

Syllabus

Kursbeschreibung

Titel der Lehrveranstaltung	Datenmanagement, -analyse und -schutz
Code der Lehrveranstaltung	30191
Zusätzlicher Titel der Lehrveranstaltung	
Wissenschaftlich-disziplinärer Bereich	STAT-04/A
Sprache	Deutsch
Studiengang	Bachelor in Tourismus-, Sport- und Eventmanagement
Andere Studiengänge (gem. Lehrveranstaltung)	
Dozenten/Dozentinnen	
Wissensch. Mitarbeiter/Mitarbeiterin	
Semester	Zweites Semester
Studienjahr/e	3
KP	6
Vorlesungsstunden	36
Laboratoriumsstunden	-
Stunden für individuelles Studium	-
Vorgesehene Sprechzeiten	18
Inhaltsangabe	-
Themen der Lehrveranstaltung	
Stichwörter	
Empfohlene Voraussetzungen	
Propädeutische Lehrveranstaltungen	

Unterrichtsform	
Anwesenheitspflicht	-
Spezifische Bildungsziele und erwartete Lernergebnisse	<p>Knowledge and understanding</p> <p>QUANTITATIVE METHODS</p> <p>Basic mathematical concepts (sets and operations on sets, relationships and their properties, general functions, numbers and elementary equations/inequalities)</p> <p>Functions of a real variable: Basic properties, derivatives and their calculation including first order partial derivatives</p> <p>Optimisation problems of one variable: Concepts and conditions of optimality, convexity, algorithmic approach. - Integrals for functions of one variable: indefinite integrals, integrals and defined surfaces, integral calculus.</p> <p>Descriptive statistics and summarising data: Variables, frequency distributions, measures of central tendency and variability.</p> <p>Mathematical terminology in English.</p> <p>the basic concepts of linear algebra: matrices and matrix calculus, vectors and their geometric applications, systems of linear equations.</p> <p>Functions with several variables: partial derivatives and gradient, convexity.</p> <p>Optimisation problems for several variables: Optimality concepts and conditions, for the unconstrained and constrained case, Lagrange method.</p> <p>the basic concepts of inferential statistics: punctual estimation; confidence interval; hypothesis testing; linear regression.</p> <p>the concept of uncertainty and the basic elements of probability theory.</p> <p>the basic concepts of sampling theory.</p> <p>the basic concepts of inferential statistics: punctual estimation; confidence interval; hypothesis testing; linear regression.</p> <p>Relationships between variables and basic concepts in hypothesis testing.</p> <p>Statistical terminology</p> <p>the software available for data analysis in the social sciences.</p> <p>the basics of linear programming in economics and management.</p> <p>Fundamentals of the concepts of uncertainty, ambiguity and robustness in the context of data analysis.</p> <p>the basis of order theory, in particular partial and total (linear)</p>

	<p>order relationships.</p> <p>the effects of non-total order relationships on decision models</p> <p>"Best practices" and important Excel functions for data collection, processing and visualisation</p> <p>the mechanisms for creating and utilising big data and the impact on the business environment</p> <p>the monetary value of personal and business data. - basic methods and algorithms for analysing data and machine learning methods.</p> <p>the concept of data security from a legal and technical perspective</p> <p>Ability to apply knowledge and understanding</p> <p>QUANTITATIVE METHODS</p> <p>basic concepts useful for attending courses in economics, business administration and management</p> <p>economic problems with multiple variables in a formalised way; ability to identify (optimal) solutions and interpret the results based on existing theories.</p> <p>Calculate differentials and integrals of real functions. Ability to solve optimisation problems with one variable.</p> <p>Define economic problems in a formalised way; find (optimal) solutions based on existing theories and interpret results.</p> <p>use mathematical tools to analyse static and dynamic models.</p> <p>analyse mathematical problems and models as well as ideas for their solution.</p> <p>Use mathematical tools to analyse static and dynamic models with multiple variables.</p> <p>Use matrices to represent data and manage them for transformations and calculations.</p> <p>statistical methods as useful research tools in the social sciences.</p> <p>Use descriptive and inferential statistics to summarise information, analyse and interpret relationships between variables and test hypotheses.</p> <p>at least one statistical application to develop a simple data analysis.</p> <p>the use of algorithms/applications to solve linear programmes and their dual problem.</p> <p>Solving zero-sum games between two people using linear programming</p> <p>Solving linear programs for business problems: cost and revenue</p>
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	<p>optimisation, logistics design and optimisation, inventory flow planning, etc.</p> <p>Using mathematical methods to model risks (uncertainties) and to solve expected utility maximisation problems.</p> <p>Distinguish between decision situations with complete and incomplete preferences and then use the appropriate model.</p> <p>Use Excel to collect, process and visualise data.</p> <p>Use web services to analyse data online.</p> <p>Understand the basic principles of modern data analysis concepts, such as machine learning.</p> <p>Deal with data security issues in corporate environments.</p> <p>Making judgements</p> <p>Identify the most important variables to use when making judgements in complex situations;</p> <p>Report analytically and critically on information, experience and data to make appropriate business decisions;</p> <p>select the most appropriate quantitative and qualitative analytical tools to support decision making;</p> <p>find necessary additional information in databases, legal documents and scientific sources;</p> <p>find solutions by using logical reasoning and combining information and analytical tools</p> <p>Communication skills</p> <p>Achievement of this objective is assessed by means of written examinations, group work, assignments, presentations of case studies and projects as well as the final thesis.</p> <p>Learning skills</p> <p>the ability to retrieve and utilise information from databases, research studies, legal texts, regulations and standards needed in their professional life;</p> <p>the ability to analyse, critically assess and integrate data, information and experience;</p>
Spezifisches Bildungsziel und erwartete Lernergebnisse (zusätzliche Informationen)	

Art der Prüfung	
Bewertungskriterien	
Pfichtliteratur	
Weiterführende Literatur	
Weitere Informationen	
Ziele für nachhaltige Entwicklung (SDGs)	