to provide the best learning experience fo all skill levels.

Language: English

Prerequisites:

This lecture is part of the core curriculum in the 4th semester. It builds upon knowledge acquired in Mathematical Methods, Introduction to Probability and Statistics, and Introduction to Econometrics (early part of lecture).

Relevant (and expected) knowledge:

- Mathematical Methods II (2nd semester)
  - Matrices and systems of linear equations
- Introduction to Probability and Statistics (2nd semester)
  - Discrete and continuous random variables, probability distributions, PDFs, CDFs
  - Frequency tables, expected value, variance, standard deviation, quantiles
  - Statistical independence, conditional probability, Bayes theorem
  - Special distributions: Binomial, Poisson, Uniform, Exponential, Normal
- Introduction to Econometrics (4th semester, early part of lecture)
  - Simple Regression

Credits:

▸ Bachelor International Business and Economics (IBE) Compulsory Module

Registration: Not required.

Details: Further Information are available at › eLearning (https://elearning.ovgu.de/course/index.php?categoryid=2417) .

Next time offered in: Each Summer Semester