

General Information:

Module number:	IN2274
Title (dt.):	-
Title (en.):	Decision Support Systems
Module level:	MSc
Abbreviation:	DSS
Subtitle:	
Duration:	
Occurrence - summer/winter:	Summer
Occurrence - regular/irregular:	Regular
Language:	English
Credits:	4
Specialization:	
Date:	
Location:	TUM
FIM-exclusivity:	Yes

Workload:

Contact hours:	30
Self-study hours:	90
Total hours:	120

Achievment and assessment methods:

Description of achievment and assessment methods:	<p>The examination takes the form of a 60 minutes written test, in which students solve problems to prove they understand the functioning of various methods and their assumptions. Participants demonstrate their ability to interpret the results of different statistical processes and to evaluate their model quality in the exercises. The correct responses require the independent construction of analytical solutions with the help of techniques learned in the module. In practical exercises based on the programming language R, bonuspoints can be collected. In these exercises data sets are analyzed with classification and numerical prediction.</p>
Type of assessment:	Written
Duration of assessment (min):	60 min
Assessment retake:	

Description:

(Recommended) prerequisites	Statistics, data bases
Content:	Mathematical statistics, numerical prediction methods, endogeneity and generalized linear models, methods of classification (logistic regression, decision trees, Naïve Bayes, meta-learner), association rule mining and recommenders, data preprocessing, model evaluation, analysis of consumer data (collaborative filters), R software

Intended learning outcomes:

After successful completion of the module students are familiarized with common methods of classification and numerical prediction. They know the assumptions of these processes and understand their functioning, as well as their typical managerial applications. Participants are able to analyze data sets with the programming language R and can interpret the results of these analyses.

Teaching and learning methods:

The module consists of a lecture and content-aligned homework as well as a tutorial for the programming language R. The lecturer presents the content of the module, parts of the corresponding literature and real world application examples interactively. Students are accustomed with the statistical methods and learn to differentiate their usage. In their homework students solve exercises in supervised single person work and evaluate the respective Data Mining techniques. In addition, they practice to solve common problems by approaching empirical case studies in teamwork together with their tutor. Students learn to develop their own, data-based solution concepts, and to constructively criticize their own work. Participants especially train their technical data mining abilities at the PC with the data processing software R.

Media:

Script, exercise sheets, PowerPoint, PC and E-Learning platform

Reading list:

Ian Witten, Eibe Frank: Data Mining: Practical Machine Learning Tools and Techniques with Java Implementations.
Morgan Kaufman, 2005- Tom Mitchell: Machine Learning, Mc-Graw Hill, 1997. Immon, Building the Data Warehouse, John Wiley & Sons, 1996.
Wilson, Keating: Business Forecasting, McGraw-Hill, 2002

Responsible for module:

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Lecturer:

1. Lecturer:

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Courses:

1. Course:

Type:

Lecture

Name:

Decision Support Systems

Weekly hours per semester:

2

2. Course:

Type:

Exercise

Name:

Decision Support Systems

Weekly hours per semester:

1

(Recommended) audience:

1. Program:

Name:

MSc Finance & Information Management (FIM)

2. Program:

Name:

3. Program:

Name:

4. Program:

Name:

5. Program:

Name: