Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Subdivided Module Catalogue

for the Subject

Economathematics

as a Bachelor's with 1 major

with the degree "Bachelor of Science"

(180 ECTS credits)

Examination regulations version: 2008
Responsible: Institute of Mathematics
Responsible: Faculty of Business Management and Economics

Course of Studies - Contents and Objectives

The Bachelor programme in Business Mathematics is offered by the Faculty of Mathematics and Computer Science, jointly with the Faculty of Economics, with a total of currently (SS 2010) 16 resp. 17 chairs.

At the end of this course of study, the student should be familiar with the main branches of mathematical and economical sciences. The mathematical aspects not only refer to the characteristic methods of mathematical reasoning and working, but also to a profound knowledge of special methods of applied mathematics and stochastics which are particularly important for applications to problems in economics. Concerning economical aspects, the student should be familiar with problems arising in market-oriented economical systems, as well as with the basic structures of economics and entrepreneurship.

Moreover, the student in business mathematics should also acquire some knowledge in computer science. By means of a thorough training in mathematics, computer science, and economics, as well as through the development of analytical thinking, the students should acquire the competence of analyzing and solving problems they encounter later during their professional career. Through the course these skills which the students acquire provide the basic knowledge required for a consecutive Bachelor-Masters degree.

For the Bachelor thesis the students should prove that they master their field of specialization and are able to work on a thematic and temporally closely limited frame in order to carry out a mathematical task, using well-known procedures and scientific criteria under guidance but, to a large extent, independently.

The exam enables the acquisition of a comparable, international degree in the field of business mathematics and provides the framework of a consecutive Bachelor-Masters degree as an initial professional qualification, which can be used as a means for entry into the working world or as preparation for further Masters study. The exam should ascertain whether the candidate overlooks the context of the basics in business mathematics and possesses the ability to apply the corresponding scientific methods, with regards to mathematics, computer science, and economics.

Abbreviations used

Course types: **E** = field trip, **K** = colloquium, **O** = conversatorium, **P** = placement/lab course, **R** = project, **S** = seminar, **T** = tutorial, **Ü** = exercise, **V** = lecture

Term: **SS** = summer semester, **WS** = winter semester

Methods of grading: **NUM** = numerical grade, **B/NB** = (not) successfully completed

Regulations: **(L)ASPO** = general academic and examination regulations (for teaching-degree programmes), **FSB** = subject-specific provisions, **SFB** = list of modules

Other: **A** = thesis, **LV** = course(s), **PL** = assessment(s), **TN** = participants, **VL** = prerequisite(s)

Conventions

Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not creditable for bonus.

Notes

Should there be the option to choose between several methods of assessment, the lecturer will agree with the module coordinator on the method of assessment to be used in the current semester by two weeks after the start of the course at the latest and will communicate this in the customary manner.

Should the module comprise more than one graded assessment, all assessments will be equally weighted, unless otherwise stated below.

Should the assessment comprise several individual assessments, successful completion of the module will require successful completion of all individual assessments.

In accordance with

the general regulations governing the degree subject described in this module catalogue:

ASPO2007

associated official publications (FSB (subject-specific provisions)/SFB (list of modules)):

28-May-2009 (2008-42)

This module handbook seeks to render, as accurately as possible, the data that is of statutory relevance according to the examination regulations of the degree subject. However, only the FSB (subject-specific provisions) and SFB (list of modules) in their officially published versions shall be legally binding. In the case of doubt, the provisions on, in particular, module assessments specified in the FSB/SFB shall prevail.

The subject is divided into

Abbreviation	Module title	ECTS credits	Method of grading	page
Compulsory Courses (110 ECTS credits)				
Mathematics (50 ECTS credits)				
10-M-EFM-082-m01	Introduction to Stochastic Financial Mathematics	8	NUM	30
10-M-PPM-082-m01	Propaedeutics of Mathematics	2	B/NB	83
10-M-ANA-082-m01	Analysis	17	NUM	9
10-M-LNA-082-m01	Linear Algebra	14	NUM	62
10-M-ST1-082-m01	Stochastics 1	8	NUM	102
10-M-VKM-082-m01	Preparatory Course Mathematics	1	B/NB	112
Business Management and Economics (35 ECTS credits)				
12-BPL-G-082-m01	Supply, Production and Operations Management. An Introduction	5	NUM	13
12-I&F-G-082-m01	Investment and Finance. An Introduction	5	NUM	51
12-EBWL-G-082-m01	Introduction to Business Administration	5	NUM	25
12-EVWL-G-082-m01	Introduction to Economics	5	NUM	31
12-Mak1-G-082-m01	Macroeconomics 1	5	NUM	64
12-Mik1-G-082-m01	Microeconomics 1	5	NUM	68
12-Risk-082-m01	Economic Basics of Risk Management	5	NUM	76
Computer Science (25 ECTS credits)				
10-I-ADS-072-m01	Algorithm and data structures	8	NUM	8
10-I-PP-072-m01	Practical course in programming	9	B/NB	82
10-I-ST-072-m01	Software technology	8	NUM	101
Compulsory Electives (40 ECTS credits)				
Mathematics (15 ECTS credits) Out of each of the following pairs of modules, students may choose no more than one module: either 10-M-ODE or 10-M-DFT, either 10-M-EZT or 10-M-ZAL, either 10-M-COM or 10-M-COMg, either 10-M-PRG or 10-M-PRGk. Only those students will be able to attend seminars that have attended the corresponding lectures beforehand.				
10-M-ODE-082-m01	Ordinary Differential Equations	5	NUM	46
10-M-BSA-072-m01	Seminar in Analysis	5	NUM	88
10-M-BSL-072-m01	Seminar in Linear Algebra	5	NUM	94
10-M-BSE-072-m01	Seminar in Algebra	5	NUM	87
10-M-BSG-072-m01	Seminar in Geometry	5	NUM	92
10-M-BSZ-072-m01	Seminar in Number Theory	5	NUM	98
10-M-BSW-072-m01	Seminar in Ordinary Differential Equations	5	NUM	93
10-M-BSC-072-m01	Seminar in Complex Analysis	5	NUM	91
10-M-BSN-072-m01	Seminar in Numerical Mathematics	5	NUM	95
10-M-BSS-072-m01	Seminar in Stochastics	5	NUM	97
10-M-BSF-072-m01	Seminar in Functional Analysis	5	NUM	90
10-M-BSO-072-m01	Seminar in Operation Research	5	NUM	96
10-M-BSD-072-m01	Seminar in Discrete Mathematics	5	NUM	89
10-M-EDM-072-m01	Introduction to Discrete Mathematics	5	NUM	26
10-M-FAN-072-m01	Introduction to Functional Analysis	5	NUM	27
10-M-ORS-072-m01	Operations Research	5	NUM	77
10-M-EZT-072-m01	Introduction to Number Theory	5	NUM	32

10-M-NLD-072-m01	Non-Linear Dynamics	5	NUM	73
10-M-COMg-082-m01	Computational Mathematics, advanced	4	B/NB	21
10-M-GEO-082-m01	Introduction to Geometry	8	NUM	28
10-M-PRGk-082-m01	Programming course for students of Mathematics and other subjects, simple	2	B/NB	81
10-M-ZAL-082-m01	Number Theory and Algebra	13	NUM	114
10-M-NM1-082-m01	Numerical Mathematics 1	8	NUM	74
10-M-NM2-082-m01	Numerical Mathematics 2	5	NUM	75
10-M-ST2-082-m01	Stochastics 2	5	NUM	103
10-M-PRG-082-m01	Programming course for students of Mathematics and other subjects	3	B/NB	80
10-M-COM-082-m01	Computeroriented Mathematics	3	B/NB	20
10-M-DFT-082-m01	Ordinary Differential Equations and Complex Analysis	13	NUM	47
10-M-VAN-082-m01	Advanced Analysis	8	NUM	111
Business Management and Economics (25 ECTS credits)				
12-EPS-091-m01	Entrepreneurship	5	NUM	33
12-Mark-G-082-m01	Introduction to Market-Oriented Management	5	NUM	49
12-IntUR-G-082-m01	Managerial Accounting	5	NUM	57
12-ExtUR-G-082-m01	Financial Accounting	5	NUM	41
12-Mak2-G-082-m01	Macroeconomics 2	5	NUM	66
12-Mik2-G-082-m01	Microeconomics 2	5	NUM	70
12-WiPo-G-082-m01	Introduction to Economic Policy	5	NUM	53
12-U&UF-F-082-m01	Entrepreneurship and Management	5	NUM	110
12-MaFo-F-082-m01	Market Research	5	NUM	67
12-BPL-F-082-m01	Supply, Production and Logistics Management. Material Requirements Planning	5	NUM	15
12-BPL-FS-082-m01	Seminar: Supply, Production and Logistics Management	5	NUM	14
12-Wipr1-F-082-m01	Financial Accounting and Auditing 1 - Financial Statements (German GAAP, IFRS)	5	NUM	36
12-Wipr2-F-082-m01	Financial Accounting and Auditing 2 - Consolidated Financial Statements (German GAAP, IFRS)	5	NUM	37
12-Wipr3-F-082-m01	Financial Accounting and Auditing 3 - Auditing	5	NUM	38
12-Wipr-FS-082-m01	Seminar: Financial Accounting and Auditing	5	NUM	39
12-I&F-F-082-m01	Investment and Finance - Advanced Level	5	NUM	59
12-I&F-FS-082-m01	Seminar: Investment and Finance	5	NUM	60
12-UBW-F-082-m01	Business Valuation between Financial Mathematics and Data on Capital Market	5	NUM	109
12-St1-F-082-m01	Business Taxation 1: An Introduction to Tax Law & Tax Planning	5	NUM	16
12-St2-F-082-m01	Business Taxation 2: The Taxation of Income in Germany	5	NUM	17
12-St3-F-082-m01	Business Taxation 3: Tax Accounting	5	NUM	18
12-EBus-F-082-m01	eBusiness	5	NUM	24
12-SCM-F-082-m01	Supply Chain Management	5	NUM	108
12-Wiinf-FS-082-m01	Seminar: Information Technologies	5	NUM	113
12-P&O-F-082-m01	Human Resource Management & Organizational Theory	5	NUM	79
12-P&Ocase-F-082-m01	Management Case Studies	5	NUM	42

12-P&O-FS-082-m01	Seminar: Human Resource Management & Organizational Theory	5	NUM	78
12-EuGP-F-082-m01	European Monetary Policy	5	NUM	34
12-VWL1-FS-082-m01	Seminar: Economic Policy	5	NUM	85
12-Konj1-F-082-m01	Business Cycles and Stabilization Policy	5	NUM	61
12-VWL2-FS-082-m01	Seminar: Selected Topics in Economics	5	NUM	12
12-S&W1-F-082-m01	Competition and Strategy 1	5	NUM	104
12-S&W2-F-082-m01	Competition and Strategy 2	5	NUM	105
12-S&W3-FS-082-m01	Seminar: Competition and Strategy	5	NUM	107
12-A&S-F-082-m01	Labor Market Economics and Social Policy	5	NUM	11
12-Integ-F-082-m01	European Integration	5	NUM	35
12-WO-FS-082-m01	Seminar: Economic Order	5	NUM	99
12-Mik3-F-082-m01	Microeconomics 3	5	NUM	72
12-Fiwi-FS-082-m01	Seminar: Public Finance	5	NUM	43
12-Konj2-F-082-m01	Time Series Analysis	5	NUM	116
12-Konj3-F-082-m01	Simulation of Dynamical Systems	5	NUM	100
12-QWF-FS-082-m01	Seminar: Quantitative Economic Research	5	NUM	84
12-GP-G-082-m01	Business Processes	5	NUM	45
12-FRBE-F-082-m01	Forward and Reverse Business Engineering	5	NUM	44
12-S&W3-F-082-m01	Competition and Strategy 3	5	NUM	106
12-UG-FS-091-m01	Seminar: Foundation and Corporate Growth	5	NUM	86
12-IntH-091-m01	International Trade	5	NUM	56
12-CQW-091-m01	Computer Lab in Regression Analysis	5	NUM	22
12-CE-091-m01	Computational Economics	5	NUM	19
12-KR-091-m01	Cost Accounting for Decision Making and Control	5	NUM	23
12-IM-091-m01	Innovation Management	5	NUM	55
Thesis (10 ECTS credits)				
10-M-BAW-082-m01	Thesis Business Mathematics (Bachelor Thesis)	10	NUM	7
Subject-specific Key Skills (10 ECTS credits)				
10-M-EPW-082-m01	External Internship Business Mathematics	10	NUM	40

Module title			Abbreviation
Thesis Business Mathematics (Bachelor Thesis)			10-M-BAW-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
10	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Registration for assessment: as specified.	

Contents

Independently researching and writing on a (potentially interdisciplinary) topic in mathematics, economics or computer science selected in consultation with the supervisor.

Intended learning outcomes

The student is able to work independently on a given, possibly interdisciplinary topic in mathematics, economics or computer science and apply the skills and methods obtained during the study programme. He/She can write down the result of his/her work in a suitable form.

Courses (type, number of weekly contact hours, language — if other than German)

no courses assigned

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written thesis
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Algorithm and data structures			10-I-ADS-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Informatik (Computer Science)		Institute of Computer Science	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
8	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Design and analysis of algorithms, recursion vs. iteration, sort and search methods, data structures, abstract data types, lists, trees, graphs, basic graph algorithms, programming in Java.

Intended learning outcomes

[Version 1: The students are able to independently design algorithms as well as to precisely describe and analyse them. They are able to apply recursion in algorithms and data structures. The students are familiar with the three basic programming paradigms and are able to apply them in practical programs.] [Version 2: The students are able to independently design algorithms as well as to precisely describe and analyse them. The students are familiar with the basic paradigms of the design of algorithms and are able to apply them in practical programs. The students are able to estimate the run-time behaviour of algorithms and to prove their correctness.]

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Analysis			10-M-ANA-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
17	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
2 semester	undergraduate	By way of exception, additional prerequisites are listed in the section on assessments.	

Contents

Real numbers and completeness, basic topological notions, convergence and divergence of sequences and series, power series, Taylor series, fundamental calculus in one and several variables (including inverse and implicit function theorem); fundamental integral calculus in one variable (Riemann integral and improper integrals).

Intended learning outcomes

The student knows and masters the essential methods and notions of analysis. He/She is able to perform easy mathematical arguments and present them adequately in written and oral form. He/She is acquainted with the central proof methods and concepts in analysis, their analytic background and geometric interpretation.

Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 3 module components. Information on courses will be listed separately for each module component.

- 10-M-ANA-1-082: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 10-M-ANA-2-082: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 10-M-ANA-P-082: M (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 10-M-ANA-1-082: Analysis 1 Analysis 1

- 8 ECTS, Method of grading: (not) successfully completed
- a) written examination (approx. 90 minutes; usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner
- Other prerequisites: Modules 10-M-VKM and 10-M-PPM are recommended.

Assessment in module component 10-M-ANA-2-082: Analysis 2 Analysis 2

- 7 ECTS, Method of grading: (not) successfully completed
- a) written examination (approx. 90 minutes; usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner
- Other prerequisites: Modules 10-M-VKM and 10-M-PPM are recommended; in addition, module component 10-M-ANA-1 is recommended for module component 10-M-ANA-2.

Assessment in module component 10-M-ANA-P-082: Examination in Analysis

- 2 ECTS, Method of grading: numerical grade
- oral examination of one candidate each (approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner
- Only after successful completion of module components: Successful completion of any one of the module components 10-M-ANA-1, 10-M-ANL-1, 10-M-ANA-2, 10-M-ANL-2 is a prerequisite for participation in module component 10-M-ANA-P.

Allocation of places

--

Additional information
--
Referred to in LPO I (examination regulations for teaching-degree programmes)
§ 73 (1) 1. Mathematik Analysis

Module title			Abbreviation
Labor Market Economics and Social Policy			12-A&S-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Economic Order and Social Policy		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Description:
This course offers an introduction to labour economics and social policy.

Outline of syllabus:
1. Worlds of welfare capitalism
2. Labour economics
3. Social policy

Basic reading:
Sapir, A. (2005): Globalisation and the Reform of the European Social Models, Brussels.
Franz, W. (2009): Arbeitsmarktökonomik, 7th edition.
Wagner, T./Jahn, E.J. (2004): Neue Arbeitsmarkttheorien, 2nd edition.
Ehrenberg, R.G./Smith, R.S. (1996): Modern Labor Economics, 6th edition.
Breyer, F./Buchholz, W. (2009): Ökonomie des Sozialstaats, 2nd edition.
Lampert, H./Althammer, J. (2004): Lehrbuch der Sozialpolitik, 7th edition.

Intended learning outcomes

The students analyze the function of the labor market and get an impression of relevant aspects in social policy. The students are able to illustrate the underlying theoretical models, can interpret them economically and apply to the current situation.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Seminar: Selected Topics in Economics			12-VWL2-FS-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of International Macroeconomics		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module will take the form of a seminar. Participants will independently work on a problem in economic policy or will review an important publication on a topic in economics.

Intended learning outcomes

German intended learning outcomes available but not translated yet.

Die Studierenden verfügen über die Fähigkeit, den Stand eines aktuellen Projektes durch einen Vortrag darzustellen, zu diskutieren und zu verteidigen.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

term paper (approx. 15 pages) and presentation (approx. 20 minutes), weighted 2:1

Allocation of places

Number of places: 15. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. In this procedure, applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Supply, Production and Operations Management. An Introduction			12-BPL-G-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Management and Industrial Management		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This course will provide students with an overview of fundamental processes in procurement, production and logistics and the related corporate functions as well as a model-based introduction to related planning procedures.

Intended learning outcomes

The students will be able to describe and discuss the objectives and major processes in the domains of corporate procurement, production and logistics as well as their interdependencies. Furthermore, they are capable of developing and applying basic planning models in these fields.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

Number of places: 405. No restrictions with regard to available places for Bachelor's students of Wirtschaftswissenschaft (Business Management and Economics), Wirtschaftsmathematik (Mathematics for Economics) and Wirtschaftsinformatik (Business Information Systems). The remaining places will be allocated to students of other subjects. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Seminar: Supply, Production and Logistics Management			12-BPL-FS-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Management and Industrial Management		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

The seminar will focus on special problems in the areas of procurement, production, logistics or business management. Students will independently work on the respective problem and write a seminar (term) paper. Usually, this will be largely literature based with students learning how to carry out structured literature analyses and prepare systematic evaluations. In individual cases, students may also conduct empirical research of their own or further develop formal models. Students will be required to deliver a talk on the subject in class.

Intended learning outcomes

The students will be able to study advanced problems on their own and structure them in a (seminar) paper. They will learn to present the central results and discuss related issues in class.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

term paper (10 to 20 pages) and presentation (20 minutes), weighted 2:1

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Supply, Production and Logistics Management. Material Requirements Planning			12-BPL-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Management and Industrial Management		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module builds on the course "Beschaffung, Produktion und Logistik - Grundlagen" ("Procurement, Production and Logistics - Basics"). Selected tasks and processes, in particular in the area of materials management, will be analysed in detail and related planning and control models and methods will be developed.

Intended learning outcomes

The students are able to analyze the areas of responsibility of the functions of procurement, production and logistics as well as their interdependencies in an integrated perspective and evaluate concepts for their management. In addition, they are able to develop models in the domain of materials management and apply solution procedures to the planning problems.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Business Taxation 1: An Introduction to Tax Law & Tax Planning			12-St1-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Taxation		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module will introduce students to the field of business taxation. It will provide an overview of German tax law and will analyse tax effects on economic decisions in standard models for investment and financing decisions.

Intended learning outcomes

Students get an overview of the German tax law and they acquire the ability to recognize and understand the effect of taxation in fundamental ecomonic decisions. Therefore, the module is recommended also for students who don't want to specialize in finance and accounting but rather in management studies.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Business Taxation 2: The Taxation of Income in Germany			12-St2-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Taxation		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

In this module, students will acquire an in-depth knowledge of the system of income taxation in Germany which consists of personal income tax, corporate income tax and trade tax, a special income tax on business income.

Intended learning outcomes

Students acquire in-depth knowledge of the system of income taxation in Germany. They are able to solve practical problems of medium to high complexity in this filed by means of the tax code, other legal texts and secondary literature.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 120 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Business Taxation 3: Tax Accounting			12-St3-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Taxation		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents
Introduction to German value added tax.
Intended learning outcomes
Students acquire a thorough knowledge of German VAT law. They are able to solve VAT problems of low to medium complexity by using the tax code itself as well as related literature.
Courses (type, number of weekly contact hours, language — if other than German)
V + Ü (no information on SWS (weekly contact hours) and course language available)
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)
written examination (approx. 120 minutes)
Allocation of places
--
Additional information
--
Referred to in LPO I (examination regulations for teaching-degree programmes)
--

Module title			Abbreviation
Computational Economics			12-CE-091-m01
Module coordinator		**Module offered by**	
holder of the Chair of Public Finance		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module introduces students to the numerical implementation of economic models. It consists of three main parts:
1. The programming language FORTRAN 90
2. Numerical solution methods
3. Economic applications:
   - The static general equilibrium model
   - Topics in finance and risk management
   - Life cycle model
   - Overlapping generations model

Intended learning outcomes

After finishing this module students are able to
1. implement simple economic models on the computer using Fortran 90
2. using MonteCarlo techniques to find optimal portfolio structures and option prices
3. quantify the risks of portfolios of banks and insurance companies
4. simulate simple reforms of the tax and transfer system
5. interpret the simulation results economically.

Courses (type, number of weekly contact hours, language — if other than German)

P (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

term paper including programming a model (approx. 10 pages)

Allocation of places

Number of places: 20. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. In this procedure, applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Computeroriented Mathematics			10-M-COM-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
3	(not) successfully completed	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Admission prerequisite to assessment: regular attendance of exercises (attendance monitored, a maximum of one incident of unexcused absence).	

Contents

Introduction to modern mathematical software for symbolic computation (e. g. Mathematica or Maple) and numerical computation (e. g. Matlab) to supplement the basic modules in analysis and linear algebra ((10-M-ANA or 10-M-ANL) and 10-M-LNA). Computer-based solution of problems in linear algebra, geometry, analysis, in particular differential and integral calculus; visualisation of functions.

Intended learning outcomes

The student learns the use of advanced modern mathematical software packages, and is able to assess their fields of application to solve mathematical problems.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

project in the form of programming exercises (as specified at the beginning of the course)
Assessment offered: once a year, summer semester
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 5. Mathematik Angewandte Mathematik

Module title			Abbreviation
Computational Mathematics, advanced			10-M-COMg-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
4	(not) successfully completed	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Admission prerequisite to assessment: regular attendance of exercises (attendance monitored, a maximum of one incident of unexcused absence).	

Contents

Introduction to modern mathematical software for symbolic computation (e. g. Mathematica or Maple) and numerical computation (e. g. Matlab) to supplement the basic modules in analysis and linear algebra (10-M-ANA, 10-M-ANL and 10-M-LNA). Computer-based solution of problems in linear algebra, geometry, analysis, in particular differential and integral calculus; visualisation of functions.

Intended learning outcomes

The student learns the use of advanced modern mathematical software packages, and is able to assess their fields of application to solve mathematical problems.

Courses (type, number of weekly contact hours, language — if other than German)

Ü + V (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

project in the form of programming exercises (type and expenditure of time to be specified by the lecturer at the beginning of the course)
Assessment offered: once a year, summer semester
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 5. Mathematik Angewandte Mathematik

Module title			Abbreviation
Computer Lab in Regression Analysis			12-CQW-091-m01
Module coordinator		**Module offered by**	
holder of the Chair of Econometrics		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module builds on the lectures "Grundlagen der Statistik" ("Descriptive Statistics and Introduction to Probability") and "Grundlagen der QWF" ("Introduction to Statistical Inference and Regression Analysis"). It introduces students to the simulation of different distributions and the application of linear regression analysis.
In the first part of the course, different distributions are introduced, simulated with Excel and their theoretical moments are estimated. In the second part, linear regression analysis is introduced, different specifications are estimated and interpreted and potential pitfalls are pointed out.

Intended learning outcomes

After finishing this course students acquired several skills. They
(i) get an overview of several distributions;
(ii) know how to simulate those distributions in MS Excel and are able to estimate and interpret the related theoretical moments;
(iii) can perform smaller simulations in Excel;
(iv) get to know a variety of different Excel commands which are important for statistical working;
(v) are introduced to the linear regression analysis, can perform it in Excel and Gretl, and know how to interpret the results.

Courses (type, number of weekly contact hours, language — if other than German)

P (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 10 pages) and presentation (approx. 20 minutes), weighted 2:1

Allocation of places

Number of places: 20. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. In this procedure, applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Cost Accounting for Decision Making and Control			12-KR-091-m01
Module coordinator		**Module offered by**	
holder of the Chair of Chair of Business Management, Controlling and Accounting		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

First, this module will discuss basic principles of accounting such as full and direct costing as well as cost and performance accounting in the context of decision making. The course will then focus on decision-making processes (break-even analysis, short-term production planning and pricing decisions) and internal control calculations (the role of controls; deviation analyses).

Intended learning outcomes

This module provides competences in order to apply systems of full- and direct costing, cost and performance accounting with regard to decision-making and internal control processes. The goal is to promote analytical thinking and problem-solving abilities by analyses of com-plex problem structures.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
eBusiness			12-EBus-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Information Systems Engineering		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

E-business is a comprehensive, digital processing of business transactions between private and public enterprises as well as institutions and their clients on global public and private networks such as the internet. Precisely because euphoria for e-business has waned considerably in recent years, a lot of emphasis is now being placed on introducing such solutions in a user-oriented way. This lecture will first discuss the supporting economic theories and will then describe and analyse individual solutions such as e-procurement, e-shop, e-marketplace and e-community in detail.

Intended learning outcomes

The module provides students with knowledge about:
(i) E-Procurement
(ii) E-Shop
(iii) E-Marketplace
(iv) E-Community

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Introduction to Business Administration			12-EBWL-G-082-m01
Module coordinator			**Module offered by**
holder of the Chair of Human Resource Management and Organisation			Faculty of Business Management and Economics
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This course will introduce students to relevant subject areas of business administration. Students will acquire an overview of the different perspectives and main points of view from which a theoretical examination of business enterprise may take place. The course will focus on what companies or other organisations are, how they behave and in what form they are organised. For this purpose, a study will be made of the economic subject's decision-making behaviour.
Reading list to be provided during lecture.

Intended learning outcomes

The aim of the lectures is to familiarise the students with the basic problem issues and perspectives within the field of business administration.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

Number of places: 640. No restrictions with regard to available places for Bachelor's students of Wirtschaftswissenschaft (Business Management and Economics), Wirtschaftsmathematik (Mathematics for Economics) and Wirtschaftsinformatik (Business Information Systems). The remaining places will be allocated to students of other subjects. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Introduction to Discrete Mathematics			10-M-EDM-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.	

Contents

Techniques from combinatorics, introduction to graph theory (including applications), cryptographic methods, error-correcting codes.

Intended learning outcomes

The student is acquainted with the fundamental concepts and results in discrete mathematics, masters the relevant proof techniques, is able to apply methods from number theory and algebra to discrete mathematics and realises the scope of applications of discrete structures.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie

Module title			Abbreviation
Introduction to Functional Analysis			10-M-FAN-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.	

Contents

Banach spaces and Hilbert spaces, bounded operators, principles of functional analysis.

Intended learning outcomes

The student knows the fundamental concepts and methods of functional analysis as well as the pertinent proof methods, is able to apply methods from linear algebra and analysis to functional analysis, and realises the broad applicability of the theory to other branches of mathematics.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 1. Mathematik Analysis

Module title			Abbreviation
Introduction to Geometry			10-M-GEO-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
8	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	By way of exception, additional prerequisites are listed in the section on assessments.	

Contents

Introduction to topics in geometry: axiomatic introduction of projective spaces, coordinates, fundamental theorems, relations to linear algebra and algebra, curves and hypersurfaces in Euclidean spaces, curvature.

Intended learning outcomes

The student is acquainted with the fundamental concepts and methods of geometry.

Courses (type, number of weekly contact hours, language — if other than German)

This module has 2 components; information on courses listed separately for each component.

- 10-M-GEO-1-082: V + Ü (no information on language and number of weekly contact hours available)
- 10-M-GEO-2-082: V + Ü (no information on language and number of weekly contact hours available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

This module has the following 2 assessment components. To pass the module as a whole students must pass one of the two assessment components.

Assessment component to module component 10-M-GEO-1-082: Einführung in die Projektive Geometrie

- 8 ECTS credits, method of grading: numerical grade
- written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
- Language of assessment: English, German if agreed upon with the examiner
- Other prerequisites: Admission prerequisite to assessment: successful completion of approx. 50% of exercises. Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.

Assessment component to module component 10-M-GEO-2-082: Einführung in die Differentialgeometrie

- 8 ECTS credits, method of grading: numerical grade
- written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
- Language of assessment: English, German if agreed upon with the examiner
- Other prerequisites: Admission prerequisite to assessment: successful completion of approx. 50% of exercises. Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.

Allocation of places
--
Additional information
--
Referred to in LPO I (examination regulations for teaching-degree programmes)
§ 73 (1) 4. Mathematik Geometrie

Module title			Abbreviation
Introduction to Stochastic Financial Mathematics			10-M-EFM-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
8	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Arbitrage and no-arbitrage, annuities and bonds, valuation of deterministic cash flows, actuarial present value, term structures and yield curves, forwards, payout profiles of options and other derivates, fundamental theorem of asset pricing in the stochastic one-period model, risk neutral price measures, replication and completeness, stochastic multi-period models, valuation of European options in the binomial model, Black-Scholes formula.

Intended learning outcomes

The student is acquainted with the fundamental concepts and methods of stochastic financial mathematics, can apply them to practical problems and knows about typical fields of application.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) written examination (approx. 90 minutes; usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title	Abbreviation
Introduction to Economics	12-EVWL-G-082-m01

Module coordinator	Module offered by
holder of the Chair of Monetary Policy and International Economics	Faculty of Business Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

The course deals with the following topics:
1. Economics shows how markets function
2. The division of labour is the basis of our wealth
3. The market in action
4. Monopolies and cartels endanger market economies
5. The labour market and the role of unions
6. The government's role in a social market economy
7. Governmental redistribution guarantees the social balance in a market economy
8. Environmental policy and the government's allocation function
9. Objectives and agents in the macro economy
10How do aggregate supply and demand come into equilibrium?
11.The role of fiscal policy
12How does a central bank stabilise aggregate demand by setting interest rates?

Intended learning outcomes

By completing this course, students receive a fundamental understanding of economics. Students are able to grasp microeconomic as well as macroeconomic subjects and to analyze them in theoretical models.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

Number of places: 640. No restrictions with regard to available places for Bachelor's students of Wirtschaftswissenschaft (Business Management and Economics), Wirtschaftsmathematik (Mathematics for Economics) and Wirtschaftsinformatik (Business Information Systems). The remaining places will be allocated to students of other subjects. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Introduction to Number Theory			10-M-EZT-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Elementary properties of divisability, prime numbers and prime number factorisation, modular arithmetics, prime tests and methods for factorisation, structure of the residue class rings, theory of quadratic remainder, quadratic forms, diophantine approximation and diophantine equations.

Intended learning outcomes

The student is acquainted with the fundamental concepts and methods of elementary number theory. He/She is able to apply these methods to practical problems, e.g., in cryptography.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) written examination (90 minutes; usually chosen) or b) oral examination of one candidate each (20 minutes) or c) oral examination in groups (groups of 2, 30 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Entrepreneurship			12-EPS-091-m01
Module coordinator		**Module offered by**	
holder of the Chair of Entrepreneurship and Management		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Description:
The course introduces students to the basics of entrepreneurial self-employment. In addition to discussing theoretical concepts covering the definition, creation and performance of new ventures, the course will also discuss methods and instruments for a potential entrepreneurial career. Several content areas of start-up planning are being covered during the course of the lecture including team compilation, business model creation and financing.

Contents of the course:
1. Introduction to entrepreneurship
2. Human resources in start-ups
3. Opportunity analysis
4. Business modelling
5. Entrepreneurship in the digital industry
6. Business planning
7. Finance
8. Marketing in start-ups

Intended learning outcomes

After completing the module "Entrepreneurship", the students should be able to
(i) describe and problematize the concept of entrepreneurship and the entrepreneurial perspective;
(ii) describe and analyze the entrepreneurial process, its drivers, characteristics and context;
(iii) apply theories within the entrepreneurship field to real life situations;
(iv) take initiatives and independently develop a business idea and use knowledge gained from earlier courses in business administration in order to develop this idea in a business plan sketch;
(v) plan human resources and marketing in a start-up.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)
Language of assessment: German, English

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
European Monetary Policy			12-EuGP-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Monetary Policy and International Economics		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

The course discusses the following questions:
1. Why is price stability the main objective of the ECB?
2. How can the ECB control interest rates and the creation of credit? Why did the financial crisis happen?
3. How does interest rate policy influence macroeconomic objectives (price stability and full employment)?
4. Why is it important for monetary policy to be independent?
5. How does the ECB know, how to set interest rates? (strategies of monetary policy)
6. Why did central banks engage in unconventional monetary policy during the last years?

Intended learning outcomes

By completing this course, students receive a profound understanding of theory and practice of monetary policy. Next to a profound knowledge of monetary policy in general, students are able to form a critical opinion about the conduct of monetary policy by the European Central Bank and in part about the policy of other central banks.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
European Integration			12-Integ-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Economic Order and Social Policy		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

The course analyses the impacts the proceeding economic integration in Europe has on goods and factor markets. Several models are presented to illustrate the subsequent changes. During exercises, students will consolidate the knowledge they acquired in the lecture.

Intended learning outcomes

The students understand the impacts of the European Integration and of globalization in general. They are able to illustrate these impacts using the models presented in the lecture and to evaluate them in an economic manner.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Financial Accounting and Auditing 1 - Financial Statements (German GAAP, IFRS)			12-Wipr1-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Management and Accounting		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Content: This module is based on introductory courses in the areas of financial and managerial accounting and includes essential aspects of corporate financial accounting. It delivers a systematic presentation and interpretation of financial reporting standards according to the Handelsgesetzbuch (German Commercial Code, HGB) and International Financial Reporting Standards (IFRS). In addition, it introduces students to financial statement analysis methods.

Outline of syllabus: Fundamentals of financial statements; purpose and basic assumptions of financial accounting; recognition, valuation and presentation of assets, liabilities and equity; financial statement analysis.

Reading:
Baetge, J./Kirsch, H-J./Thiele, St.: Bilanzen, Düsseldorf.
Coenenberg, A.G.: Jahresabschluss und Jahresabschlussanalyse, Stuttgart. Heuser, P.J./Dörschell, A.: IFRS Handbuch, Cologne 2012. Most recent editions.

Intended learning outcomes

The students have a deeper understanding of business fundamentals in accounting according to national (HGB) and international (IFRS) principles. They can systematically arrange and play with the knowledge and apply the acquired knowledge, i.e. resolve accounting and financial statement analysis problems of medium difficulty.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Financial Accounting and Auditing 2 - Consolidated Financial Statements (German GAAP, IFRS)			12-Wipr2-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Management and Accounting		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Outline of syllabus:
1. Fundamentals of group accounting
2. Legal obligations for group accounts
3. Consolidated companies
4. Capital consolidation
5. Debt consolidation
6. Consolidation of intercompany results
7. Consolidation of income and expenses
8. Equity method
9. Selected problems

Reading:
Baetge/Kirsch/Thiele: Konzernbilanzen, Düsseldorf.
(most recent edition)

Intended learning outcomes

After finishing this module "Konzernrechnungslegung nach HGB und IFRS", the students will be able
(i) to present the purposes of group accounting;
(ii) to identify and interprete central legal rules;
(iii) to apply consolidation methods on problems of moderate difficulty (in terms of capital, debt, interim results, expenses and income) and preparing the necessary entries for the group accounts;
(iv) to name central differences for group accounts according to the German Commercial Code (HGB) and IFRS and give reasons for the differences.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Financial Accounting and Auditing 3 - Auditing			12-Wipr3-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Management and Accounting		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Content:
This module builds on the introductory courses in the areas of Financial and Managerial Accounting and, in particular, on the course "Jahresabschluss und -- analyse nach HGB und IFRS" ("Financial Accounting according to HGB and IFRS"). The module provides students with a systematic introduction to practical, methodical and theoretical aspects of business audits, i. e. financial statement audits.

Outline of syllabus:
1. Audits and audit-related services - introduction and overview
2. Audit process: functional aspects of economic examination
3. Audit institutions: institutional aspects of economic examination
4. Economical audit theory: the low-balling model of DeAngelo

Reading:
Marten, K.-U./Quick, R./Ruhnke, K.: Wirtschaftsprüfung, Düsseldorf (most recent edition).

Intended learning outcomes

The students have a deeper understanding of the basics of business (balance) checks. They can organize, play back and apply the systematically gained knowledge, i.e solve simple problems of business (balance sheet) tests.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Seminar: Financial Accounting and Auditing			12-Wipr-FS-082-m01
Module coordinator			**Module offered by**
holder of the Chair of Business Management and Accounting			Faculty of Business Management and Economics
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

The module provides students with deeper insights into current problems of external accounting and auditing, usually with the help of textbooks or adequate scientific primary literature in English or German language.

Intended learning outcomes

After completing this module, students are able to
(i) consolidate what they have learned and if necessary apply additional techniques of scientific work;
(ii) create and defend a qualification level relevant scientific work;
(iii) carry out scientific analysis of the results from other seminar participant;
(iv) ability to present and reflect solution-oriented the own performance considering communication aspects.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

term paper (approx. 25 pages) and presentation (approx. 20 minutes), weighted 2:1
Language of assessment: German, English

Allocation of places

Number of places: 15. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. In this procedure, applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
External Internship Business Mathematics			10-M-EPW-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
10	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

The module consists of a placement of approximately six weeks at a company or another organisation related to business mathematics and the subsequent presentation of the placement report.

Intended learning outcomes

The student has practical experience in the relevant fields and is able to apply the skills obtained in his/her studies.

Courses (type, number of weekly contact hours, language — if other than German)

P + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

placement report / fieldwork report / report on practical training / report on practical course / project report / report on technical course (approx. 15 pages) and oral presentation thereof (approx. 20 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Financial Accounting			12-ExtUR-G-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Taxation		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This course offers an introduction to the fundamentals of financial accounting, including the technique of double-entry book-keeping as well as the fundamentals of recognition, valuation and presentation of assets, liabilities and equity according to German commercial law.

Intended learning outcomes

Students acquire a basic unterstanding of the fundamentals of financial accounting. They are able to arrange, reproduce and apply this knowledge, i.e. they are able to solve simple accounting problems.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

Number of places: 640. No restrictions with regard to available places for Bachelor's students of Wirtschaftswissenschaft (Business Management and Economics), Wirtschaftsmathematik (Mathematics for Economics) and Wirtschaftsinformatik (Business Information Systems). The remaining places will be allocated to students of other subjects. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Management Case Studies			12-P&Ocase-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Entrepreneurship and Management		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

The module will focus on equipping students with the skills necessary for solving a variety of case studies. These case studies will focus on the practical application of theoretical knowledge for the solution of practical problems and will provide students with an opportunity to apply the management tools they were taught. A particular emphasis will be on equipping students with skills in the areas of strategic thinking and the operational implementation of strategies. Participants will be issued a certificate of attendance.

Intended learning outcomes

German intended learning outcomes available but not translated yet.

Die Studierenden verfügen über Kompetenzen zur Lösung von Fallstudien nach internationalen Standards.

Courses (type, number of weekly contact hours, language — if other than German)

Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

presentation of case studies and oral participation (as specified at the beginning of the course)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Seminar: Public Finance			12-Fiwi-FS-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Public Finance		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

In this course, students will acquire an in-depth understanding of specific problems discussed in "Makroökonomik II" ("Macroeconomics II") and "Mikroökonomik III" ("Microeconomics III"). The course will use scientific economic journal articles in German and English language.

Intended learning outcomes

After completing this module, students
(i) consolidate what they have learned and if necessary apply additional techniques of scientific work;
(ii) create, present and defend a research paper;
(iii) deal with the working papers of other participants;
(iv) are better prepared for the processing of the bachelor thesis.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

term paper (approx. 15 pages) and presentation (approx. 45 minutes), weighted 2:1

Allocation of places

Number of places: 15. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. In this procedure, applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Forward and Reverse Business Engineering			12-FRBE-F-082-m01
Module coordinator		**Module offered by**	
Business Integration Prof. Thome		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

"Business Engineering" refers to the method and model-based design theory for companies in the information age. "Forward" refers to design methods (such as situation analysis, requirements analysis and business process modelling) that help implement a new solution. "Reverse" refers to approaches (such as the use and process analysis) that make it possible to improve or re-design existing structures and processes. Market requirements and technological innovation potential are typical reasons for the continuous transformation of a company. The resulting change needs to be implemented into the organisational structure, business processes and information systems.
The course traces the implementation cycle of enterprise software from the point of view of a member of a project team. In addition to acquainting students with the theoretical basis of adaptation, the course will also discuss examples from practical projects.

Intended learning outcomes

The students know in detail the process of adaptation of business software libraries. They master the methods of Forward Engineering (such as situation analysis, requirement analysis, process modeling and business blueprint) and Reverse Engineering (Reverse Business Engineering) and their implementation in tools.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

Number of places: 50. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Bachelor's students of Wirtschaftsinformatik (Business Information Systems) will be given preferential consideration. (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (1) and the number of applications exceeds the number of available places, places will be allocated among applicants from within this group according to the respective FSB (subject-specific provisions) regarding Section 7 Subsection 4 ASPO (general academic and examination regulations). (4) When places are allocated in accordance with (2) and the number of applications exceeds the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. (5) Within the groups according to (1) and (2), applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. (6) Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. (7) A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Business Processes			12-GP-G-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Management and Business Information Systems		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This course is aimed at students of Wirtschaftsinformatik (Business Information Systems) and Wirtschaftswissenschaft (Business Management and Economics) interested in the topic. The course is divided up into two parts. In the theoretical part, students will acquire the necessary theoretical knowledge that will serve as a basis for the practical part. The practical exercise will present students with an opportunity to apply their newly acquired knowledge by working with an SAP Business ByDesign system on case studies on the model company Almika. In this context, the human resources, purchasing, sales, service, project management and finance departments will be dealt with.
The course will introduce students to business processes of an ERP system (Enterprise Resource Planning) using the example of SAP Business ByDesign. In addition to the basic principles, students will also become familiar with the processes and functionalities.

Intended learning outcomes

After completing the course, the students will be able to
1. reflect technical principles and operational models of ERP systems,
2. understand the functionality of ERP systems and
3. perform and unterstand business processes within the ERP system SAP Business ByDesign.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

Wirtschaftsinformatik (Business Information Systems) Bachelor's (180 ECTS): no restrictions. Other degree programmes: minimum 15 places. More places will be available provided there is enough capacity. Should the number of applications from students of other subjects exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective subject; among applicants with the same number of ECTS credits, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot; applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Ordinary Differential Equations			10-M-ODE-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.	

Contents

Existence and uniqueness theorem, continuous dependance of solutions on initial values, systems of linear differential equations, matrix exponential series, linear differential equations of higher order.

Intended learning outcomes

The student is acquainted with the fundamental concepts and methods of the theory of ordinary differential equations. He/she is able to apply these methods to practical problems.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Ordinary Differential Equations and Complex Analysis			10-M-DFT-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
13	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
2 semester	undergraduate	By way of exception, additional prerequisites are listed in the section on assessments.	

Contents

Existence and uniqueness theorems on solutions of ordinary differential equations, solution theorems on systems of linear diffferential equations, introduction to the problem of systems of nonlinear differential equations, basic notions in the qualitative theory of ordinary differential equations, basic properties of holomorphic functions, meromorphic functions and conformal maps, basic proof methods in differential equations and complex analysis, applications in computer science, physics, engineering science and other fields of mathematics.

Intended learning outcomes

The student is acquainted with the fundamental concepts and methods of the theory of ordinary differential equations and holomorphic functions. He/she is able to interconnect these concepts and realises the advantages of thinking across the borders of different branches in mathematics.

Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 3 module components. Information on courses will be listed separately for each module component.

- 10-M-DFT-1-082: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 10-M-DFT-2-082: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 10-M-DFT-P-082: M (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 10-M-DFT-1-082: Ordinary Differential Equations Ordinary Differential Equations

- 4 ECTS, Method of grading: (not) successfully completed
- written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner
- Other prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.

Assessment in module component 10-M-DFT-2-082: Introduction to Complex Analysis Introduction to Complex Analysis

- 7 ECTS, Method of grading: (not) successfully completed
- written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner

- Other prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.

Assessment in module component 10-M-DFT-P-082: Examination in Ordinary Differential Equations and Complex Analysis

- 2 ECTS, Method of grading: numerical grade
- oral examination of one candidate each (approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner
- Only after successful completion of module components: Successful completion of module component 10-M-DFT-1 or module component 10-M-DFT-2 is a prerequisite for participation in module component 10-M-DFT-P.

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 1. Mathematik Analysis

Module title			Abbreviation
Introduction to Market-Oriented Management			12-Mark-G-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Management and Marketing		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Description
In this module, students will acquire the theoretical foundations of market-oriented management.

Content:
With the stakeholder approach as a starting point, the basic design of market-oriented management will be explained and exemplified in the 5 classical steps: situation analysis, objectives, strategies, tools and controlling. The course will focus not only on the behavioural approaches of consumer behaviour but also on industrial purchasing behaviour. A case study introducing students to the fundamental principles of market research based on a conjoint analysis will provide students with deeper insights into the topic.

Outline of syllabus:
1. Marketing, entrepreneurship and business management
2. Explanations of consumer behaviour
3. Fundamentals of market research
4. Strategic marketing; marketing tools
5. Corporate social responsibility versus creating shared value

Reading:
Foscht, T. / Swoboda, B.: Käuferverhalten: Grundlagen -- Perspektiven -- Anwendungen, 4th revised and exp. ed., Wiesbaden 2011.
Homburg, Ch.: Grundlagen des Marketingmanagements: Einführung in Strategie, Instrumente, Umsetzung und Unternehmensführung, 4th revised and exp. ed., Wiesbaden 2012.
Homburg, Ch.: Grundlagen des Marketingmanagements: Einführung in Strategie, Instrumente, Umsetzung und Unternehmensführung, 3rd ed., Wiesbaden, 2012a.
Kroeber-Riel, W. /Weinberg, P.: Konsumentenverhalten, 9th ed., Munich 2009.
Meffert, H. / Burman, Ch / Kirchgeorg, M.: Marketing -- Grundlagen marktorientierter Unternehmensführung: Konzepte -- Instrumente -- Praxisbeispiele, 11th revised and exp. ed., Wiesbaden 2012.
Meffert, H. / Burman, Ch / Becker, Ch.: Internationales Marketing-Management -- Ein markenorientierter Ansatz, 4th ed., Stuttgart 2010.
Meyer, M.: Ökonomische Organisation der Industrie: Netzwerkarrangements zwischen Markt und Unternehmung, Wiesbaden 1995.
Porter, M. E.: Wettbewerbsvorteile -- Spitzenleistungen erreichen und behaupten, 8th ed., Campus Frankfurt / New York 2014. (Original: Porter, M.: Competitive Advantage, New York 1985.)
Simon, H. / Fassnacht, M.: Preismanagement, Strategie -- Analyse -- Entscheidung -- Umsetzung, 3rd ed., Wiesbaden 2009.

Intended learning outcomes

The students have a basic understanding of business management and are able to classify the knowledge systematically. In addition, they can use the acquired knowledge solve and identify the conventional problem fields of business management.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)
written examination (approx. 60 minutes)
Allocation of places
Number of places: 405. No restrictions with regard to available places for Bachelor's students of Wirtschaftswissenschaft (Business Management and Economics), Wirtschaftsmathematik (Mathematics for Economics) and Wirtschaftsinformatik (Business Information Systems). The remaining places will be allocated to students of other subjects. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.
Additional information
--
Referred to in LPO I (examination regulations for teaching-degree programmes)
--

Module title	Abbreviation
Investment and Finance. An Introduction	12-I&F-G-082-m01

Module coordinator	Module offered by
holder of the Chair of Business Management, Banking and Finance	Faculty of Business Management and Economics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	--

Contents

Content:
This course offers an introduction to principles of financial mathematics, several methods of capital budgeting and principles of financial economics.

Outline of syllabus:
1. Principles of financial mathematics
2. Fundamental concepts
3. Problems of investment and finance in one commodity world under certainty
4. Problems of investment and finance in one commodity world under uncertainty
5. Problems of investment and finance in many commodities world under uncertainty
6. Capital market and corporate financing in Germany

Intended learning outcomes

After completing the course "Principles of Investments and Finance", the students will be able
(i) to understand the fundamentals in financial mathematics and solve several problems, e.g. via the PV approach;
(ii) to address the central problems in intertemporal allocation given different capital market scenarios;
(iii) to budget and calculate the optimal useful life given static and dynamic investment approaches under the consideration of several other investment opportunities and the capital market scenario, especially the influence of taxes.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

Number of places: 405. No restrictions with regard to available places for Bachelor's students of Wirtschaftswissenschaft (Business Management and Economics), Wirtschaftsmathematik (Mathematics for Economics) and Wirtschaftsinformatik (Business Information Systems). The remaining places will be allocated to students of other subjects. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--

Module title			Abbreviation
Introduction to Economic Policy			12-WiPo-G-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Economic Order and Social Policy		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Description:
The course consists of six chapters. The first chapter illustrates what economists have in mind when referring to the term "economic policy" and discusses its objectives, means and institutions. The following chapters deal with the objectives that are set out in the German "Gesetz zur Förderung der Stabilität und des Wachstums der Wirtschaft" ("Law for Promoting Stability and Growth of the Economy") of 1967. Each chapter uses current macroeconomic data to evaluate the degree to which the particular objective is achieved, discusses the reasons of possible problems and demonstrates actions the government may take to cure the problems.

Outline of syllabus:
1. Introduction
-What is "Economic Policy"?
- Objectives of economic policy
- Instruments of economic policy
- Institutions of economic policy
2. Full employment
- Empirics: The status quo of the labour market
- Reasons for unemployment
- Cure for labour market problems
3. Price level stability
- Empirics: inflation, deflation or price stability?
- Reasons for inflation and deflation
- Cure for price instability
- The contradicting relationship between full employment and stable prices
4. Business cycles and economic growth
- Empirics: current situation of the world economy and long-term ecnomoic growth
- Reasons for cyclical fluctuations and determinants of economic growth
- Cure for macroeconomic instabilities and means to facilitate economic growth
5. Balance in foreign trade
- Empirics: balances of payments of Germany, Europe and the World
- Reasons for macroeconomic imbalances
- Cure for instabilities in foreign trade
6. Income distribution
- Empirics: the distribution of incomes and its historical development
- Reasons for an increase in income inequality
- Cure for inequality and redistribution

Intended learning outcomes

The students gain a basic understanding of the role of the state in national and international economies. Based on a number of macroeconomic models (AS/AD, IS/LM, phillips curve, labor market equilibria, Solow model, Beveridge curve, etc.), students study the abilitiy of the state to influence national and global economies. Students learn to assess in which situations such influence can be welfare-enhancing and under which circumstances governmental interventions may be harmful. After successful completion of the course, students are able to analyze concrete economic situations and to develop policy options of the state. In addition, students have learned to assess the situation of a country on the basis of empirical macroeconomic data and to explain the particular problems based on different models.

Courses (type, number of weekly contact hours, language — if other than German)
V + Ü (no information on SWS (weekly contact hours) and course language available)
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)
written examination (approx. 60 minutes)
Allocation of places
Number of places: 405. No restrictions with regard to available places for Bachelor's students of Wirtschaftswissenschaft (Business Management and Economics), Wirtschaftsmathematik (Mathematics for Economics) and Wirtschaftsinformatik (Business Information Systems). The remaining places will be allocated to students of other subjects. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.
Additional information
--
Referred to in LPO I (examination regulations for teaching-degree programmes)
--

Module title			Abbreviation
Innovation Management			12-IM-091-m01
Module coordinator		**Module offered by**	
holder of the Chair of Entrepreneurship and Management		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

The course will provide students with an overview of essential topics of innovation management. Particular emphasis will be on the application of theoretical concepts to practical examples and cases. The course will develop the innovation process starting with the idea and ending with the market entry of an innovation. The course will consist of two core elements: 1. "Creating Value": how can companies create something new? and 2. "Profiting from Value": how can companies profit from innovations? The course will use practical examples from numerous industries such as world-class restaurants, music, consumer goods, electricity or the software industry.

Intended learning outcomes

At the end of the module students are able to understand:

- The importance of innovations
- The sources of innovations
- The New Product Development process
- The roles in the innovation process
- The importance of intellectual property rights
- How innovations diffuse in the market

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)
Language of assessment: German, English

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
International Trade			12-IntH-091-m01
Module coordinator		**Module offered by**	
holder of the Chair of International Macroeconomics		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module will discuss explanations of international trade.

Intended learning outcomes

German intended learning outcomes available but not translated yet.

Die Studierenden können die Bestimmungsgründe des internationalen Handels erklären und ihre sektoralen und gesamtwirtschaftlichen Auswirkungen einschätzen.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Managerial Accounting			12-IntUR-G-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Management and Accounting		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Content:
This course offers an introduction to aims and methods of managerial accounting (cost accounting).

Outline of syllabus:
1. Managerial accounting and financial accounting
2. Managerial accounting: basic terms
3. Different types of costs
4. Cost centre accounting based on total costs
5. Job costing based on total costs
6. Cost centre accounting and job costing based on direct/variable costs
7. Budgeting and cost-variance analysis
8. Cost-volume-profit analysis
9. Cost information and operating decisions

Reading:
Coenenberg/Fischer/Günther: Kostenrechnung und Kostenanalyse, Stuttgart.
Friedl/Hofmann/Pedell: Kostenrechnung. Eine entscheidungsorientierte Einführung.
(most recent editions)

Intended learning outcomes

After completing the course "Management Accounting and Control", the students will be able to
(i) set out the responsibilities of the company's internal accounting and control;
(ii) define the central concepts of internal enterprise computing restriction and control and assign case studies the terms;
(iii) apply the basic methods of internal corporate accounting and control on a full and cost base to idealized case studies of medium difficulty that calculate relevant costs and benefits and take on this basis a reasoned decision.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

Number of places: 640. No restrictions with regard to available places for Bachelor's students of Wirtschaftswissenschaft (Business Management and Economics), Wirtschaftsmathematik (Mathematics for Economics) and Wirtschaftsinformatik (Business Information Systems). The remaining places will be allocated to students of other subjects. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Applicants who already have successfully completed at least one module component of the respective module will be given prefe-

rential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.
Additional information
--
Referred to in LPO I (examination regulations for teaching-degree programmes)
--

Module title			Abbreviation
Investment and Finance - Advanced Level			12-I&F-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Management, Banking and Finance		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Content:
This course discusses the fundamental principles of corporate valuation, optimal asset allocation and optimal financial structuring.

Outline of syllabus:
1. Choice under uncertainty
2. Portfolio selection
3. Main features of the capital market theory
4. Taxes and business financing
5. Agency theory and business financing

Intended learning outcomes

After completion of the module "Investment and financing for advanced" students will be able
(i) to understand the basics of a rational investment and financing behavior under uncertainty;
(ii) to explain the optimal asset allocation in theory and to solve several case studies;
(iii) demonstrate an increased understanding of the fundamentals of the agency theory and the resulting problems of optimal financing structure.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Seminar: Investment and Finance			12-I&F-FS-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Management, Banking and Finance		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This seminar deals with current topics of investments and finance. Students will be required to independently analyse a selected topic and to write a term paper. This term paper may be largely literature based or empirical or may be based on independent work with formal models. In addition, students will be required to deliver a talk on the topic.

Intended learning outcomes

After completing the seminar "Investments and Finance", the students acquired detailed knowledge of important fields of investments and finance. They are also able to process their research findings in a written assignment and to present their findings.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

term paper (approx. 20 pages) and presentation (approx. 20 minutes), weighted 2:1

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Business Cycles and Stabilization Policy			12-Konj1-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Monetary Policy and International Economics		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

The course will introduce students to the theory of business cycle dynamics. Capitalist based economies are subject to pronounced cycles of economic booms and busts. In this course, we will find out why! Kicking off the lecture, we will look at some stylised empirical facts of business cycles. Afterwards, we will give a structural interpretation, focusing in particular on housing and asset markets and their role for the business cycle. We will also take a closer look at investment, one of the main cycle-makers. Afterwards, we will ask the question of how monetary and fiscal policy can safeguard the business cycle. Special attention will be given to the euro area. We will also invite an expert to give a practical introduction to business cycle indicators.

Intended learning outcomes

The course offers an introduction into a vast array of analytical tools. Students
(i) are exposed to 1st and 2nd order difference equations and learn how to solve them;
(ii) learn how business cycle indicator are constructed;
(iii) are supplied with up to date knowledge on the interaction of business cycles, asset markets and economic policy which enables them to critically access contemporaneous policy.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Linear Algebra			10-M-LNA-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
14	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
2 semester	undergraduate	By way of exception, additional prerequisites are listed in the section on assessments.	

Contents

Sets, relations and maps; notions of groups, rings and fields (in particular, polynomial rings); vector spaces (subspaces, quotient spaces, linear independency, basis, dimension); linear maps (isomorphism theorem, image, kernel, rank); matrix calculus; systems of linear equations, determinants, eigenvalues, eigenvectors and eigenspaces, diagonalisability (including characteristic polynomial, minimal polynomial), normal forms, bilinear forms; Euclidean and unitary vector spaces (orthonormal bases, isometries, principal axis transformation).

Intended learning outcomes

The student knows and masters the basic notions and essential methods of linear algebra. He/She is able to perform easy mathematical arguments independently, and can present them adequately in written and oral form. He/She is able to apply the central proof methods and concepts of linear algebra and knows about their algebraic and geometric background.

Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 3 module components. Information on courses will be listed separately for each module component.

- 10-M-LNA-1-082: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 10-M-LNA-2-082: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 10-M-LNA-P-082: M (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 10-M-LNA-1-082: Linear Algebra 1 Linear Algebra 1

- 7 ECTS, Method of grading: (not) successfully completed
- written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner
- Other prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.

Assessment in module component 10-M-LNA-2-082: Linear Algebra 2 Linear Algebra 2

- 5 ECTS, Method of grading: (not) successfully completed
- written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner

- Other prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.

Assessment in module component 10-M-LNA-P-082: Examination in Linear Algebra

- 2 ECTS, Method of grading: numerical grade
- oral examination of one candidate each (approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner
- Only after successful completion of module components: Successful completion of module component 10-M-LNA-1 or module component 10-M-LNA-2 is a prerequisite for participation in module component 10-M-LNA-P.

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie

Module title			Abbreviation
Macroeconomics 1			12-Mak1-G-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of International Macroeconomics		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Description:
This module covers basic macroeconomic relationships, the declaration of employment, production, interest, current and capital account, nominal and real exchange rate, prices and inflation - in the long run (with flexible wages and prices) and in the short term (with fixed wages and prices). The course will familiarise students with concepts which are of central importance in a globalised environment (e. g. interest rate arbitrage, foreign exchange risk, purchasing power parity). The explanations will be applied to current issues (e. g. current account balances in the global economy; questions related to the European monetary union and the global financial crisis).

Outline of syllabus:
1. Macroeconomic issues and characteristics
- Issues of macroeconomics
- The measurement of economic activity
2. Long-term relationships
- The classic long-term model of the closed economy
- Money and Inflation
- The classic long-term model of a small open economy
- Unemployment
3. Short and medium-term relationships
- Fluctuations of economic activity: an introduction
- The IS-LM model of a closed economy
- The IS-LM model of an open economy
- Aggregate supply and Phillips curve
- Conclusion and outlook

Reading:
The latest editions of the following textbooks:
N. Gregory Mankiw: Macroeconomics [students are recommended to read the original English edition; they may also read the German translation]
Olivier Blanchard and David H. Johnson, Macroeconomics Prentice Hall; [a German-language edition of the book by Oliver Blanchard and Gerhard Illing is available from Pearson Studium].
Michael Burda and Charles Wyplosz: Macroeconomics. A European text.
To illustrate the lecture, case studies in particular will be developed in which more current sources are used.

Intended learning outcomes

This expertise enables the students to penetrate economically-intuitively and analytically macroeconomic interactions and problems in the course of advancing globalization and to deal with these arguments. Students learn to interpret on a scientific basis the impact of macroeconomic developments in individual economic actors (businesses, households, the state).

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)
written examination (approx. 60 minutes)
Allocation of places
Number of places: 640. No restrictions with regard to available places for Bachelor's students of Wirtschaftswissenschaft (Business Management and Economics), Wirtschaftsmathematik (Mathematics for Economics) and Wirtschaftsinformatik (Business Information Systems). The remaining places will be allocated to students of other subjects. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.
Additional information
--
Referred to in LPO I (examination regulations for teaching-degree programmes)
--

Module title			Abbreviation
Macroeconomics 2			12-Mak2-G-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Public Finance		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Description:
The lecture provides an introduction to long run or dynamic issues of macroeconomic theory and policy.

Contents:
1. Phillips curve and dynamic model
2. Growth theory and policy
3. Microeconomic foundations of macroeconomics
4. Macroeconomic policy

Lecture notes to be provided by Chair.

Intended learning outcomes

After completing the course "Makroökonomie 2" students are familiar with the most important concepts of growth theory, they know the microeconomic foundations of modern macroeconomic theory and understand the intertemporal budget constraint of the government. Therefore they are able to discuss the growth and distributional consequences of policy reforms by applying simple economic models.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

Number of places: 640. No restrictions with regard to available places for Bachelor's students of Wirtschaftswissenschaft (Business Management and Economics), Wirtschaftsmathematik (Mathematics for Economics) and Wirtschaftsinformatik (Business Information Systems). The remaining places will be allocated to students of other subjects. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Market Research			12-MaFo-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Management and Marketing		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module will acquaint students with modern methods of market research as well as multivariate statistical methods and will thus equip them with the skills necessary to independently conduct practical and empirical scientific studies.

Intended learning outcomes

German intended learning outcomes available but not translated yet.

Die Studierenden verfügen über Kenntnisse moderner Marktforschungsmethoden und multivariater statistischer Verfahren zur eigenständigen Durchführung von praktischen und wissenschaftlichen empirischen Studien.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Microeconomics 1			12-Mik1-G-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Economics, Information and Contract Economics		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

The lecture covers the following topics

Theory of the household:

1. Utility maximisation under constraints
2. Comparative statics
3. Income and substitution effects
4. Labour supply
5. Intertemporal consumption / savings decisions

Theory of the firm:

6. Production functions (technology)
7. Profit maximisation
8. Long run versus short run cost minimisation
9. Supply of goods

Intended learning outcomes

Students are systematically trained in microeconomic methods relevant in household and firm theory. Accordingly, they will know how to solve optimization problems under constraints. These scientific methods will serve as useful in many fields of specialization in economics and business administration. In particular, studends know analytically how to analyze the impact of changes in the economic environment, e.g., wages, interest rates, income on individual decision making.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

Number of places: 640. No restrictions with regard to available places for Bachelor's students of Wirtschaftswissenschaft (Business Management and Economics), Wirtschaftsmathematik (Mathematics for Economics) and Wirtschaftsinformatik (Business Information Systems). The remaining places will be allocated to students of other subjects. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be

allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.
Additional information
--
Referred to in LPO I (examination regulations for teaching-degree programmes)
--

Module title			Abbreviation
Microeconomics 2			12-Mik2-G-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Industrial Economics		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Outline of syllabus:
1. Cost minimisation
2. Profit maximisation and the supply function
3. Short-run market equilibrium
4. Long-run market equilibrium
5. Government interventions
6. Monopoly
7. Pricing strategies with market power
8. Introduction to game theory
9. Strategic interaction and oligopoly

Intended learning outcomes

The aim of the course is to understand how markets work. We will investigate the behavior of a company in different market structures; namely perfectly competitive markets, monopoly markets and all forms in between, the so-called oligopoly markets. Ultimately, we are interested in whether the market results from a social point of view is desirable. Using our models, we will also try to analyze the consequences of different government interventions. The knowledge that students gain in this course will be in their future course of studies of benefits to them. In almost all business and economics lectures markets play a role. It also discussed in detail how economic actors make their decisions. Students will thus learn the important building blocks of economic thought. This knowledge will also be useful in the workplace and even in their private lives.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

Number of places: 405. No restrictions with regard to available places for Bachelor's students of Wirtschaftswissenschaft (Business Management and Economics), Wirtschaftsmathematik (Mathematics for Economics) and Wirtschaftsinformatik (Business Information Systems). The remaining places will be allocated to students of other subjects. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--

Module title			Abbreviation
Microeconomics 3			12-Mik3-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Public Finance		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Description:
This lecture deals with the allocative tasks of the government in a market economy. In this context, the lecture will first develop the theory of market failure and will then describe the positive effects government activities have on such market allocations.

Outline of syllabus:
1. Allocative foundations of welfare economics
2. External effects
3. Public goods

Intended learning outcomes

After completing the course "Microeconomics 3" students know the concept of efficiency and when a market economy satisfies these conditions. They are able to discuss the central role of government in a market economy and to apply these arguments to specific public policies (i.e. envireonmental policy). Of course, students should also be aware of the limitations of government interventions.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Non-Linear Dynamics			10-M-NLD-072-m01
Module coordinator			**Module offered by**
Dean of Studies Mathematik (Mathematics)			Institute of Mathematics
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.	

Contents

Basic notions in stability theory, Lyapunov theory; stable manifolds, periodic solutions including Poincare-Bendixson, chaotic dynamics; applications in physics and biology (e. g. Hamiltonian systems, Volterra-Lotka).

Intended learning outcomes

The student is acquainted with the fundamental concepts and results in non-linear dynamics and their proof methods. He/She is able to apply these methods to simple situations, e.g. in physics or biology.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 1. Mathematik Analysis

Module title			Abbreviation
Numerical Mathematics 1			10-M-NM1-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
8	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.	

Contents

Solution of systems of linear equations and curve fitting problems, nonlinear equations and systems of equations, interpolation with polynomials, splines and trigonometric functions, numerical integration.

Intended learning outcomes

The student is acquainted with the fundamental concepts and methods in numerical mathematics, applies them to practical problems and knows about their typical fields of application.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 5. Mathematik Angewandte Mathematik

Module title			Abbreviation
Numerical Mathematics 2			10-M-NM2-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.	

Contents

Solution methods and applications for eigenvalue problems, linear programming, initial value problems for ordinary differential equations, boundary value problems.

Intended learning outcomes

The student is able to draw a distinction between the different concepts of numerical mathematics and knows about their advantages and limitations concerning the possibilities of application in different fields of natural and engineering sciences and economics.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 5. Mathematik Angewandte Mathematik

Module title			Abbreviation
Economic Basics of Risk Management			12-Risk-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Economics, Information and Contract Economics		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

Rational decisions under uncertainty
1. Measures of risk aversion
2. Mean preserving spread
3. Axiomatic foundations of the expected utility hypothesis (Neumann/Morgenstern, Savage)
4. Insurance contracts
5. Optimal portfolios
6. Adverse selection
7. Moral Hazard
8. Experimental evidence and alternative approaches

Intended learning outcomes

After completing the course students are able to
1. explain the results of the economic theory of decisions under risk,
2. apply the involved methods to given simple examples on their own,
3. recognise, in which real life situations and how the results can be applied.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Operations Research			10-M-ORS-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.	

Contents

Linear programming, duality theory, transport problems, integral linear programming, graph theoretic problems.

Intended learning outcomes

The student is acquainted with the fundamental methods in operations research, as required as a central tool for solving many practical problems especially in economics. He/She is able to apply these methods to practical problems, both theoretically and numerically.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 5. Mathematik Angewandte Mathematik

Module title			Abbreviation
Seminar: Human Resource Management & Organizational Theory			12-P&O-FS-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Human Resource Management and Organisation		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Students will write a seminar paper on, deliver a talk on and discuss current issues in the field of human resources management and organisation in class.

Intended learning outcomes

The students learn to handle, formulate in own words, present, and discuss current research literature.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

term paper (15 to 20 pages) and presentation (approx. 20 minutes), weighted 2:1
Language of assessment: German, English

Allocation of places

Number of places: 15. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. In this procedure, applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Human Resource Management & Organizational Theory			12-P&O-F-082-m01
Module coordinator			**Module offered by**
holder of the Chair of Human Resource Management and Organisation			Faculty of Business Management and Economics
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

The lecture "Personal und Organisation" ("Human Resources Management and Organisation") presents and discusses basic theories, estimation techniques and empirical results from the area of personnel economics and organisation.
Reading list to be provided during lecture

Intended learning outcomes

The aim of the lecture is to enable students to understand and apply basic theories, estimation techniques and empirical results in the area personnel economics and organisation on the basis of text books and scientifc literature.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Programming course for students of Mathematics and other subjects			10-M-PRG-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
3	(not) successfully completed	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Admission prerequisite to assessment: regular attendance (attendance monitored, a maximum of one incident of unexcused absence).	

Contents

Basics of a modern programming language (e. g. C or Fortran) taking into account the particular needs in mathematics.

Intended learning outcomes

The student is able to work independently on small programming exercises and standard programming problems in mathematics.

Courses (type, number of weekly contact hours, language — if other than German)

P (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

project in the form of programming exercises (as specified at the beginning of the course)
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 5. Mathematik Angewandte Mathematik

Module title			Abbreviation
Programming course for students of Mathematics and other subjects, simple			10-M-PRGk-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
2	(not) successfully completed	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Admission prerequisite to assessment: regular attendance (attendance monitored, a maximum of one incident of unexcused absence).	

Contents

Basics of a modern programming language (e. g. C or Fortran) taking into account the particular needs in mathematics.

Intended learning outcomes

The student is able to work independently on small programming exercises and standard programming problems in mathematics.

Courses (type, number of weekly contact hours, language — if other than German)

P (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

project in the form of programming exercises (type and expenditure of time to be specified by the lecturer at the beginning of the course)
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 5. Mathematik Angewandte Mathematik

Module title			**Abbreviation**
Practical course in programming			10-I-PP-072-M01
Module coordinator		**Module offered by**	
Dean of Studies Informatik (Computer Science)		Institute of Computer Science	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
9	(not) successfully completed	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

The programming language Java. Independent creation of small to middle-sized, high-quality Java programs.

Intended learning outcomes

The students are able to independently develop small to middle-sized, high-quality Java programs.

Courses (type, number of weekly contact hours, language — if other than German)

P (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

completion of programming exercises (expenditure of time as specified) and final examination: written examination (60 to 90 minutes) or oral examination (one candidate each: 10 to 15 minutes, groups of 2: 20 minutes, groups of 3: 30 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Propaedeutics of Mathematics			10-M-PPM-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
2	(not) successfully completed	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Admission prerequisite to assessment: regular attendance of courses (as specified at the beginning of the course).	

Contents

Fundamental proof methods and questions in mathematics, insight into examples of abstract concepts of mathematics, e. g. by reference to its historical development, approach to axiomatic and deduction.

Intended learning outcomes

The student is acquainted with the basic proof methods and techniques in mathematics. He/She is able to perform easy mathematical arguments independently and present them adequately and reasonably in written and oral form.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

project assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course)
Assessment offered: once a year, winter semester
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Seminar: Quantitative Economic Research			12-QWF-FS-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Econometrics		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module will take the form of a seminar. Participants will independently work on a subdomain of applied quantitative economics, either theoretically or applying the techniques they have acquired in an empirical study.

Intended learning outcomes

Students acquire the ability to work independently on a given topic in applied quantitative economics, write a summary, and present it to and discuss it with other seminar participants.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

term paper (approx. 15 pages) and presentation (approx. 25 minutes), weighted 2:1

Allocation of places

Number of places: 15. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. In this procedure, applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Seminar: Economic Policy			12-VWL1-FS-082-m01
Module coordinator			**Module offered by**
holder of the Chair of Monetary Policy and International Economics			Faculty of Business Management and Economics
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Acquiring an in-depth understanding of specific problems of macroeconomics.

Intended learning outcomes

After the seminar, students can
(i) consolidate acquired knowledge and if necessary apply additional techniques of scientific work;
(ii) create, present and defend a scientific paper;
(iii) deal with the working papers of other participants;
(iv) prepare beter for the processing of the bachelor thesis.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

term paper (approx. 15 pages) and presentation (approx. 45 minutes), weighted 2:1

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Seminar: Foundation and Corporate Growth			12-UG-FS-091-m01
Module coordinator		**Module offered by**	
holder of the Chair of Entrepreneurship and Management		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Seminar on entrepreneurship and corporate growth. Topics will vary and may include the relationship between entrepreneurship, innovation management and sustainability, university entrepreneurship and technology transfer.

Intended learning outcomes

German intended learning outcomes available but not translated yet.

Die Studierenden beherrschen es, sich vertieft in ein Themenfeld aus dem Bereich Unternehmensgründung und Unternehmenswachstum einzuarbeiten und dieses schriftlich darzustellen. Sie haben Kenntnisse in der Durchführung von Literaturrecherche sowie auch im Verfassen einer inhaltlich und formal wissenschaftlichen Maßstäben entsprechenden Seminararbeit. Durch das Erstellen der Seminararbeit besitzen die Studierenden auch generische Kompetenzen und Qualifikationen, wie sie in einer Vielzahl von beruflichen Kontexten immer wieder relevant werden.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

term paper (approx. 15 to 20 pages) and presentation (approx. 20 to 30 minutes), weighted 2:1
Language of assessment: German or English

Allocation of places

Number of places: 20. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. In this procedure, applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Seminar in Algebra			10-M-BSE-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

A selected topic in algebra.

Intended learning outcomes

The student gains first experience with independent scientific work. He/She masters elaboration and structuring of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate actively in a scientific discussion.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

talk (approx. 60 minutes)
Assessment offered: in the semester in which the course is offered
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie

Module title			Abbreviation
Seminar in Analysis			10-M-BSA-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

A selected topic in analysis.

Intended learning outcomes

The student gains first experience with independent scientific work. He/She masters elaboration and structuring of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate actively in a scientific discussion.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

talk (approx. 60 minutes)
Assessment offered: in the semester in which the course is offered
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 1. Mathematik Analysis

Module title			Abbreviation
Seminar in Discrete Mathematics			10-M-BSD-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

A selected topic in discrete mathematics.

Intended learning outcomes

The student gains first experience with independent scientific work. He/She masters elaboration and structuring of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate actively in a scientific discussion.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

talk (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Seminar in Functional Analysis			10-M-BSF-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

A selected topic in functional analysis.

Intended learning outcomes

The student gains first experience with independent scientific work. He/She masters elaboration and structuring of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate actively in a scientific discussion.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

talk (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Seminar in Complex Analysis			10-M-BSC-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

A selected topic in complex analysis.

Intended learning outcomes

The student gains first experience with independent scientific work. He/She masters elaboration and structuring of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate actively in a scientific discussion.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

talk (approx. 60 minutes)
Assessment offered: in the semester in which the course is offered
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 1. Mathematik Analysis

Module title			Abbreviation
Seminar in Geometry			10-M-BSG-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

A selected topic in geometry or differential geometry.

Intended learning outcomes

The student gains first experience with independent scientific work. He/She masters elaboration and structuring of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate actively in a scientific discussion.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

talk (approx. 60 minutes)
Assessment offered: in the semester in which the course is offered
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 4. Mathematik Geometrie

Module title			Abbreviation
Seminar in Ordinary Differential Equations			10-M-BSW-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

A selected topic in the theory of ordinary differential equations.

Intended learning outcomes

The student gains first experience with independent scientific work. He/She masters elaboration and structuring of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate actively in a scientific discussion.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

talk (approx. 60 minutes)
Assessment offered: in the semester in which the course is offered
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 1. Mathematik Analysis

Module title			Abbreviation
Seminar in Linear Algebra			10-M-BSL-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

A selected topic in linear algebra.

Intended learning outcomes

The student gains first experience with independent scientific work. He/She masters elaboration and structuring of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate actively in a scientific discussion.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

talk (approx. 60 minutes)
Assessment offered: in the semester in which the course is offered
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie

Module title			Abbreviation
Seminar in Numerical Mathematics			10-M-BSN-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

A selected topic in numerical mathematics.

Intended learning outcomes

The student gains first experience with independent scientific work. He/She masters elaboration and structuring of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate actively in a scientific discussion.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

talk (approx. 60 minutes)
Assessment offered: in the semester in which the course is offered
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 5. Mathematik Angewandte Mathematik

Module title			Abbreviation
Seminar in Operation Research			10-M-BSO-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

A selected topic in operations research.

Intended learning outcomes

The student gains first experience with independent scientific work. He/She masters elaboration and structuring of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate actively in a scientific discussion.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

talk (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Seminar in Stochastics			10-M-BSS-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

A selected topic in stochastics.

Intended learning outcomes

The student gains first experience with independent scientific work. He/She masters elaboration and structuring of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate actively in a scientific discussion.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

talk (approx. 60 minutes)
Assessment offered: in the semester in which the course is offered
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 3. Mathematik Stochastik

Module title			Abbreviation
Seminar in Number Theory			10-M-BSZ-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

A selected topic in number theory.

Intended learning outcomes

The student gains first experience with independent scientific work. He/She masters elaboration and structuring of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate actively in a scientific discussion.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

talk (approx. 60 minutes)
Assessment offered: in the semester in which the course is offered
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie

Module title			Abbreviation
Seminar: Economic Order			12-WO-FS-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Economic Order and Social Policy		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

The "Seminar zu Wirtschaftsordnung und Sozialpolitik" ("Seminar: Economic Order") will enable students to independently to work on a specific topic in economic policy. Students will be required to write a seminar paper and the present the results in front of an audience.

Intended learning outcomes

German intended learning outcomes available but not translated yet.

Durch die Anfertigung einer Seminararbeit im Rahmen des Seminars Wirtschaftsordnung und Sozialpolitik soll den Studenten die Kompetenz vermittelt werden, eigenständig eine wissenschaftliche Literaturrecherche durchzuführen und eine wissenschaftliche Arbeit hinsichtlich einer zuvor festgelegten Fragestellung zu verfassen.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

term paper (approx. 25 pages) and presentation (approx. 20 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Simulation of Dynamical Systems			12-Konj3-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of International Macroeconomics		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module will equip students with a basic knowledge of the mathematics of dynamical systems as well as with a knowledge of elementary simulation techniques. Using the respective methods, the module will experimentally investigate the dynamical behaviour of selected models in business cycle theory.

Intended learning outcomes

German intended learning outcomes available but not translated yet.

Die Studierenden verfügen über ein Verständnis der wichtigsten Techniken der Simulation dynamischer Systeme.

Courses (type, number of weekly contact hours, language — if other than German)

V (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

Number of places: 20. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. In this procedure, applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Software technology			10-I-ST-072-M01
Module coordinator		**Module offered by**	
Dean of Studies Informatik (Computer Science)		Institute of Computer Science	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
8	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Object-oriented software development with UML, development of graphical user interfaces, foundations of databases and object-relational mapping, foundations of web programming (HTML, XML), software development processes, unified process, agile software development, project management, quality assurance.

Intended learning outcomes

The students possess a fundamental theoretical and practical knowledge on the design and development of software systems, in particular for the web.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Stochastics 1			10-M-ST1-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
8	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.	

Contents

Combinatorics, Laplace models, selected discrete distributions, elementary measure and integration theory, continuous distributions: normal distribution, random variable, distribution function, product measures and stochastic independence, elementary conditional probability, characteristics of distributions: expected value and variance, limit theorems: law of large numbers, central limit theorem.

Intended learning outcomes

The student is acquainted with fundamental concepts and methods in stochastics, applies these methods to practical problems and knows about the typical fields of application.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 3. Mathematik Stochastik

Module title			Abbreviation
Stochastics 2			10-M-ST2-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.	

Contents

Elements of data analysis, statistics of data in normal and other distributions, elements of multivariate statistics.

Intended learning outcomes

The student is acquainted with fundamental concepts and methods in statistics, applies these methods to practical problems and knows about the typical fields of application.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 3. Mathematik Stochastik

Module title			Abbreviation
Competition and Strategy 1			12-S&W1-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Industrial Economics		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Outline of syllabus:
1. Static games with complete information
- Concept of a game
- Solution concepts and the Nash equilibrium
- Continuous strategy sets
- Nash equilibrium in mixed strategies
2. Dynamic games with complete information
- Subgame perfect Nash equilibrium
- Repeated games
3. Static games with incomplete information: Bayesian Nash equilibrium
4. Dynamic games with incomplete information
- Perfect Bayesian Nash equilibrium
- Signaling games

Intended learning outcomes

Students which complete this course will be able to
(i) explain different equilibrium concepts (Nash equilibrium, subgame perfect equilibrium, bayesian equilibrium, perfect bayesian equilibrium);
(ii) explain for which kind of strategic situation each of these equilibrium concepts were developed;
(iii) apply these concepts to simple realistic strategic situations;
(iv) choose the appropriate equilibrium concept which fits best to a given strategic situation.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Competition and Strategy 2			12-S&W2-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Industrial Economics		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Content:
German and European Competition Policy illustrated by real world cases of the Competition Protection Office.

Outline of syllabus:
1. History of economic thought on competition and mission statements
2. Overview of German and European competition law
3. Fundamentals of industrial economics
4. Classic cartels
5. Tacit collusion
6. Horizontal mergers
7. Joint ventures
8. Abuse of dominant positions: price level
9. Abuse of dominant positions: price discrimination
10. Vertical restraints
11. Vertical mergers

Reading:
Schulz: Wettbewerbspolitik, Tübingen.

Intended learning outcomes

After completing the course students are able to
(i) recognize the potential of lessening competition due to certain practices by firms;
(ii) argue by using results from industrial economics why certain practices hinder competition;
(iii) understand decisions of the Bundeskartellamt and of the European Commission and evaluate such decisions from an economic point of view.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Competition and Strategy 3			12-S&W3-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Industrial Economics		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Outline of syllabus:
1. Repetition of micro skills
- Definitions and basic concepts
- Market analysis
2. Introduction to regulation theory
- The regulatory process
- The natural monopoly
- Optimal pricing of natural monopoly
- Privatisation
3. Practice of economic regulation
- Past and recent experience in Europe and around the world
- Analysis of selected naturally monopolistic markets

This course will be taught in English.

Intended learning outcomes

The aim of this course is to provide the students with an understanding of the economic analysis that underpins competition policy and regulatory policy towards network utilities and to provide them with some institutional background.
Upon successful completion of this module the students will
(i) acquire an understanding of the underlying reasons why some markets cannot be made competitive;
(ii)acquire a knowledge of the economic principles that lie behind the application of competition policy and utility regulation;
(iii) develop an understanding of the ways in which economic analysis can positively inform competition policy and utility regulation, and the limitations of economic analysis in this context;
(iv) learn from the practical experiences of market regulation and deregulation of the last 20-30 years.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Seminar: Competition and Strategy			12-S&W3-FS-082-m01
Module coordinator			**Module offered by**
holder of the Chair of Industrial Economics			Faculty of Business Management and Economics
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This course covers selected topics from the field of industrial economics. Students will be expected to independently work on a topic, submit a written piece of work and present their findings orally.

Intended learning outcomes

Students are able to independently investigate and classify scientific publications on their relevance to a given theme. In addition, they are able to present the results orally and in writing by conventional scientific standards.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

term paper (approx. 15 pages) and presentation (approx. 20 minutes), weighted 2:1

Allocation of places

Number of places: 15. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. In this procedure, applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Supply Chain Management			12-SCM-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Logistics and Quantitative Methods in Business Administration		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

The seminar "Supply Chain Management" will introduce students to tactical and operational planning problems of supply chain management. It will discuss the wording of these as formal models and, with the help of a continuous case study, will acquaint students with the implementation of these models in SAP APO.

Intended learning outcomes

After completing this seminar students can
(i) apply selected and applied quantitative models for procurement, production, sales and supply chain management;
(ii) face the practical problems when using real data to feed models;
(iii) understand the challenges to reach a coordinated decision in a company.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Business Valuation between Financial Mathematics and Data on Capital Market			12-UBW-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Management, Banking and Finance		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Content:
This course deals with the "objectified corporate valuation" of public companies, the components of the discount rate and the mathematical structure of the DCF methods.

Outline of syllabus:
1. Introduction
2. Uncertainty as the central problem in the valuation of a company
3. Estimation of surpluses: accuracy and consistency
4. Risk free rate: capitalised value under certainty applying different interest rate structures
5. The risk premium: identification of the relevant risk and its equivalence for valuation object and alternative investment
6. Different discounted cash flow valuation methods: formal foundations and economic principles

Intended learning outcomes

After completion of the module "Business valuation between Financial Mathematics and capital market data" students can
(i) understand the modern process of objectified business valuation theory;
(ii) examine submitted reviews according to consistent application of these methods.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Entrepreneurship and Management			12-U&UF-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Management and Marketing		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Description:
The module builds on the introductory course "Grundlagen marktorientierter Unternehmensführung" ("Fundamentals of Market-based Management"). It provides a systematic introduction to the approaches of corporate management (stakeholder and shareholder value approach) as well as an overview of market-oriented corporate governance. In addition, aspects of responsible leadership will be discussed.
The theory of Chester Barnard with the idea of creating a complex economic incentive contribution balance in the company will help students develop an in-depth understanding of typical management tasks. In addition, the course will focus on the development of business plans for the successful establishment and the continued existence of companies.

Outline of syllabus:
1. Business and strategy in economic theory
2. Business plan as a strategy concept
3. Stakeholder management and responsible leadership
4. Stakeholder value, shareholder value and creating shared value

Intended learning outcomes

Students will gain profound knowledge of basics in business as well as basics in different approaches in corporate management. Furthermore the students will get an overview of the main tools to create a business plan.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Advanced Analysis			10-M-VAN-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
8	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.	

Contents

Lebesgue integral in several variables, including theorems on convergence and Fubini's theorem, L^p-spaces and elementary Fourier theory in L^2, Gauss's theorem.

Intended learning outcomes

The student is acquainted with advanced topics in analysis. Taking the example of the Lesbegue integral, he or she is able to understand the construction of a complex mathematical concept.

Courses (type, number of weekly contact hours, language — if other than German)

Ü + V (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 1. Mathematik Analysis

Module title			Abbreviation
Preparatory Course Mathematics			10-M-VKM-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
1	(not) successfully completed	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Admission prerequisite to assessment: regular attendance of courses (as specified at the beginning of the course).	

Contents

Introduction to the basic techniques in mathematics; approach to sets, propositions, propositional logic.

Intended learning outcomes

The student gets acquainted with the basic working techniques which are prerequisites for the further courses in the Bachelor's degree study programme.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

project assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course)
Assessment offered: once a year, winter semester
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Seminar: Information Technologies			12-Wiinf-FS-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Business Management and Business Information Systems		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

In this course, students will acquire important knowledge and skills that will enable them to prepare a well-structured term paper and to present the results of their work with the help of relevant topics in the fields of information systems and enterprise systems.

Reading:
will vary according to topic

Intended learning outcomes

After completing the course "Wirtschaftsinformatik-Seminar", students will be able to
1. understand the fundamentals of scientific literature reviews;
2. integrate elaborated content in a scientific thesis;
3. create presentations independently.

Courses (type, number of weekly contact hours, language — if other than German)

S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

term paper (20 pages) and presentation (approx. 20 minutes), weighted 2:1

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module title			Abbreviation
Number Theory and Algebra			10-M-ZAL-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
13	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
2 semester	undergraduate	By way of exception, additional prerequisites are listed in the section on assessments.	

Contents

Introduction to number theory, algebra and their interrelations: basic algebraic structures (groups, rings, fields); discussion of properties of integers and rational numbers (as well as algebraic extensions) with regard to their algebraic structure (residue class rings and finite fields).

Intended learning outcomes

The student is acquainted with the fundamental concepts and methods of number theory and algebra. He/she is able to interrelate these concepts and realises the advantages of thinking across the borders of different branches in mathematics.

Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 3 module components. Information on courses will be listed separately for each module component.

- 10-M-ZAL-1-082: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 10-M-ZAL-2-082: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 10-M-ZAL-P-082: M (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 10-M-ZAL-1-082: Introduction to Number Theory Introduction to Number Theory

- 4 ECTS, Method of grading: (not) successfully completed
- written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner
- Other prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.

Assessment in module component 10-M-ZAL-2-082: Introduction to Algebra Introduction to Algebra

- 7 ECTS, Method of grading: (not) successfully completed
- written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner
- Other prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have

obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.

Assessment in module component 10-M-ZAL-P-082: Examination in Number Theory and Algebra

- 2 ECTS, Method of grading: numerical grade
- oral examination of one candidate each (approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner
- Only after successful completion of module components: Successful completion of module component 10-M-ZAL-1 or module component 10-M-ZAL-2 is a prerequisite for participation in module component 10-M-ZAL-P.

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie

Module title			Abbreviation
Time Series Analysis			12-Konj2-F-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Econometrics		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

In this module, students will become familiar with basic methods for describing, analysing and forecasting economic time series. Filter and component models, ARIMA and spectral analytic methods will be discussed.

Note: This module is not offered on a regular basis.

Intended learning outcomes

Students acquire comprehension on the key methods of time-series analysis. They will be able to analyze and forecast economic time-series competently.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)

Allocation of places

Number of places: 20. Should the number of applications exceed the number of available places, places will be allocated in a standardised procedure among all applicants irrespective of their subjects according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. In this procedure, applicants who already have successfully completed at least one module component of the respective module will be given preferential consideration. Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--