Subdivided Module Catalogue
for the Subject

Economathematics
as a Master’s with 1 major
with the degree "Master of Science"
(120 ECTS credits)

Examination regulations version: 2011
Responsible: Institute of Mathematics
Responsible: Faculty of Business Management and Economics
Course of Studies - Contents and Objectives

The Master programme Business Mathematics is offered by the Faculty of Mathematics and Computer Science, jointly with the Faculty of Economics and Business Studies.

The Master study programme in Business Mathematics is intended to provide the students with the following qualifications:

- capacity of abstraction,
- rigour in analytic reasoning,
- excellent capacity to realize the structure of complex interrelations,
- sound qualification in applying methods from applied mathematics, statistics and stochastics, financial and insurance mathematics, economics and business studies to specific problems,
- high stamina in dealing with difficult problems,
- high capacity in problem solving,
- ability to carry out scientific work independently and on a high level,
- ability to cooperate responsibly within an interdisciplinary team of business mathematicians, mathematicians, economists and computer scientist,
- insight into and overview over current research in at least one field of Business Mathematics,
- qualification for meeting the standards of a Ph.D. programme in Business Mathematics (if applicable).

For the Master thesis the student works independently on a topic in Business Mathematics and solves a problem within a limited time frame, following scientific criteria and applying established methods or modifying them if necessary.

The Master exam ascertains that the candidate has a good overview in the field of Business Mathematics and possesses the ability to use the corresponding scientific methods independently. The degree Master of Science in Business Mathematics constitutes a further professional and scientific qualification.
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:

ASPO2009

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

19-Jan-2012 (2012-1)

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

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<tr>
<th>Abbreviation</th>
<th>Module title</th>
<th>ECTS credits</th>
<th>Method of grading</th>
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<td>Students must achieve 10 ECTS credits each in no less than two of the following three sub-areas: &quot;Angewandte Mathematik&quot; (&quot;Applied Mathematics&quot;), &quot;Stochastik und Statistik&quot; (&quot;Stochastics and Statistics&quot;) and &quot;Finanz- und Versicherungsmathematik&quot; (&quot;Financial and Insurance Mathematics&quot;).</td>
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### Master's with 1 major, 120 ECTS credits

#### Module Catalogue for the Subject

**Economathematics**

12-M-PROM-111-m01  
Project Management and Controlling  
5  
NUM  
95

12-M-REKA-111-m01  
Accounting and Capital Markets  
5  
NUM  
96

12-M-SBM-111-m01  
Strategic Supply Management  
5  
NUM  
97

12-M-OE1-111-m01  
Econometrics 1  
5  
NUM  
91

12-M-OE2-111-m01  
Econometrics 2  
5  
NUM  
92

12-M-DSS-112-m01  
Decision Support Systems  
5  
NUM  
17

12-IU-111-m01  
Information Processing within Organizations  
5  
NUM  
61

#### Finance, Accounting and Taxation (20 ECTS credits)

**Compulsory Electives (20 ECTS credits)**

12-M-ER-111-m01  
Advanced Financial Accounting (German GAAP, IFRS)  
5  
NUM  
73

12-M-ER-111-m01  
Advanced Auditing  
5  
NUM  
104

12-M-Bsa-111-m01  
Portfolio Selection and Capital Market Theory  
5  
NUM  
66

12-M-Bsb-111-m01  
Agency Theory  
5  
NUM  
67

12-M-SP-111-m01  
Economics of Tax Planning  
5  
NUM  
98

12-M-KOBO-111-m01  
Coordination, Budgeting and Incentives in Enterprises  
5  
NUM  
80

12-M-PROM-111-m01  
Project Management and Controlling  
5  
NUM  
95

12-M-STB-111-m01  
Tax Accounting  
5  
NUM  
110

#### Research Methods (20 ECTS credits)

**Compulsory Courses (15 ECTS credits)**

12-M-AM-111-m01  
Advanced Microeconomics  
5  
NUM  
64

12-M-AME-111-m01  
Advanced Macroeconomics  
5  
NUM  
113

12-M-OE1-111-m01  
Econometrics 1  
5  
NUM  
91

**Compulsory Electives (5 ECTS credits)**

12-M-DMM-111-m01  
DSGE Modelling  
5  
NUM  
114

12-M-TIT-111-m01  
Topics in International Trade  
5  
NUM  
121

12-M-DWT-111-m01  
Economic Dynamics  
5  
NUM  
117

12-M-EWS-111-m01  
European Economic Statistics  
5  
NUM  
123

12-M-AIT-111-m01  
Advanced International Trade  
5  
NUM  
116

12-M-QWP-111-m01  
Quantitative Economic Policy  
5  
NUM  
126

12-M-MNE-111-m01  
Multinational Enterprises  
5  
NUM  
87

12-M-Th1-111-m01  
Theory of Industrial Organization 1  
5  
NUM  
101

12-M-Th2-111-m01  
Theory of Industrial Organization 2  
5  
NUM  
100

12-M-F4-111-m01  
Optimal Tax Theory  
5  
NUM  
109

12-M-NGM-111-m01  
Applied General Equilibrium Models  
5  
NUM  
115

12-M-FMO-111-m01  
Analysis of Financial Market Data  
5  
NUM  
77

12-M-MIK-111-m01  
Microeconometrics  
5  
NUM  
84

12-M-OE2-111-m01  
Econometrics 2  
5  
NUM  
92

12-M-OE3-111-m01  
Econometrics 3  
5  
NUM  
93

12-M-SPM-111-m01  
Strategic Production Management  
5  
NUM  
99

12-M-EPF-111-m01  
Empirical HR Research  
5  
NUM  
112

12-M-EGF-111-m01  
Empirical Research in Entrepreneurship and Management  
5  
NUM  
71

12-M-NUF-111-m01  
Management of Corporate Sustainability  
5  
NUM  
90

12-M-REKA-111-m01  
Accounting and Capital Markets  
5  
NUM  
96

12-M-ISF-102-m01  
Information Systems Research  
5  
NUM  
19

#### Industrial Management (20 ECTS credits)

**Compulsory Courses (15 ECTS credits)**

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Master's with 1 major Economathematics (2011)  
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<th>Credits</th>
<th>Type</th>
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<tr>
<td>12-M-LA-111-m01</td>
<td>Lot Sizing and Scheduling</td>
<td>5</td>
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<td>12-M-SBM-111-m01</td>
<td>Strategic Supply Management</td>
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<td>NUM</td>
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<td>Strategic Production Management</td>
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**Compulsory Electives (5 ECTS credits)**

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<td>NUM</td>
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<td>12-GPU-072-m01</td>
<td>Business Processes in different Lines of Business</td>
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<td>12-GLP-111-m01</td>
<td>Introduction to Logistical Process Design</td>
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<td>12-IU-111-m01</td>
<td>Information Processing within Organizations</td>
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<td>NUM</td>
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<td>12-LA-111-m01</td>
<td>Logistic Concepts and Processes</td>
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<td>12-LM-111-m01</td>
<td>Operations Research</td>
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<td>12-MM-111-m01</td>
<td>Management Methods</td>
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<td>Process and System Modelling</td>
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<td>12-RM-KS-111-m01</td>
<td>Risk Management - Concepts and Systems</td>
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**Information Management (20 ECTS credits)**

**Compulsory Courses (10 ECTS credits)**

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**Compulsory Electives (10 ECTS credits)**

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<td>Adaptive Business Platforms 1</td>
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<td>12-GPU-072-m01</td>
<td>Business Processes in different Lines of Business</td>
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<td>Information Systems Analysis and Design</td>
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<td>12-ITA-111-m01</td>
<td>Work and Information</td>
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**Logistics (20 ECTS credits)**

**Compulsory Courses (10 ECTS credits)**

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<td>12-PSM-111-m01</td>
<td>Process and System Modelling</td>
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**Human Resource Management and Organization (20 ECTS credits)**

**Compulsory Courses (10 ECTS credits)**

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**Strategic Marketing Management (20 ECTS credits)**

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**Entrepreneurship and Management (20 ECTS credits)**

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**Compulsory Electives (10 ECTS credits)**

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**Econometrics (20 ECTS credits)**

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### Module Catalogue for the Subject

**Economathematics**

**Master's with 1 major, 120 ECTS credits**

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#### Public Finance (20 ECTS credits)

**Compulsory Courses (10 ECTS credits)**

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**Compulsory Electives (10 ECTS credits)**

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#### National and International Monetary Economics (20 ECTS credits)

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#### International Trade (20 ECTS credits)

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#### Economic Order and Social Policy (20 ECTS credits)

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Master’s with 1 major Economathematics (2011)
### Module Catalogue for the Subject Economathematics

**Master’s with 1 major, 120 ECTS credits**

#### Compulsory Courses (10 ECTS credits)

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#### Economic Policy (20 ECTS credits)

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#### Interdisciplinary Seminars and Workshops (10 ECTS credits)

**Seminars and Workshops Mathematics (10 ECTS credits)**

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**Seminars Business Management and Economics (10 ECTS credits)**

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<td>12-M-APS-111-m01</td>
<td>Seminar: Selected Topics in Buiness Management and Economics</td>
<td>10</td>
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<tr>
<td>12-M-SPO-111-m01</td>
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<td>10</td>
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<td>10</td>
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<td>10</td>
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<td>12-M-MEW-111-m01</td>
<td>Seminar: Macroeconomics and Quantitative Economic Research</td>
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**Thesis (30 ECTS credits)**

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<td>Thesis Business Mathematics (Master Thesis)</td>
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</table>
## Module title
**Business Processes in different Lines of Business**

### Abbreviation
12-GPU-072-m01

---

### Module coordinator
holder of the Chair of Business Management and Business Information Systems

### Module offered by
Faculty of Business Management and Economics

### ECTS
5

### Method of grading
numerical grade

### Only after succ. compl. of module(s)
--

### Duration
1 semester

### Module level
graduate

### Other prerequisites
--

---

## Contents

**Content:**
This module provides students with an overview of the structure of a business information system (SAP Business ByDesign) in depth.

**Outline of syllabus:**
1. Integrated information systems: integration, standard software, system architecture
2. Working with standard business software
3. Consulting in integrated information systems: project management, project organisation, presentation skills

**Description:**
The lecture will be accompanied by an exercise that will present students with an opportunity to access, in small groups, the enterprise resource planning system operated by the Chair in its ERP laboratory and to work with the software, dealing with a wide variety of business processes.

If you would like to register for this course, please submit an application to the consultants (cover letter, CV, certificates; please also specify your degree programme and student ID number).

**Intended learning outcomes**
After completing the course "Business Software 1", students will be able to
(i) understand an ERP system in its depth;
(ii) understand the interaction of business processes;
(iii) execute business tasks and processes in an ERP system independently (after participation in the practice lessons).

**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)
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: Strategic Marketing
Abbreviation: 12-M-SM-102-m01

Module coordinator: holder of the Chair of Business Management and Marketing
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Only after succ. compl. of module(s): --
Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents:

Description:
The module raises awareness in students of the relevance and necessity of strategic management in a competitive and dynamical competitive process.

Content:
Based on the marketing strategies as well as the stakeholder and entrepreneurship approaches, this module discusses the roots of the concept of strategy in marketing based on Drucker, Porter, Ansoff and Mintzberg. The focus of the module is on thinking in competitive advantages, which is directly related to responsible leadership.

Outline of syllabus:
1. Competitive dynamics requires strategy and leadership
2. Marketing strategies, stakeholder management and entrepreneurship
3. Objectives and tasks of corporate governance in management practice
4. Competitive forces, strategies and benefits according to Michael Porter
5. Growth strategies and marketing myths
6. Future technologies, new businesses and dynamic capabilities
7. Nature and principles of responsible management

Reading:

**Intended learning outcomes**

The students have a deeper understanding of the sustainable corporate management and have the basics of the competitive process and competitive dynamics available. In addition, they can use the acquired knowledge, while taking into account the conventional problems of the strategic and sustainable management, to solve business case studies on their own.

**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
---|---
International Marketing | 12-M-IJM-102-m01

**Module coordinator**
holder of the Chair of Business Management and Marketing

**Module offered by**
Faculty of Business Management and Economics

<table>
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</table>

**Duration** | **Module level** | **Other prerequisites**
---|---|---
1 semester | graduate | --

**Contents**

**Description:**
The module builds on the knowledge acquired during the Bachelor's degree programme or the Grundstudium (stage I studies). It provides a systematic introduction to strategic marketing decisions in global and international contexts. These are explained mainly by Porter's diamond and cluster models. Another focus is on internationalisation strategies, which require country analyses and decisions on the selection of national markets as well as a timing of the countries market development. In addition, the module discusses different strategies for market entry and market development.

**Outline of syllabus:**
1. Internationalisation of the economy and regional integration processes
   - Globalisation
   - Competitiveness of countries, industries and companies in an international context
2. International strategic marketing decisions
   - Market entry forms
   - Market development strategies
   - Timing strategies
   - International organisation structures
3. Theories and strategies of internationalisation
   - Foreign trade theory
   - Multinational enterprise
   - Internationalisation strategies

**Reading:**

**Intended learning outcomes**
Students acquire in-depth skills in the field of strategic and operational management with particular attention to the international context. Students achieve particular expertise in the analysis, assessment and implementation of international business decisions and gain skills thus guiding the execution of marketing and management positions in globally-active companies.

**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**  
Employment Law

**Abbreviation**  
02-J6-102-m01

**Module coordinator**  
holder of the Chair of Civil Law, Employment and Labour Law and Civil Procedure

**Module offered by**  
Faculty of Law

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**Contents**

German contents available but not translated yet.

Grundlagen des Arbeitsrechts als Voraussetzung für berufliche Kontexte, die auch juristisches Hintergrundwissen benötigen.

**Intended learning outcomes**

German intended learning outcomes available but not translated yet.

Die Studierenden haben gelernt, arbeitsrechtliche Grundlagen auf ein späteres berufliches Handlungsfeld zu applizieren.

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

V + K (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)

Methods of assessment: a) written examination (approx. 120 minutes), b) talk (approx. 30 minutes), c) presentation (approx. 15 minutes), d) written elaboration of presentation (approx. 10 pages); options a) and b) weighting: 3:2 or options a) and c) and d) weighting: 3:1:1

**Allocation of places**

Number of places: maximum 30, up to 10 of which will be set aside for students of the Master’s degree programme Business Management. These places will be allocated in advance. Should the number of applications exceed the number of places available after deduction of the number of places mentioned above, places will be allocated by lot among all applicants who applied within the registration period. Should there be the need to take different specialisations among applicants into account, the above-mentioned maximum number of participants will be divided up into subject contingents according to the share of applications from students of the respective subjects in the total number of applications. Should the resulting numbers of places be fractional numbers, they will be rounded up (minimum: one place). The places available according to the subject contingents will be allocated by lot to applicants of the respective subject.

**Additional information**

--

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

--
Module title | Abbreviation
--- | ---
Decision Support Systems | 12-M-DSS-102-m01

Module coordinator | Module offered by
holder of the Chair of Information Systems Engineering | Faculty of Business Management and Economics

<table>
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<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
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<td>numerical grade</td>
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</tr>
</tbody>
</table>

Duration | Module level | Other prerequisites
--- | --- | ---
1 semester | graduate | -- |

Contents

The course discusses advanced approaches for modelling and solving decision problems in business settings. The acquired insights are used to design and implement decision support systems using standard software tools.

Intended learning outcomes

After successfully completing the course, students should be able to

- Understand the structure of classic business decision problems
- Isolate key elements from general problem descriptions and convert them to quantitative decision models
- Solve different classes of optimization problems (linear, network, integer, multi-objective, non-linear, stochastic)
- Implement spreadsheet-based decision support systems

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)

The method of assessment will be specified at the beginning of each exercise. a) written examination (approx. 60 minutes) or b) presentation (approx. 20 minutes) with written elaboration (approx. 15 to 20 pages), weighted 1:2 or c) oral examination (one candidate each: approx. 10 to 15 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes) or c) completion of programming exercises (as specified)

Allocation of places

--

Additional information

--

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

--
Internet-Based Systems

Module title

Abbreviation

12-M-IBS-102-m01

Module coordinator

holder of the Chair of Information Systems Engineering

Module offered by

Faculty of Business Management and Economics

ECTS

Method of grading

5

numerical grade

Only after succ. compl. of module(s)

Duration

Module level

Other prerequisites

1 semester

graduate

--

Contents

The lecture provides an overview of the relationships between the advent of web-based platforms (electronic markets, Web 2.0 etc.) and the strategic management of a company.

Intended learning outcomes

The module provides students with knowledge of:

(i) Theoretical concepts of strategy development and implementation in e-business context;
(ii) The strengths and weaknesses of different frameworks and approaches as well as the conditions for their meaningful application;
(iii) Transfer of concepts to other situations of entrepreneurial studies or work.

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)

The method of assessment will be specified at the beginning of each exercise. a) written examination (approx. 60 minutes) or b) presentation (approx. 20 minutes) with written elaboration (approx. 15 to 20 pages), weighted 1:2 or c) oral examination (one candidate each: approx. 10 to 15 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes) or c) completion of programming exercises (as specified)

Allocation of places

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Additional information

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

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Module title | Abbreviation
---|---
Information Systems Research | 12-M-ISR-102-m01

Module coordinator | Module offered by
holder of the Chair of Information Systems Engineering | Faculty of Business Management and Economics

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<th>Duration</th>
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</tr>
</thead>
<tbody>
<tr>
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<td>graduate</td>
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</tr>
</tbody>
</table>

Contents

The course provides an overview of theoretical scientific foundations, theories, research topics and methods of international research in business informatics.

Intended learning outcomes

The module provides students with knowledge of:
(i) Exploration of classical themes of WI / IS research;
(ii) Getting to know the relevant paradigms, theories and methods;
(iii) Recognition of the interfaces to other areas of business administration and management practice;
(iv) Gain experience in finding and evaluating of scientific 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)

The method of assessment will be specified at the beginning of each exercise. a) written examination (approx. 60 minutes) or b) presentation (approx. 20 minutes) with written elaboration (approx. 15 to 20 pages), weighted 1:2 or c) oral examination (one candidate each: approx. 10 to 15 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes) or c) completion of programming exercises (as specified)

Allocation of places

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Additional information

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Referred to in LPO 1 (examination regulations for teaching-degree programmes)

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### Module: Introduction to Control Theory

**Abbreviation:** 10-M=ARTH-102-m01  

**Module coordinator:** Dean of Studies Mathematik (Mathematics)  
**Module offered by:** Institute of Mathematics  

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**Duration:** 1 semester  
**Module level:** graduate  
**Other prerequisites:** Registration for the exercise must be made via SB@home at the beginning of the course or as announced by the lecturer in accordance with the specified registration deadlines. Certain prerequisites must be met to qualify for admission to assessment (e.g. successful completion of a certain percentage of exercises). The lecturer will inform students about the respective details at the beginning of the course. Registration for the exercise 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

Introduction to mathematical systems theory: stability, controllability and observability, state feedback and stability, basics in optimal control.

### Intended learning outcomes

The student is acquainted with the fundamental notions and methods of control theory. He/She is able to establish a connection between these results and broader theories, and learns about the interactions of geometry and other fields of mathematics.

### Courses

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

### Method of assessment

written examination (approx. 90 to 120 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)  
Assessment offered: Assessment offered in the semester in which the course is offered and in the subsequent semester, course offered on demand or every four semesters.  
Language of assessment: German or English

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
## Module Catalogue for the Subject Economathematics

**Master's with 1 major, 120 ECTS credits**

### Module title
- **Applied Analysis**
  - **Abbreviation**: 10-M=AAAN-102-m01

### Module coordinator
- Dean of Studies Mathematik (Mathematics)

### Module offered by
- Institute of Mathematics

### ECTS
- **10**

### Method of grading
- Only after succ. compl. of module(s)

### Numerical grade
- **--**

### Duration
- 1 semester

### Module level
- Graduate

### Other prerequisites
- Registration for the exercise must be made via SB@home at the beginning of the course or as announced by the lecturer in accordance with the specified registration deadlines. Certain prerequisites must be met to qualify for admission to assessment (e.g., successful completion of a certain percentage of exercises). The lecturer will inform students about the respective details at the beginning of the course. Registration for the exercise 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

### Intended learning outcomes
- The student is acquainted with the fundamental notions, methods and results of higher analysis. He/She is able to establish a connection between his/her acquired skills and other branches of mathematics and questions in physics and other natural and engineering sciences.

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

### Method of assessment
- **At the beginning of the course, the lecturer will choose one of the following methods of assessment: a) written examination (90 to 120 minutes), b) oral examination of one candidate each (approx. 20 minutes), c) oral examination in groups (groups of 2, approx. 30 minutes)**

### Assessment offered
- Assessment offered in the semester in which the course is offered and in the subsequent semester, course offered on demand or every four semesters.

### Language of assessment
- German, English

### Allocation of places
- --

### Additional information
- --

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

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Master's with 1 major Economathematics (2011)

JMU Würzburg • generated 17-Sep-2019 • exam. reg. data record 88[276]:1-H|2011

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## Module Catalogue for the Subject Economathematics
Master's with 1 major, 120 ECTS credits

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<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
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<tr>
<th>Duration</th>
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<th>Other prerequisites</th>
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<tr>
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</tr>
</tbody>
</table>

### Contents

Theory of parameter and domain estimates, tests for statistical estimates, distribution models, empirical distribution analysis, comparative analysis, statistical product testing, survey sampling, audit sampling.

### Intended learning outcomes

The student masters the fundamental statistical methods for industrial applications.

### Courses

(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)

At the beginning of the course, the lecturer will choose one of the following methods of assessment: a) written examination (90 to 120 minutes), b) oral examination of one candidate each (approx. 20 minutes), c) oral examination in groups (groups of 2, approx. 30 minutes)

Language of assessment: German, English

### Allocation of places

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### Additional information

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

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<table>
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<td>Institute of Mathematics</td>
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<th>Duration</th>
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### Contents

Discretisation of elliptic differential equations, classical iteration methods, preconditioners, multigrid methods.

### Intended learning outcomes

The student is acquainted with the most important methods for solving large systems of equations, and knows the most efficient way to solve a given system of equations.

### 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)

At the beginning of the course, the lecturer will choose one of the following methods of assessment: a) written examination (90 to 120 minutes), b) oral examination of one candidate each (approx. 20 minutes), c) oral examination in groups (groups of 2, approx. 30 minutes)

Language of assessment: German, English

### Allocation of places

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### Additional information

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<thead>
<tr>
<th>Module title</th>
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<tbody>
<tr>
<td>Basics of Optimization</td>
<td>10-M=AOPT-102-m01</td>
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**Module coordinator**
- Dean of Studies Mathematik (Mathematics)
- Institute of Mathematics

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

**Duration**
- 1 semester
- Module level: graduate

**Other prerequisites**
- Registration for the exercise must be made via SB@home at the beginning of the course or as announced by the lecturer in accordance with the specified registration deadlines. Certain prerequisites must be met to qualify for admission to assessment (e.g., successful completion of a certain percentage of exercises). The lecturer will inform students about the respective details at the beginning of the course. Registration for the exercise 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**
Fundamental methods and techniques in continuous optimization, unrestricted optimization, conditions for optimality, restricted optimization, examples and applications in natural and engineering sciences as well as economics.

**Intended learning outcomes**
The student knows the fundamental methods of continuous optimization, can judge their strengths and weaknesses and can decide which method is the most suitable in applications.

**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**
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- Language of assessment: German, English

**Allocation of places**
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**Additional information**
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**Referred to in LPO I** (examination regulations for teaching-degree programmes)
--
**Module title** | **Abbreviation**
---|---
Stochastic Models for Risk Analysis | 10-M=ASMR-102-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**
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1 semester | graduate | Registration for the exercise must be made via SB@home at the beginning of the course or as announced by the lecturer in accordance with the specified registration deadlines. Certain prerequisites must be met to qualify for admission to assessment (e.g. successful completion of a certain percentage of exercises). The lecturer will inform students about the respective details at the beginning of the course. Registration for the exercise 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**
Measure theory, risk diagrams, failure mode and effects analysis, risk assessment in auditing, shortfall measures, value at risk, conditional value at risk, axiomatic of risk measures, modelling of interdependencies, copula, modelling of functional interrelations, regression models, basics in time series modelling, aggregated losses, estimates of shortfall measures, estimates of value at risk and conditional value at risk, basics in empirical time series analysis, methods of exponential smoothing, predictions and prediction domains, estimates of value at risk in time series, elementary empirical regression analysis, simulation methods.

**Intended learning outcomes**
The student is acquainted with the fundamental methods of stochastic risk analysis.

**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)
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Language of assessment: German, English

**Allocation of places**
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**Additional information**
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**Referred to in LPO I** (examination regulations for teaching-degree programmes)
--
### Module Title

**Stochastical Processes**

### Abbreviation

10-M=ASTP-102-m01

### Module Coordinator

Dean of Studies Mathematik (Mathematics)

### Module Offered by

Institute of Mathematics

### ECTS

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### Contents

Markov chains, queues, stochastic processes in $C[0,1]$, Brownian motion, Donsker's theorem, projective limits.

### Intended Learning Outcomes

The student is acquainted with the fundamental notions and methods of stochastical processes and can apply them 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)

At the beginning of the course, the lecturer will choose one of the following methods of assessment: a) written examination (90 to 120 minutes), b) oral examination of one candidate each (approx. 20 minutes), c) oral examination in groups (groups of 2, approx. 30 minutes)

Language of assessment: German, English

### Allocation of Places

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### Additional Information

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

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Module title | Abbreviation
---|---
Insurance Mathematics | 10-M=AVSM-102-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
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Contents
The module discusses policies on one life: distributions of future lifetime, life tables, life table approximations, types of benefits, present value, expection principle, premium calculation, commutation functions, reserves and policy values, expenses, bonus, recursive methods, Thiele’s differential equation.

Intended learning outcomes
The student is acquainted with the fundamental notions and methods of life insurance mathematics and can apply them 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)

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Language of assessment: German, English

Allocation of places
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Additional information
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Referred to in LPO I (examination regulations for teaching-degree programmes)
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# Module Catalogue for the Subject Economathematics

## Master's with 1 major, 120 ECTS credits

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<thead>
<tr>
<th>Module title</th>
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<td>Time Series Analysis 1</td>
<td>10-M=AZRA-102-m01</td>
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## Contents

Additive model, linear filters, autocorrelation, moving average, autoregressive processes, Box-Jenkins method.

## Intended learning outcomes

The student is acquainted with the fundamental methods of time series analysis and can apply them 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)

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Language of assessment: German, English

## Allocation of places

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## Additional information

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<tr>
<td>Special Topics in Financial Mathematics</td>
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### Contents

Selected topics in financial mathematics, e.g., conditional expectation and martingales, fundamental theorem of asset pricing in discrete time for finite spaces, American put, Snell envelope, stopping time, optimal stopping, stochastic integration, stochastic differential equations and Ito calculus, Black-Merton-Scholes model.

### Intended learning outcomes

The student is acquainted with advanced results in financial mathematics. He/She gains the ability to work on contemporary research questions in financial mathematics and can apply his/her skills to complex problems.

### Courses

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

### Method of assessment

At the beginning of the course, the lecturer will choose one of the following methods of assessment: a) written examination (approx. 90 to 120 minutes; usually chosen), b) oral examination of one candidate each (approx. 20 minutes), c) oral examination in groups of 2 candidates (approx. 30 minutes total)

Language of assessment: German, English

### Allocation of places

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### Additional information

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<tr>
<td>Industrial Statistics 2</td>
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**Contents**
Linear models, regression analysis, nonlinear regression, experimental design, basics in time series modelling, basics in empirical time series analysis, methods of exponential smoothing, predictions and prediction domains, statistical process monitoring.

**Intended learning outcomes**
The student masters advanced statistical methods for industrial applications.

**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)
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Language of assessment: German, English

**Allocation of places**
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**Additional information**
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## Module Catalogue for the Subject
### Economathematics
#### Master’s with 1 major, 120 ECTS credits

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<td>Numeric of Partial Differential Equations</td>
<td>10-M=VNPE-102-m01</td>
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### Contents
Types of partial differential equations, qualitative properties, finite differences, finite elements, error estimates (numerical methods for elliptic, parabolic and hyperbolic partial differential equations; finite elements method, discontinuous Gelerkin finite elements method, finite differences and finite volume methods).

### Intended learning outcomes
The student is acquainted with advanced methods for discretising partial differential equations.

### 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)
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Language of assessment: German, English

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### Contents

Selected topics in optimization, e.g. inner point methods, semidefinite programs, non-smooth optimization, game theory, optimization with differential equations.

### Intended learning outcomes

The student is acquainted with advanced methods in continuous optimization. He gains the ability to work on contemporary research questions in continuous optimization.

### 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)

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Language of assessment: German, English

### Allocation of places

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### Additional information

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Contents
Contingency tables, categorical regression, one-factorial variance analysis, two-factorial variance analysis, discriminant function analysis, cluster analysis, principal component analysis, factor analysis.

Intended learning outcomes
The student is acquainted with the fundamental methods in statistical analysis and can apply them 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)

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Language of assessment: German, English

Allocation of places
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Additional information
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<table>
<thead>
<tr>
<th>Module title</th>
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<tbody>
<tr>
<td>Insurance Mathematics 2</td>
<td>10-M=VSM-102-m01</td>
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**Contents**

This module discusses modern valuation approaches and multiple decrement models regarding one life or two lives: modern valuation in life insurance mathematics, axiomatic derivation of the product measure approach, Markov chain models, Kolmogorov's differential equations, Thiele's differential equations, numerical applications, joint life policies.

**Intended learning outcomes**

The student is acquainted with advanced methods in insurance mathematics. He gains the ability to work on contemporary research questions in insurance mathematics and can apply his/her skills to complex 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)

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Language of assessment: German, English

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<td>Time Series Analysis 2</td>
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Contents

State-space models, Kalman filter, frequency spaces, Fourier analysis, periodograms, characterisation of autocovariance functions.

Intended learning outcomes

The student is acquainted with advanced methods in time series analysis. He gains the ability to work on contemporary research questions in this field.

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)

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Language of assessment: German, English

Allocation of places

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Additional information

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

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Module title: Discrete Mathematic

Abbreviation: 10-M=VDIM-102-m01

Module coordinator: Dean of Studies Mathematik (Mathematics)
Module offered by: Institute of Mathematics

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

Duration: 1 semester
Module level: graduate
Other prerequisites: Registration for the exercise must be made via SB@home at the beginning of the course or as announced by the lecturer in accordance with the specified registration deadlines. Certain prerequisites must be met to qualify for admission to assessment (e.g. successful completion of a certain percentage of exercises). The lecturer will inform students about the respective details at the beginning of the course. Registration for the exercise 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:
Advanced methods and results in a selected field of discrete mathematics (e.g. coding theory, cryptography, graph theory or combinatorics)

Intended learning outcomes:
The student is acquainted with advanced results in a selected topic in discrete mathematics.

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

Method of assessment:
At the beginning of the course, the lecturer will choose one of the following methods of assessment: a) written examination (60 to 90 minutes), b) oral examination of one candidate each (approx. 15 minutes), c) oral examination in groups (groups of 2, approx. 20 minutes)
Assessment offered: Assessment offered in the semester in which the course is offered and in the subsequent semester, course offered on demand or every four semesters.
Language of assessment: German, English

Allocation of places:
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Additional information:
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## Module Catalogue for the Subject Economathematics
### Master's with 1 major, 120 ECTS credits

<table>
<thead>
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<td>Dynamical Systems and Control</td>
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## Contents
Basics in dynamical systems and control: non-linear dynamics, stability theory, ergodic theory, Hamiltonian systems; selected advanced topics, e.g. networked dynamical systems, non-linear stability, dynamics with restricted communication, entropy of dynamical systems.

## Intended learning outcomes
The student masters the mathematical methods in the theory of dynamic systems and control, and is able to analyse their quality.

## 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)
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Assessment offered: Assessment offered in the semester in which the course is offered and in the subsequent semester, course offered on demand or every four semesters.
Language of assessment: German, English

## Allocation of places
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## Additional information
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<td>Non-Linear Analysis</td>
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**Module coordinator**

Dean of Studies Mathematik (Mathematics)

**Module offered by**

Institute of Mathematics

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**Duration**

1 semester

**Module level**

graduate

**Other prerequisites**

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**Contents**

Methods in nonlinear analysis (e. g. topological methods, monotony and variational methods) with applications.

**Intended learning outcomes**

The student is acquainted with the concepts of non-linear analysis, can compare them and assess their applicability on 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)**

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Language of assessment: German, English

**Allocation of places**

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**Additional information**

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

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Module title | Abbreviation
---|---
Optimal Control | 10-M=VOST-102-m01

Module coordinator | Module offered by
Dean of Studies Mathematik (Mathematics) | Institute of Mathematics

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Duration | Module level | Other prerequisites
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Contents
Basics in optimal control of ordinary and partial differential equations, theory of optimal control, conditions for optimality, methods for numerical solution.

Intended learning outcomes
The student is acquainted with advanced methods in optimal control. He gains the ability to work on contemporary research questions in continuous optimization.

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

Selected modern topics in dynamical systems and control theory.

### Intended learning outcomes

The student gains insight into contemporary research problems in dynamical systems and control theory. He/She masters advanced techniques in this field and can apply them to complex problems.

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

V + 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)

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Language of assessment: German, English

### Allocation of places

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### Additional information

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### Module Catalogue for the Subject
**Economathematics**

**Master's with 1 major, 120 ECTS credits**

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<tr>
<td>Study Group Measure and Integral</td>
<td>10-M=GMUI-102-m01</td>
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### Contents
Aspects of measure and integration theory: sigma algebras and Borel sets, volume and measure, measurable functions and Lebesgue integrals, selected applications, e.g. product measures (with Fubini's theorem and the transformation rule), Lp spaces and absolute continuity, measures on topological spaces.

### Intended learning outcomes
The student gains insight into contemporary research problems in measure and integration theory. He/She masters advanced techniques in this field and can apply them to complex problems.

### Courses
(V + S (no information on SWS (weekly contact hours) and course language available)

### Method of assessment
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<td>Study Group Numerical Mathematics and Applied Analysis</td>
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**Contents**

Selected topics in numerical mathematics, applied analysis or scientific computing.

**Intended learning outcomes**

The student gains insight into a contemporary research problems in numerical mathematics or applied analysis. He/She masters advanced techniques in this field and can apply them to complex problems.

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

V + 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)

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Language of assessment: German, English

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**Contents**

Selected modern topics in robotics, optimisation and control theory.

**Intended learning outcomes**

The student gains insight into contemporary research problems in robotics, optimization and control theory. He/She masters advanced techniques in this field and can apply them to complex problems.

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

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Language of assessment: German, English

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<th><strong>Module level</strong></th>
<th><strong>Other prerequisites</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>Registration for the seminar must be made via SB@home at the beginning of the course or as announced by the lecturer in accordance with the specified registration deadlines. Some seminars or workshops might only be open for students with previous knowledge and/or skills in certain areas. Where applicable, details will be specified in the class schedule.</td>
</tr>
</tbody>
</table>

**Contents**

Selected modern topics in statistics.

**Intended learning outcomes**

The student gains insight into contemporary research problems in statistics. He/She masters advanced techniques in this field and can apply them to complex problems.

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

V + 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)

At the beginning of the course, the lecturer will choose one or two of the following methods of assessment: a) seminar presentation (approx. 60 to 120 minutes), b) written elaboration of contents equivalent to a seminar presentation of approx. 60 to 120 minutes, c) written examination (approx. 90 to 120 minutes), d) oral examination of one candidate each (approx. 20 minutes), e) oral examination in groups (groups of 2, approx. 30 minutes)

Language of assessment: German, English

**Allocation of places**

--

**Additional information**

--

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

--
### Study Group Time Series Analysis

**Module title**

Selected modern topics in time series analysis.

**Intended learning outcomes**

The student gains insight into contemporary research problems in time series analysis. He/She masters advanced techniques in this field and can apply them to complex problems.

**Contents**

- Selected modern topics in time series analysis.

**Method of assessment**

At the beginning of the course, the lecturer will choose one or two of the following methods of assessment: 
- a) seminar presentation (approx. 60 to 120 minutes),
- b) written elaboration of contents equivalent to a seminar presentation of approx. 60 to 120 minutes,
- c) written examination (approx. 90 to 120 minutes),
- d) oral examination of one candidate each (approx. 20 minutes),
- e) oral examination in groups (groups of 2, approx. 30 minutes)

Language of assessment: German, English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I**

(examination regulations for teaching-degree programmes)

--
### Seminar in Dynamical Systems and Control

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar in Dynamical Systems and Control</td>
<td>10-M=SDSR-102-m01</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
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<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
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<table>
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<tr>
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<tr>
<td>1 semester</td>
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</tbody>
</table>

### Contents

A modern topic in dynamical systems and control.

### Intended learning outcomes

The student is able to elaborate a contemporary research topic. This includes comprehending and structuring of the topic and the available literature, preparing a talk and the ability to participate 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)

At the beginning of the course, the lecturer will choose one or two of the following methods of assessment: a) seminar presentation (approx. 60 to 120 minutes), b) written elaboration of contents equivalent to a seminar presentation of approx. 60 to 90 minutes

Assessment offered: Assessment offered in the semester in which the course is offered and in the subsequent semester, course offered on demand or every four semesters.

Language of assessment: German, English

### Allocation of places

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### Additional information

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

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<thead>
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<th>Module title</th>
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<td>Seminar Financial and Insurance Mathematics</td>
<td>10-M=SFVM-102-m01</td>
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</table>

**Contents**

A modern topic in financial and insurance mathematics.

**Intended learning outcomes**

The student is able to elaborate a contemporary research topic. This includes comprehending and structuring of the topic and the available literature, preparing a talk and the ability to participate 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)

At the beginning of the course, the lecturer will choose one or two of the following methods of assessment: a) seminar presentation (approx. 60 to 120 minutes), b) written elaboration of contents equivalent to a seminar presentation of approx. 60 to 90 minutes.

Assessment offered: Assessment offered in the semester in which the course is offered and in the subsequent semester, course offered on demand or every four semesters.

Language of assessment: German, English

**Allocation of places**

--

**Additional information**

--

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

--
Module title: Giovanni-Prodi Seminar (Master)
Abbreviation: 10-M=SGPC-102-m01

Module coordinator: Dean of Studies Mathematik (Mathematics)
Module offered by: Institute of Mathematics

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

Duration: 1 semester
Module level: graduate
Other prerequisites: Registration for the seminar must be made via SB@home at the beginning of the course or as announced by the lecturer in accordance with the specified registration deadlines. Some seminars or workshops might only be open for students with previous knowledge and/or skills in certain areas. Where applicable, details will be specified in the class schedule.

Contents:
A modern topic in the research expertise of the current holder of the Giovanni Prodi Chair.

Intended learning outcomes:
The student is able to elaborate a contemporary research topic. This includes comprehending and structuring of the topic and the available literature, preparing a talk and the ability to participate 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)
At the beginning of the course, the lecturer will choose one or two of the following methods of assessment: a) seminar presentation (approx. 60 to 120 minutes), b) written elaboration of contents equivalent to a seminar presentation of approx. 60 to 90 minutes
Language of assessment: English, German if agreed upon with the examiner

Allocation of places:
--

Additional information:
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Referred to in LPO I (examination regulations for teaching-degree programmes):
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### Module Catalogue for the Subject
### Economathematics
#### Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>Interdisciplinary Seminar</td>
<td>10-M=SIDZ-102-m01</td>
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<table>
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<th>Module coordinator</th>
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</table>

### Contents

A modern topic in mathematics with interdisciplinary aspects.

### Intended learning outcomes

The student is able to elaborate a contemporary research topic. This includes comprehending and structuring of the topic and the available literature, preparing a talk and the ability to participate 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)

At the beginning of the course, the lecturer will choose one or two of the following methods of assessment: a) seminar presentation (approx. 60 to 120 minutes), b) written elaboration of contents equivalent to a seminar presentation of approx. 60 to 90 minutes

Language of assessment: German, English

### Allocation of places

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### Additional information

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

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<table>
<thead>
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<th>Module title</th>
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<td>Seminar in Numerical Mathematics and Applied Analysis</td>
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Contents

A modern topic in numerical mathematics or applied analysis.

Intended learning outcomes

The student is able to elaborate a contemporary research topic. This includes comprehending and structuring of the topic and the available literature, preparing a talk and the ability to participate 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)

At the beginning of the course, the lecturer will choose one or two of the following methods of assessment: a) seminar presentation (approx. 60 to 120 minutes), b) written elaboration of contents equivalent to a seminar presentation of approx. 60 to 90 minutes

Language of assessment: German, English

Allocation of places

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Additional information

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

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<table>
<thead>
<tr>
<th>Module title</th>
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<td>Seminar in Optimization</td>
<td>10-M=SOPT-102-m01</td>
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</table>

### Contents

A modern topic in optimisation.

### Intended learning outcomes

The student is able to elaborate a contemporary research topic. This includes comprehending and structuring of the topic and the available literature, preparing a talk and the ability to participate in a scientific discussion.

### Courses

<table>
<thead>
<tr>
<th>type, number of weekly contact hours, language — if other than German</th>
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<tr>
<td>S (no information on SWS (weekly contact hours) and course language available)</td>
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### Method of assessment

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<td>Assessment offered: Assessment offered in the semester in which the course is offered and in the subsequent semester, course offered on demand or every four semesters.</td>
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<td>Language of assessment: German, English</td>
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### Allocation of places

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### Additional information

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### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
### Module title
Seminar in Statistics

### Abbreviation
10-M=SSTA-102-m01

### Module coordinator
Dean of Studies Mathematik (Mathematics)

### Module offered by
Institute of Mathematics

### ECTS
5

### Method of grading
Numerical grade

### Only after succ. compl. of module(s)
--

### Duration
1 semester

### Module level
Graduate

### Other prerequisites
Registration for the seminar must be made via SB@home at the beginning of the course or as announced by the lecturer in accordance with the specified registration deadlines. Some seminars or workshops might only be open for students with previous knowledge and/or skills in certain areas. Where applicable, details will be specified in the class schedule.

### Contents
A modern topic in statistics.

### Intended learning outcomes
The student is able to elaborate a contemporary research topic. This includes comprehending and structuring of the topic and the available literature, preparing a talk and the ability to participate in a scientific discussion.

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

### Method of assessment
At the beginning of the course, the lecturer will choose one or two of the following methods of assessment: a) seminar presentation (approx. 60 to 120 minutes), b) written elaboration of contents equivalent to a seminar presentation of approx. 60 to 90 minutes

Assessment offered: Assessment offered in the semester in which the course is offered and in the subsequent semester, course offered on demand or every four semesters.

Language of assessment: German, English

### Allocation of places
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### Additional information
--

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

--
Module title | Abbreviation
--- | ---
Adaption and Continuous System Engineering | 12-ACSE-111-m01

Module coordinator | Module offered by
--- | ---
holder of the Chair of Business Management and Business Information Systems | Faculty of Business Management and Economics

<table>
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<tr>
<th>ECTS</th>
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</table>

Duration | Module level | Other prerequisites
--- | --- | ---
1 semester | graduate | --

Contents

**Business Suite:** The constantly changing environment with its organisational and IT-oriented developments forces companies to adapt their standard business software solutions. With the help of dynamic adaptation (Continuous System Engineering), this process of change can be supported effectively and efficiently. This module discusses both the systematic implementation of adaptation steps (so-called customising) using the example of the mySAP Business Suite and the concept of Continuous System Engineering using various practical examples. **Business Apps:** The course combines theory and practice in the area of cloud computing and ERP. Participants gain an insight into the architecture of the ByDesign platform and are presented with an opportunity to gain practical experience working with the corresponding software development kit.

Content:
- Fundamentals of cloud computing
- Cloud business solutions
- Architecture of the SAP Business ByDesign platform
- Platform adaption and extensibility
- Basics of software development in SAP Cloud Applications Studio
- Hands-on SDK: independently designing and developing a demo app

Intended learning outcomes

**Business Suite:** Students learn about the various ways of adapting a standard business software solution to the special requirements of a company. They also develop a fundamental understanding of the dynamic adaptation of business software libraries. Based on selected examples from the SAP Business Suite that the acquired knowledge will be deepened by using case studies. **Business Apps:** The course imparts knowledge and delivers skills in cloud computing for businesses, ERP systems architecture and software development at the example of the SAP Business ByDesign platform. The independent planning, implementation and documentation of a business app trains important core competencies of technology-oriented Business Informatics.

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.

- 12-ACSE-1-111: V + Ü (no information on language and number of weekly contact hours available)
- 12-ACSE-2-111: 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 12-ACSE-1-111:** Adaption and Continuous System Engineering - Business Suite

- 5 ECTS credits, method of grading: numerical grade
- a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

**Assessment component to module component 12-ACSE-2-111:** Adaption and Continuous System Engineering - Business Apps

- 5 ECTS credits, method of grading: numerical grade
- a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Allocation of places

Information on the allocation of places listed separately for each module component.

- **12-ACSE-1-111**: Number of places: 20. Should the number of applications exceed the number of available places, 15 places will be set aside for Master's students of Business Information Systems. 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.

- **12-ACSE-2-111**: Number of places: 10. 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

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

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### Module title
Business Intelligence

### Abbreviation
12-BI-111-m01

### Module coordinator
holder of the Chair of Information Systems Engineering

### Module offered by
Faculty of Business Management and Economics

<table>
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<tr>
<th>ECTS</th>
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</table>

### Duration
1 semester

### Module level
graduate

### Other prerequisites
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### Contents
The course provides an overview of the structure and applications of analytical information systems. A special focus is on individual quantitative methods of data analysis. A basic knowledge of statistics and data modelling is a prerequisite for participation in this module.

### Intended learning outcomes
The module provides students with knowledge of:

(i) Data Warehousing & OLAP

(ii) Operational application areas and methods of data analysis

### 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. 60 minutes) or b) term paper (approx. 15 pages)

### Allocation of places
Number of places: 20. Should the number of applications exceed the number of available places, 15 places will be set aside for Master's students of Business Information Systems. (1) 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. (2) Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated as they become available.

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

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## Module Catalogue for the Subject Economathematics

### Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
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<tbody>
<tr>
<td>Adaptive Business Platforms 1</td>
<td>12-BSA-111-m01</td>
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<tbody>
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</table>

### Contents

A next generation of enterprise systems called business service platforms is emerging using new disruptive technologies such as cloud computing, big data and mobility. These business service platforms apply the concept of product platforms to software. They will

1. be services based
2. be offered as a service in the cloud
3. address new classes of users and types of business especially in the service business
4. allow for a high degree of business adaptability and extensibility.
5. be supplemented by a broad offer of partner add-ons supporting accelerated innovation.

These new business service platforms will play a key role in the digital transformation of the software industry.

### Intended learning outcomes

Be aware of the big business productivity progress enabled by BIS in the last 50 years. Understand the limitations of these systems in spite of the digital transformation of the software industry ahead. Be able to critically assess the business potential of new IC technologies. Understand the business demand for change. Understand the necessary organizational learning needed to leverage new technology for business change management.

### 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)

a) written examination (approx. 60 to 70 minutes) or b) written examination (approx. 60 minutes) and management report (approx. 6 pages), weighted 2:1

### Allocation of places

Number of places: 40. 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

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### Referred to in LPO I

(examination regulations for teaching-degree programmes)

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MODULE CATALOGUE FOR THE SUBJECT

**ECONOMATHMATICS**

Master’s with 1 major, 120 ECTS credits

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<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
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<tr>
<td>Introduction to Logistical Process Design</td>
<td>12-GLP-111-m01</td>
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<td>Faculty of Business Management and Economics</td>
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### Contents

ERP systems have become key elements of successful companies. Business processes in companies can no longer be managed without using such ERP systems. In financial departments of companies, such systems have been used for a long time, but business processes e.g. for logistical tasks have so far not been supported by ERP solutions. This module explains how this issue could be resolved as well as what constraints and what dependencies have to be considered.

### Intended learning outcomes

After completing this module, students should be able to
(i) know about actual business processes in companies;
(ii) understand selected problems in the organization and design of logistical business processes and work out solutions;
(iii) know and design basic data structures and data flows of an ERP system;
(iv) map business processes within an ERP system;
(v) consider the specifics of a certain industry (e.g. the process industry) when organizing business processes;
(vi) map the core business processes within an ERP system.

### Courses

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### Method of assessment

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<tr>
<td>a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)</td>
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### Allocation of places

Number of places: 20. Should the number of applications exceed the number of available places, 15 places will be set aside for Master’s students of Business Information Systems. (1) 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. (2) Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated as they become available.

### Additional information

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

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<table>
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<td>Information Systems Analysis and Design</td>
<td>12-IS-111-m01</td>
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**Contents**

(This course was discontinued and replaced by the course "IT-Management")

Content:
This course provides students with an in-depth overview of aims, tasks and appropriate methods of IT management.

Outline of syllabus:
1. Organisation and distinction
2. IT strategy
3. IT organisation
4. Management of IT systems
5. Enterprise Architecture Management
6. IT project management
7. IT security
8. IT law
9. IT controlling

Reading:
- Tiemeyer: Handbuch IT-Management, Munich.
- Hanschke: Strategisches Management der IT-Landschaft, Munich.

**Intended learning outcomes**

After completing the course "IT Management", students will be able to

1. overview the different aspects to be considered regarding a purposeful IT management;
2. understand and apply appropriate methods and tools;
3. independently perform system search and selection in a team project (only after participation in the practice lessons).

**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. 60 minutes) or b) term paper (approx. 15 pages)

**Allocation of places**

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**Additional information**

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**Contents**

This module discusses relevant principles, concepts and applications of business information processing and its impact on organisational and process structures in today's business world.

**Intended learning outcomes**

The expertise gained from other modules related to business management issues can be interpreted and classified in a certain way by participating in this module. For decisions in regards to human resources planning, investment, and a company's strategy, the students will get to know all the relevant concepts and interdependencies, which come with taking information processing into account as the so called "fourth" factor of production.

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

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**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. 15 pages)

**Allocation of places**

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**Additional information**

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<td>Information Processing within Organizations</td>
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**Contents**

Content:
This course provides students with an in-depth overview of the structure and the application areas of business management information systems in enterprises and public institutions.

Outline of syllabus:
1. What is software: concepts, categories, application
2. Software life cycle: duration, phases, steps
3. As-is analysis: tasks, problems
4. To-be concept: system design, data design, dialog design, function design
5. Object orientation: paradigm shift
6. Change management: meaning, methodologies, project management
7. Office automation: tasks, areas of application

**Intended learning outcomes**

After completing the course "Integrated Information Processing", students will be able to
(i) understand the importance of integration in enterprises, especially in information systems;
(ii) assess the progress of development of a software project, estimate cycle costs, know and consider requirements, which brings a software implementation with;
(iii) select the correct procedures or practices in an as-is analysis and target conception and practically apply (with participation in the exercise);
(iv) understand the importance of change management and project management and know the appropriate methods for specific applications.

**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. 60 minutes) or b) term paper (approx. 15 pages)

**Allocation of places**

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**Additional information**

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<tr>
<td>Business Integration Prof. Thome</td>
<td>Faculty of Business Management and Economics</td>
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**Contents**

This module discusses fundamental aspects and contemporary concepts of logistical tasks and processes.

**Intended learning outcomes**

Students will learn about the fundamental aspects and contemporary concepts of logistical tasks and processes especially in the field of Operations Management. Additionally students will be able to evaluate the business impacts of a better performance of logistical issues within 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)

- a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

**Allocation of places**

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**Additional information**

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<td>Operations Research</td>
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**Contents**

Content:
The module familiarises students with essential fundamentals, concepts and methods of logistics applications.

- Modelling
- Graph theory
- Network technology
- Flows in networks
- Touring / route planning
- From heuristics to optimisation
- Simulation

**Intended learning outcomes**

The students
(i) have significant knowledge of the fundamentals, concepts and methods of logistical applications and
(ii) can recognize their economic importance and consequences.

**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. 60 minutes) or b) term paper (approx. 15 pages)

**Allocation of places**

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**Additional information**

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<td>Advanced Microeconomics</td>
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<td>holder of the Chair of Economics, Information and Contract Economics</td>
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**Contents**

This course deals with essential microeconomic methods and problems at an advanced level (e.g. Mas-Colell, Whinston, Green: Microeconomic Theory). As this is a huge field, the course will concentrate on two or three topics such as:

1. Game theory
2. Principal-agent models
3. Theory of auctions
4. General equilibrium theory
5. Mechanism design

**Intended learning outcomes**

After completing the course students are able to:

1. Explain essential findings of microeconomic theory,
2. Apply the involved methods to given simple examples on their own,
3. Recognize, in which real-life situations and how the results can be applied.

**Courses**

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<td>a) written examination (approx. 60 to 90 minutes) or b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or c) term paper (approx. 15 pages) or d) case studies, project report or similar (approx. 10 pages) and presentation (approx. 15 minutes), weighted 2:1 or e) presentation (approx. 30 to 45 minutes), presentations can be held by one candidate each or in groups</td>
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**Allocation of places**

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**Additional information**

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<th>Module title</th>
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<td>Incentives in Organisations</td>
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<td>holder of the Chair of Human Resource Management and Organisation</td>
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**Contents**

The lecture "Anreize in Organisationen" ("Incentives in Organisations") is based on the principal agent theory. This theory will be used to develop financial and economic solutions to help overcome the conflict of interests between employers and employees. In addition to the most widely used theories, estimation techniques and empirical results are also introduced and discussed. Reading list to be provided in class.

**Intended learning outcomes**

The aim of the lectures is to enable students to understand and apply advanced theories, estimation techniques and empirical results in the area incentives in organisation on the basis of scientific 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)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

**Allocation of places**

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**Additional information**

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<td>Portfolio Selection and Capital Market Theory</td>
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### Contents

**Content:**
This course deals with the fundamentals of individual investment decisions (portfolio selection), the capital market equilibrium and the resulting CAPM.

**Outline of syllabus:**
1. Fundamentals of decision theory
2. Portfolio selection
3. CAPM
4. Information efficiency and event analysis

### Intended learning outcomes

After completing the course "Portfolio Selection and Capital Market Theory", the students will be able
(i) to explain the optimal capital market position of an investor given the different investment opportunities and its individual utility function in theory and calculate it;
(ii) to understand the central propositions made by the CAPM and use the CAPM for valuating assets and firms.

### 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

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### Additional information

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**Contents**

Content:
This course deals with the fundamentals of agency theory and financial contracting with information symmetric and information asymmetric.

Outline of syllabus:
1. Agency theory
2. Financial contracting

**Intended learning outcomes**

After completing the course "Agency Theory and Financial contracting", the students will be able
(i) to understand the fundamentals of agency theory and solve problems concerning optimal financial contracting given e.g. different capital endowments;
(ii) to understand the central problems of controlling work assignments in theory and solve basic case studies;
(iii) to generate and evaluate financial contracting given a non-trivial risk allocation and the resulting agency 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**
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**Additional information**
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**Referred to in LPO I** (examination regulations for teaching-degree programmes)
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<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>Option Pricing Theory</td>
<td>12-M-B2-111-m01</td>
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### Contents

Content:
The module deals with the nature of stock options using the Black Scholes and Binomial models. It assesses companies as well as shares as derivative financial instruments and discusses delta hedging to hedge equity portfolios.

Outline of syllabus:
1. Share options
2. Other financial derivatives
3. Immunising portfolios against interest rate changes

### Intended learning outcomes

After completing the course “Option pricing”, the students will be able
(i) to price options using the Black-Scholes formula and the binomial model;
(ii) to understand the use of options as a part of compensation and for share hedging.

### 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

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### Additional information

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

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### Financial Markets: Institutions and Regulation

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<thead>
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<td>Financial Markets: Institutions and Regulation</td>
<td>12-M-B3-111-m01</td>
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### Contents

**Content:**

This course deals with the fundamentals of the organisation and functioning of the German commercial banking system, the aims and restrictions of operating decisions in commercial banks, the special characteristics of bank regulation and of balance sheets of commercial banks as well as the construction and function of financial innovations.

**Outline of syllabus:**

1. The German commercial banking system
2. Aims and restrictions of operating decisions
3. Equity and balance sheet analysis of commercial banks
4. Financial innovations

**Reading:**


**Intended learning outcomes**

After completing the course "Finanzmarktinstitutionen und Finanzmarktregulierung", the students will provide fundamental and advanced knowledge of
(i) the organisation and function of the German commercial banking system;
(ii) the aims and restrictions of operating decisions in commercial banks;
(iii) the special characteristics of bank regulation and of the balance sheet of commercial banks;
(iv) the construction and function of financial innovations.

**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**

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**Additional information**

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

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Module title
Electronic Procurement

Abbreviation
12-M-BE-111-m01

Module coordinator
holder of the Chair of Business Management and Industrial Management

Module offered by
Faculty of Business Management and Economics

ECTS
5

Method of grading
numerical grade

Only after succ. compl. of module(s)
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Duration
1 semester

Module level
graduate

Other prerequisites
Admission prerequisite to assessment: successful completion of exercises as specified at the beginning of the course.

Contents
This course will develop the objectives, principles and structure of electronically supported procurement processes with a special focus on catalogue-based procurement systems, electronic tendering systems, electronic (reverse) auctions, e-marketplaces, supplier relationship management systems and eSupply chain management systems.

Intended learning outcomes
The students will be able to describe and evaluate both the potentials and goals of electronic supported procurement systems and will be able to design appropriate systems for real-life applications. Students will get insight into the essentials of operational procurement management, especially e-procurement with a focus on catalog-based procurement systems, electronic tendering systems, electronic (reverse) auctions, e-marketplaces, supplier relationship management systems and eSupply chain management systems. After completing this module, students can define and analyze the related tasks and processes and show or develop theory-based and application-oriented possible solutions at a high professional level.

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)
a) written examination (approx. 60 minutes) or b) written examination (approx. 40 minutes) and presentation (approx. 20 minutes), weighted 2:1 or c) written examination (approx. 40 minutes) with written elaboration (approx. 15 to 20 pages), weighted 2:1 or d) presentation (approx. 20 minutes) with written elaboration (approx. 15 to 20 pages), weighted 1:1

Allocation of places
Number of places: 20. Should the number of applications exceed the number of available places, 15 places will be set aside for Master's students of Business Management and Economics and 5 places will be set aside for Master's students of Business Information Systems. (1) 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. (2) Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated as they become available.

Additional information
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Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module title: Empirical Research in Entrepreneurship and Management
Abbreviation: 12-M-EGF-111-m01

Module coordinator: holder of the Chair of Entrepreneurship and Management
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: Only after succ. compl. of module(s)
Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents:
Description:
The module will introduce students to qualitative / quantitative research paradigms, using, among others, the example of empirical studies in the area of founding and management research. During the course, participants will be required to present significant substantive and methodological findings of a recent empirical essay. In their presentations, students will address the following key questions: What contribution does the paper make? How are empirically testable hypotheses derived? What method of empirical data collection is used? What evaluation methodology is used? What are the implications for science and practice, what are the strengths and weaknesses of the paper?

Content (subject to change):
1. Introduction
2. Philosophy of science
3. Study design
4. Correlations
5. Methods of data collection
6. Simple linear regression
7. Specification problems and distributions
8. Time series analysis
9. Logistic regression
10. Factor and cluster analysis

Intended learning outcomes:
Students acquire the ability to work purposefully in complex situations with empirical expertise on a practice-oriented solution.

Courses:
S + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment:
Term paper (approx. 10 pages) and presentation of term paper (approx. 15 minutes) and presentation of an empirical working paper (approx. 30 minutes) and contributions to the discussion, weighted 9:2:6:1
Assessment offered: once a year, summer semester
Language of assessment: English or German

Allocation of places:
Number of places: 30. 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.
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</table>
### Module title
Advanced Financial Accounting (German GAAP, IFRS)

### Abbreviation
12-M-ER-111-m01

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<td>holder of the Chair of Business Management and Accounting</td>
<td>Faculty of Business Management and Economics</td>
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### Contents
Content: This course deals with selected complex financial accounting problems according to national German GAPP (German Commercial Code, Handelsgesetzbuch).

Outline of syllabus: Theoretical and empirical foundations of financial accounting; selected topics of advanced financial accounting, e.g. pension accounting, fair value accounting (financial instruments, biological assets, hedge accounting; purchase price allocation and impairment test; leasing; deferred taxes in individual and group financial statements; capital consolidation in multilevel corporate groups; presentation of equity changes; statement of cash flow and segment reporting; notes and management report.

Reading list to be provided during course.

### Intended learning outcomes
After completing this course, students will be able to
1. analyze complex financial accounting problems according to national and international financial reporting standards and develop predominantly self-directed solutions for these problems;
2. evaluate independently selected research contribution to the theory of financial accounting and design research- or application-oriented projects.

### 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. 60 to 90 minutes) or b) term paper (approx. 15 pages) and presentation (approx. 20 minutes), weighted 2:1

### Allocation of places
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### Additional information
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### Referred to in LPO I
(examination regulations for teaching-degree programmes)
--
Description:
This course provides an overview of the current situation on the European labour markets, their institutions as well as common and country-specific regulations in the area of structural and social policy. In addition, students are introduced to economic theories that can explain the concentration of economic activity.

Outline of syllabus:
1. European integration - an introduction
2. European labour markets - overview and explanations
3. The common European labour market - European regulations
4. The impact of European structural funds
5. Public cluster policy - a new miracle solution?

Basic reading:

Intended learning outcomes
The students gain knowledge about the impact of the process of the European Integration on the national labour markets. They receive an overview of the possible labour market measures and they can discuss approaches aimed to reduce income disparities within the European Union. Additionally the students will be enabled to understand the emergence of geographically and economically concentrated areas. Subsequently possible public policies to intervene in the process of concentration are evaluated.

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. 60 minutes) or b) term paper (approx. 15 pages)

Allocation of places
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Additional information
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Referred to in LPO 1 (examination regulations for teaching-degree programmes)
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## Module Catalogue for the Subject
Economathematics  
Master’s with 1 major, 120 ECTS credits

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<tr>
<th><strong>Module title</strong></th>
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<tr>
<td>Policy of Taxation</td>
<td>12-M-F1-111-M01</td>
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<tr>
<td>holder of the Chair of Public Finance</td>
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### Contents

**Description:**
In this module, students will acquire a basic understanding of the tax system and structure applied to households in Germany. In addition, the course will include simple tax incidence analyses of specific tax policies.  

**Reading:** lecture notes provided by Chair.

**Contents:**
1. Fiscal harmonisation system in Germany  
2. Mechanics and problems of the VAT system  
3. Tax incidence analysis  
4. Income tax code  
5. Taxation of married couples and families  
6. Progressive taxation and income leveling  
7. Taxation and household decisions

### Intended learning outcomes

After completing the course "Tax Policy" students know the most important tax revenues in Germany and how they are divided between the Federation and the federal provinces. They are able to explain the incidence of specific taxes using simple case studies. Finally they can discuss tax induced distortions of individual decisions using simple partial equilibrium models.

### Courses

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

### Method of assessment

(a) written examination (approx. 60 minutes) or (b) term paper (approx. 15 pages)

### Allocation of places

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### Additional information

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### Referred to in LPO I

(examination regulations for teaching-degree programmes)

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<table>
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<td>Social Insurance and the Welfare State</td>
<td>12-M-F3-111-m01</td>
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**Contents**

**Description:**
This module discusses the economic justification for implementing social security systems in a market economy and provides students with deeper insights into this topic with the help of specific issues of public health and retirement policy.

**Reading:** lecture notes provided by Chair.

**Contents:**
1. Public intervention in insurance markets
2. The insurance function of social security
3. Social security and social morale
4. The optimal health insurance contract
5. Alternative financing schemes for public health in Germany
6. Why do we need a public pension system?
7. Funding vs pay-as-you-go financing of public pensions

**Intended learning outcomes**

After completing the module "Theorie der Sozialversicherung" students are able to explain the theoretical foundation of the social security system in a market economy. Using simple partial equilibrium models they can discuss the financing and contract structure of the public health and pension system. Finally they are able to analyze the consequences of policy reforms.

**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. 60 minutes) or b) term paper (approx. 15 pages)

**Allocation of places**

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**Additional information**

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

--
Module title
Analysis of Financial Market Data

Abbreviation
12-M-FMO-111-m01

Module coordinator
holder of the Chair of Econometrics

Module offered by
Faculty of Business Management and Economics

ECTS
5

Method of grading
numerical grade

Only after succ. compl. of module(s)

Duration
1 semester

Module level
graduate

Other prerequisites
--

Contents
Description:
The module covers the fundamentals, methods and concepts for the empirical analysis of financial market data. The concept of market efficiency is explained and critically examined with reference to the random walk hypothesis. To test this hypothesis, a number of parametric and non-parametric methods are proposed and applied in practice. Based on the findings, market microstructure models that can explain some important empirical findings will be discussed. In addition, the course describes event studies for testing the significant impact of corporate news on the share price and discusses issues of univariate time series analysis such as AR(1)MA and ARCH / GARCH models that are indispensable for modelling financial market data. In the final part of the course, the CAPM is discussed and examined, in particular, with regard to its empirical applicability.

Outline of syllabus:
1. Information efficiency
2. Random walk
3. Theoretical market models
4. Event studies
5. Univariate modelling of time series data
6. Models to explain volatility (ARCH and GARCH)
7. Estimation of the capital asset pricing model

Reading:

Intended learning outcomes
Students have significant knowledge of the fundamentals, methods and concepts that are needed for the empirical analysis of financial market data. They can autonomously perform statistical test decisions with statistics programs such as EViews or Gretl and critically analyze in terms of their economic importance. In addition, the students learn the independent handling of empirical capital market data and have at the end of the course the ability to develop also own functions and routines, for example for EViews.

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. 60 minutes) or b) term paper (approx. 15 pages)

Allocation of places
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Additional information
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Referred to in LPO I (examination regulations for teaching-degree programmes)
### Module Catalogue for the Subject
### Economathematics
### Master's with 1 major, 120 ECTS credits

<table>
<thead>
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<td>Human Resource Management and Industrial Relations</td>
<td>12-M-HRM-111-m01</td>
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<td>Faculty of Business Management and Economics</td>
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### Contents

The lecture "Human Resource Management und Industrielle Beziehungen" ("Human Resource Management and Industrial Relations") introduces advanced theories, estimation techniques and empirical results from the areas of human resources and institutional frameworks such as industrial relations. Reading list to be provided in class.

### Intended learning outcomes

The aim of the lectures is to enable students to understand and apply advanced theories, estimation techniques and empirical results in the area human resource management and industrial relations on the basis of scientific literature.

### Courses

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### Allocation of places

Business Management Master's and Economics Master's: no restrictions. Political and Social Sciences Master's: 10 places. Places will be allocated by lot.

### Additional information

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### Referred to in LPO I

(examination regulations for teaching-degree programmes)

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<table>
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<tr>
<td>Coordination, Budgeting and Incentives in Enterprises</td>
<td>12-M-KOBO-111-m01</td>
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<td>holder of the Chair of Chair of Business Management, Controlling and Accounting</td>
<td>Faculty of Business Management and Economics</td>
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**Contents**

This module focuses on accounting-based instruments to control behaviour in decentralised enterprises. The course first discusses the role of accounting in the context of decision making and behavioural controlling as well as informational analyses. Afterwards, the most common instruments of behavioural controlling (budgeting, value-oriented management, transfer prices) are discussed with regard to theory and practice.

**Intended learning outcomes**

This module aims to provide knowledge in the context of behavioral controlling in enterprises. Knowledge about Requirements on instruments used for behavioral controlling are discussed and competencies for deployment, structure and development of coordination tools are provided.

**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)

<table>
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<th>(type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)</th>
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<tbody>
<tr>
<td>a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)</td>
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**Allocation of places**

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**Additional information**

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

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<table>
<thead>
<tr>
<th>Module title</th>
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<tr>
<td>Lot Sizing and Scheduling</td>
<td>12-M-LA-111-m01</td>
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<td>1 semester</td>
<td>graduate</td>
<td>Successful completion of exercises as specified at the beginning of the course is an admission prerequisite to assessment.</td>
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</table>

**Contents**

This module analyses and classifies approaches of production planning and control. In addition, it develops methods and models of lot sizing and scheduling. The focus is on the determination of optimal production and transport volumes as well as the planning of orders and manufacturing orders.

**Intended learning outcomes**

Students learn essential concepts, principles and methods of production planning and control with emphasis on the determination of optimal production and transport volumes as well as the planning of production and order sequences. Then, based on this expertise related knowledge broadening and deepening, essential competencies are conveyed, which allow the imaging of realistic situations and problems using mathematical and quantitative models for the derivation and assessment of alternative courses of action. After completion of the module students can answer, analyze and structure questions of production planning and control, goal-oriented. They can also arrange the planning areas in the overall business context and have an in-depth overview of the production planning and control.

**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)

a) written examination (approx. 60 minutes) or b) written examination (approx. 40 minutes) and presentation (approx. 20 minutes), weighted 2:1 or c) written examination (approx. 40 minutes) and written elaboration (approx. 15 to 20 pages), weighted 2:1 or d) presentation (approx. 20 minutes) and written elaboration (approx. 15 to 20 pages), weighted 1:1

**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**

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**Referred to in LPO 1** (examination regulations for teaching-degree programmes)

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### Module title

**Lead User Project**

### Abbreviation

12-M-LUP-111-m01

### Module coordinator

holder of the Chair of Entrepreneurship and Management

### Module offered by

Faculty of Business Management and Economics

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### Duration

1 semester

### Module level

graduate

### Other prerequisites

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### Contents

This module will be discontinued, no courses are offered currently or will be offered in future.

This may be due to one of the following reasons:

- the module belongs to a version of the examination regulations that no longer has any enrolled students
- the lecturer who offered the course is no longer employed at the University of Würzburg
- the contents are no longer taught and were substituted with comparable offers

For more information, please contact the Office of the Dean of Studies of the Faculty of Business Management and Economics.

### Intended learning outcomes

Due to the lack of relevance, no learning outcomes description is available because no courses are held for this module.

### Courses

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

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### Method of assessment

(term paper to be prepared in groups (approx. 40 pages) and 2 talks (approx. 20 minutes each), weighted 3:2 Assessment offered: every third semester 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

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### Referred to in LPO 1 (examination regulations for teaching-degree programmes)

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<table>
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<td>Management Methods</td>
<td>12-MM-111-m01</td>
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**Module coordinator**
holder of the Chair of Business Management and Business Information Systems

**Module offered by**
Faculty of Business Management and Economics

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<td>1 semester</td>
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**Contents**
Description:
The module familiarises students with relevant management methods.

Content:
- Principles of Management
- Corporate strategy and processes
- Determination of strategy
- Performance tasks within the company

**Intended learning outcomes**
After completing the course "Managementmethoden", students
(i) have substantial knowledge in the application of relevant management methods and
(ii) recognize their economic importance and consequences;
(iii) succumbed to an idea of the scope of managers’ activities;
(iv) recognize the challenges businesses to deal with and
(v) understand processes of an industrial 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)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

**Allocation of places**
Number of places: 20. Should the number of applications exceed the number of available places, 15 places will be set aside for Master's students of Business Information Systems. (1) 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. (2) Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated as they become available.

**Additional information**
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**Referred to in LPO I** (examination regulations for teaching-degree programmes)
--
Module title | Microeconometrics
---|---
Abbreviation | 12-M-MIK-111-m01

Module coordinator | holder of the Chair of Econometrics
Module offered by | 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

Description:
This course builds on the Master's courses "Ökonometrie 1" ("Econometrics 1") and "Ökonometrie 2" ("Econometrics 2") and introduces students to different microeconometric models. In the first part of the course, the maximum likelihood estimation procedure is introduced, its importance for estimating microeconometric models and properties of the estimators are explained and derived. Subsequently, a wide variety of microeconometric models is motivated and explained and the advantages of these models over the linear regression model are pointed out. In addition, these models are estimated with different estimation methods and the results are interpreted.

Outline of syllabus:
1. Maximum likelihood estimator and its properties
2. Logit and probit models for unordered categories
3. Logit and probit models for ordered categories
4. Tobit model
5. Models for count data
6. Duration analysis
7. Hazard rate models

Reading:
Ronning: Mikroökonomietrie, Springer-Verlag.
Cameron / Trivedi: Microeconometrics - Methods and Applications, Cambridge University Press.
Greene: Econometric Analysis, Pearson.
(most recent editions)

Intended learning outcomes
After finishing this course students are able to
(i) understand the maximum likelihood method;
(ii) apply, assess, and interpret the above introduced models and check for possible violation of the assumptions;
(iii) get to know other possibilities, next to the maximum likelihood method, to estimate these models;
(iv) gain a general understanding how to treat discrete, censored, or truncated dependent variables;
(v) know how to estimate the introduced models in EViews.

Courses (type, number of weekly contact hours, language — if other than German)
D (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. 15 pages)

Allocation of places
--

Additional information
--
Referred to in LPO I (examination regulations for teaching-degree programmes)
Module title: Marketing & Brand Management
Abbreviation: 12-M-MM-111-m01

Module coordinator: holder of the Chair of Business Management and Marketing
Module offered by: Faculty of Business Management and Economics

ECTS: 12
Method of grading: Only after succ. compl. of module(s)
Duration: 1 semester

Contents

Description:
At the beginning of the 21st century, marketing - until then interpreted as a market-oriented corporate management approach - was further developed to be seen as the entrepreneurial task of creating "shared value" for the organisation on the one hand and - broadly speaking - for society on the other hand. This idea leads to high requirements regarding the strategic sustainable positioning of the brand as well as brand management itself.

Outline of syllabus:
1. Brand leadership and brand assessment
2. Brand leadership, identity and relevance according to David Aaker's approach
3. Brand strategies
4. Consumer behaviour
5. Market research methods and the development of brand strategies
6. Market research methods

Intended learning outcomes
Based on the theories of Meffert and Aaker, students will gain a profound understanding for brand leadership, which will be deepened by many practical implications and examples. Provided by cases studies and market research tools, it's the defined goal of this lecture to convey an in-depth knowledge for consumer behavior and sustainable brand 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. 40 minutes) and group presentation (approx. 20 minutes), weighted 2:1

Allocation of places
Number of places: 35. 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
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Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module title | Abbreviation
---|---
Multinational Enterprises | 12-M-MNE-111-m01

Module coordinator | Module offered by
holder of the Chair of Public Finance | Faculty of Business Management and Economics

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**Contents**

This module will be discontinued, no courses are offered currently or will be offered in future.

This may be due to one of the following reasons:

- the module belongs to a version of the examination regulations that no longer has any enrolled students
- the lecturer who offered the course is no longer employed at the University of Würzburg
- the contents are no longer taught and were substituted with comparable offers

For more information, please contact the Office of the Dean of Studies of the Faculty of Business Management and Economics.

**Intended learning outcomes**

Due to the lack of relevance, no learning outcomes description is available because no courses are held for this module.

**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)

a) written examination (approx. 120 minutes) or b) oral examination (approx. 15 minutes)

Assessment offered: once a year, summer semester

Language of assessment: English

**Allocation of places**

Business Management Master’s and Economics Master’s: no restrictions. Applied Human Geography Master’s: 10 places. Places will be allocated by lot.

**Additional information**

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

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<table>
<thead>
<tr>
<th>Module title</th>
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<td>Strategic Networks in Industry</td>
<td>12-M-MS-111-m01</td>
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**Contents**

The primary object of this course is to gain a detailed understanding of strategic networks and of the phenomenon of clustering in the industrial industry. The example of the international automotive industry is used for clarification of the theoretical contents. The focus is on marketing in industrial companies and also on CSR - CSR is considered the "driver" of sustainable innovations - as well as the different strategy types of sustainable innovations.

Outline of syllabus:
1. Strategic networks and clusters in industrial industries such as the automotive industry
2. Transaction types of Williamson as well as strategic cooperation between automobile manufacturers and suppliers
3. Management of business types, in particular the business of suppliers in the automotive industry
4. Cluster and entrepreneurship activities
5. Sustainable innovation strategies

**Intended learning outcomes**

By the end of the course, students gain a profound understanding above the basics of network research. Furthermore, students will acquire sectoral knowledge of the automotive industry as well as detailed cluster skills.

**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. 40 minutes) and group presentation (approx. 20 minutes), weighted 2:1

**Allocation of places**

Number of places: 30. 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**

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

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Module title | Abbreviation
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Strategic Management of Innovation and Growth | 12-M-MWT-111-m01

Module coordinator | Module offered by
holder of the Chair of Entrepreneurship and Management | Faculty of Business Management and Economics

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Contents

In this course, students will acquire an overview of the strategic aspects of innovation management. They will acquire the knowledge necessary to understand the range, scope and complexity of the issues and problems related to the strategic management of innovations. The lecture will focus on innovation teams and the different roles in the innovation process. It will also discuss how users can be involved in the innovation process. In addition, the course will address the concepts of open innovation, lean innovation and crowdsourcing and will discuss how platform strategies can be used for the new product development process as well as what market entry strategies and patent management strategies are currently used. Practical examples and case studies will be used to provide students with a better understanding of the theoretical concepts.

Intended learning outcomes

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

- The tasks of the strategic innovation management
- The state of the art and importance of innovations
- The current trends in strategic innovation management
- The importance of patent strategies
- The market entry strategies
- Concepts of the marketing mix

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) one assessment during lecture period (e.g. take-home case, term paper or presentation with slides (approx. 10 pages), term paper or talk (10 minutes)) and written examination (approx. 50 minutes), weighted 4:1 or b) written examination (approx. 60 minutes)

Assessment offered: once a year, summer semester

Language of assessment: English or German

Allocation of places

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Additional information

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

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### Module title
Management of Corporate Sustainability

### Abbreviation
12-M-NUF-111-m01

<table>
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<td>Faculty of Business Management and Economics</td>
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### Contents

#### Description:
This module introduces students to sustainability management. First, essential concepts such as sustainability and corporate social responsibility are explained, the role of businesses within society is discussed. Afterwards, the module addresses different aspects of corporate sustainability as well as environmental and social management with particular regard to the dimensions of corporate and economic performance and competitiveness.

#### Content:
1. Basic overview of sustainability and (legal) frameworks
2. Business and society
3. System theory
4. Sustainable as well as eco-innovation
5. Operational sustainability management (sustainable strategies, environmental performance indicators)
6. The impact of environmental and social management on corporate performance and competitiveness

#### Intended learning outcomes
After successfully completing the module "Sustainability Management", students will be able to
(i) explain and define the basic principles and concepts of Sustainability Management as well as to deal with the contributions and aspects of sustainable development in a critical way;
(ii) assess and analyse the complex problems and implementation strategies of Sustainability Management based on the gained knowledge and experiences of this course;
(iii) evaluate different strategic and operational approaches of Sustainability Management as well as to transfer these approaches onto various case studies.

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

#### Method of assessment
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: English or German

#### Allocation of places
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#### Additional information
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#### Referred to in LPO I
(examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject Economathematics
Master’s with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
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Contents

Description:
This module deals with the basic concept and methodology of the ordinary least squares (OLS) regression model. In particular, model assumptions and properties are discussed and formally motivated. In addition, the module examines linear restrictions on the models explanatory variables as well as dummy variables and introduces tests to verify simple and multiple linear restrictions.

Linear algebra is used as formal aid.

Outline of syllabus:
1. Random variables
2. Important distributions
3. Point estimates
4. Simple linear regression model
5. Model assumptions
6. Model properties
7. Simple hypothesis tests
8. Multiple linear regression model
9. Linear restrictions
10. Dummy variables
11. Multiple hypothesis tests

Intended learning outcomes
The students acquire knowledge of the basics, concepts and methods used in the classical linear regression model and understand the role of econometrics in science and data analysis. In particular, they learn how to analytically derive, calculate and interpret the coefficients, standard errors and p-values of a classic regression output of the multiple regression model. Furthermore, they are able to state and motivate formally the assumptions and properties of OLS and know how to deal with transformed and dummy variables. Additionally, students are able to test multiple linear restrictions on the parameters and are able to apply these tests to real economic, business and social science questions.

The competences acquired in this course serve as a prerequisite for "Econometrics II", "Econometrics III", "Microeconometrics" und "Financial Econometrics".

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. 60 minutes) or b) term paper (approx. 15 pages)

Allocation of places

Additional information

Referred to in LPO I (examination regulations for teaching-degree programmes)
Module title: Econometrics 2
Abbreviation: 12-M-OE2-111-m01

Module coordinator: holder of the Chair of Econometrics
Module offered by: Faculty of Business Management and Economics

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

Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents
Description:
This module deals with the basics, concepts and methods of the generalised least squares (GLS) framework. Partly as a motivation for the GLS model and partly for its own right, different specification and data problems as well as violations of model assumptions of the OLS estimator (as introduced in "Ökonometrie I" ("Econometrics I")) are discussed. This includes multicollinearity, a test for structural breaks, heteroskedasticity and autocorrelation. Linear algebra is used as formal aid.

Outline of syllabus:
1. Specification analysis
2. Multicollinearity
3. Heteroskedasticity
4. Autocorrelated disruptive terms
5. Generalised least squares (GLS)

Intended learning outcomes
Students acquire essential knowledge of the fundamentals, methods and concepts for estimating the generalised linear regression model (GLS) and can apply and interpret it. They are sensitized for specification problems, data problems and violations of the assumptions of the classical linear model (OLS) so that they are able to recognize, to assess and therefore adequately deal with these problems in theory and practice. This enables them to critically assess the use of the Estimation methods in scientific work and to work independently on adequate implementation of empirical analyzes to answer selected (economic) scientific issues if available data with the above-mentioned Involve problems. The competences acquired in this course serve as a prerequisite for "Econometrics III", "Microeconometrics" and "Financial Econometrics".

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. 60 minutes) or b) term paper (approx. 15 pages)

Allocation of places
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Additional information
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Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module title | Abbreviation
---|---
Econometrics 3 | 12-M-OE3-111-m01

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<td>holder of the Chair of Econometrics</td>
<td>Faculty of Business Management and Economics</td>
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Contents

Description:
This module deals with advanced econometric methods and concepts based on the classical and the generalised least squares estimator discussed in Ökonometrie I and II (Econometrics I and II). In particular, this includes the instrumental variable (IV) estimator, the generalised method of moments (GMM) estimator, distributed lag models as well as basic methods and concepts used in uni and multivariate econometric times series analysis, including (non)stationarity, integration, cointegration. Linear algebra is used as formal aid.

Outline of syllabus:
1. Error-in-variables
2. IV estimation
3. Generalised least squares estimation
4. Distributed lag models
5. Stationary uni and multivariate processes
6. Deterministic and stochastic trends
7. Integrated and cointegrated processes

Intended learning outcomes
The students acquire thorough understanding of advanced methods and concepts in econometrics. They are familiarized with diverse error-in-variables issues and capable of handling them appropriately. After the course, students understand the generalized methods of moment (GMM) and the instrumental variable (IV) estimator to an extent that they can discuss their pros and cons, apply these to selected questions in quantitative economics, and understand scientific papers using these methods. Furthermore, they become acquainted with selected time series issues, such as distributed lag models, non-stationarity, spurious correlation, and cointegrated processes, enabling them to conduct a comprehensive time series analysis. In brief, the course enables students to apply the above mentioned methods and concepts to real life questions, assess their appropriateness, and address their theoretical and practical benefits and shortcomings.

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. 60 minutes) or b) term paper (approx. 15 pages)

Allocation of places
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Additional information
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**Contents**

**Description:**
In this course, students will acquire an in-depth understanding of the problems of the German national labour market. The course will discuss economic as well as political-economic theories that can explain the phenomenon of unemployment.

**Outline of syllabus:**
1. Labour market empirics
2. Why has Germany not been able, for more than two decades, to clear the labour markets?
3. What policy is best suited to tackle labour market problems?
4. How can we break through the rigid political-economic structures in our society?

**Basic reading:**

**Intended learning outcomes**
The students receive an understanding of the functioning of the labour market and its institutions. They will also be enabled to identify and to evaluate common approaches to mitigate unemployment.

**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. 60 minutes) or b) term paper (approx. 15 pages)

**Allocation of places**
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**Additional information**
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**Referred to in LPO I** (examination regulations for teaching-degree programmes)
--
Module title: Project Management and Controlling  
Abbreviation: 12-M-PROM-111-m01

Module coordinator: holder of the Chair of Chair of Business Management, Controlling and Accounting
Module offered by: Faculty of Business Management and Economics

ECTS: 5  
Method of grading: numerical grade
Duration: 1 semester  
Module level: graduate

Contents
The module focuses on the discussion and critical examination of instruments and methods used in the context of project management and controlling within enterprises. It covers characteristic features and structures of projects, their possible success factors, methods and instruments of the controlling and management of projects in various project phases as well as approaches to multi-project management. The theoretical basis as well as potential applications of these instruments are discussed.

Intended learning outcomes
Initially knowledge about fundamental requirements concerning instruments of project management and controlling is acquired. What is more the module conveys knowledge about strengths and weaknesses and thereby fields of application and limits of commonly used instruments and methods of practitioners. Competences within the configuration and development of the project management and -controlling are obtained as well as skills within the practical use of the project management software MS Project.

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. 60 minutes) or b) term paper (approx. 15 pages)

Allocation of places
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Additional information
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### Contents

The module focuses on financial and management accounting, their functions, possible configurations as well as their impact on internal and external recipients under consideration of the institutional setting. In this context, an economic perspective has priority over detailed legal arrangements and regulations by the standard setters. Based on the theoretical foundations of information economics as well as decision-making and balance sheet theories, typical issues concerning cost accounting and controlling as well as financial accounting and publicity are discussed.

### Intended learning outcomes

Initially a fundamental knowledge about the conception and impact of management and financial accounting as information systems is acquired. In the following, the module mainly sharpens the understanding of the economic impacts of the configuration of management and financial accounting. What is more, extensive knowledge about possible impacts of changes in institutional general frameworks is conveyed. For example changes in valuation standards, publicity rules or regulations about the distribution of profits in enterprises and on capital markets are considered.

### 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. 60 minutes) or b) term paper (approx. 15 pages)

### Allocation of places

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### Additional information

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

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<td>Admission prerequisite to assessment: successful completion of exercises as specified at the beginning of the course.</td>
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### Contents

The course addresses central issues of strategic supply management. The supply function of the company (purchasing, materials management, procurement logistics) and its strategic importance is analysed and basic methods are developed that are relevant in this area.

### Intended learning outcomes

Students learn the principles of performance-oriented optimization of all procurement activities to develop long-term, competitively sensitive potential for success. After completion of the module students are able to prepare structured, to goal-oriented analyze and to respond to performance-oriented issues of strategic procurement based on key instruments. Students are able to accurately classify the tasks of the procurement and to describe and discuss their strategic importance and dominate essential methods and procedures used in this area to apply.

### 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)

a) written examination (approx. 60 minutes) or b) written examination (approx. 40 minutes) and presentation (approx. 20 minutes), weighted 2:1 or c) written examination (approx. 40 minutes) with written elaboration (approx. 15 to 20 pages), weighted 2:1 or d) presentation (approx. 20 minutes) with written elaboration (approx. 15 to 20 pages), weighted 1:1

### Allocation of places

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### Additional information

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### Referred to in LPO I

(examination regulations for teaching-degree programmes)

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<td>Economics of Tax Planning</td>
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<td>holder of the Chair of Business Taxation</td>
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### Contents

This course deals with tax effects on fundamental economic decisions. Taxes are integrated into standard models for investment decisions, financing decisions, firm valuation, divident policy and remuneration of employees. Therefore, the interaction of corporate and personal income taxes is analysed. A reading list in English is available on request.

### Intended learning outcomes

This course enables students to

(i) combine their knowlegde of tax law with microeconomic analyses in the areas of corporate and personal finance;

(ii) understand the effect of taxes on fundamental economic decisions, e.g. investment and financing decisions, evaluation of investment, financial assets, forms of remuneration for employees including managing and assessing;

(iii) read and discuss primary scientific 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)  
Language of assessment: German, English

### Allocation of places

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### Additional information

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

--
Module title: Strategic Production Management

Abbreviation: 12-M-SPM-111-m01

Module coordinator: holder of the Chair of Business Management and Industrial Management

Module offered by: Faculty of Business Management and Economics

ECTS: 5

Method of grading: numerical grade

Only after succ. compl. of module(s): --

Duration: 1 semester

Module level: graduate

Other prerequisites: Admission prerequisite to assessment: successful completion of exercises as specified at the beginning of the course.

Contents:

This module will discuss contents and procedures of strategic production management and, in particular, planning and control concepts. Students will become familiar with the essentials of strategic production management. Theoretical and analytical models will be used for analysing both economic and ecological issues. In addition, the module will discuss principles of value structure optimisation and will develop competences regarding the development of integrated mathematical models.

Intended learning outcomes:

After completion of the module students are able to process, to analyze and answer questions of operations strategy structured and goal-oriented in a global context using appropriate methods. Furthermore, they know the main strategic tasks and objectives in production management and evaluate and apply planning and control concepts for the production in realistic application situations.

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)

a) written examination (approx. 60 minutes) or b) written examination (approx. 40 minutes) and presentation (approx. 15 to 20 pages), weighted 2:1 or c) written examination (approx. 40 minutes) with written elaboration (approx. 15 to 20 pages), weighted 2:1 or d) presentation (approx. 20 minutes) with written elaboration (approx. 15 to 20 pages), weighted 1:1

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:

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

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### Module Catalogue for the Subject Economathematics

**Master's with 1 major, 120 ECTS credits**

<table>
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### Contents

**Description:**
This course discusses vertical contracts in supply chains and their impact on competition.

**Outline of syllabus:**
1. The classic problem of double marginalisation and its solution by nonstandard contracts (resale price maintenance, nonlinear pricing (rebates), exclusive territories, exclusive dealing etc.)
2. Contracts for service
3. Common agency
4. The delegation principle
5. The commitment problem
6. Interlocking relationships
7. Foreclosure by vertical contracts or mergers

### Intended learning outcomes

After completing the course students are able to
(i) explain the results of theoretical industrial economics on vertical contracts;
(ii) apply the involved methods to given simple examples on their own;
(iii) recognize, in which real life situations (and how) the results can be applied;
(iv) analyze the impact of certain vertical contracts on competition.

### Courses

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

<table>
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<th>(type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)</th>
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### Allocation of places

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### Additional information

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### Referred to in LPO I

(examination regulations for teaching-degree programmes)

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Module title | Abbreviation
--- | ---
Theory of Industrial Organization 1 | 12-M-TI1-111-m01

Module coordinator | Module offered by
--- | ---
holder of the Chair of Industrial Economics | Faculty of Business Management and Economics

<table>
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Contents

Theory of industrial organisation:
1. Monopoly pricing
   - Nonlinear pricing and mechanism design
   - Dynamic pricing: experience goods, durable goods
2. Oligopoly pricing
   - Static price and quantity competition in homogeneous and differentiated goods markets
   - Comparative statics
   - Equilibrium market structure
3. Dynamic competition in oligopoly markets
   - Repeated games and collusion
   - Markov perfect equilibrium and models of dynamic competition
4. Strategic behaviour by incumbent firms
   - Entry deterrence and predation
   - Signalling and reputation
5. Auctions
   - Second price auctions
   - First price auctions
6. Advertising and product design

The course will be taught in English.

Intended learning outcomes

Students which complete this class will acquire a working knowledge of advanced theoretical models of competition in oligopoly markets as well as sophisticated pricing techniques in monopoly markets. They will learn the conditions under which the predictions of these models are valid. They will become familiar with applications of advanced game theoretic tools, such as dynamic models of competition and auction theory, for studying interactions between firms in markets. By means of comprehensive exercises, they will apply the methods they learn in class to practically relevant problems. They will be in a position to read academic papers on related topics, assess the strengths and weaknesses of approach, summarize and comment on these papers and suggest possible extensions.

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. 60 to 90 minutes) or b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or c) term paper (approx. 15 pages) or d) case studies, project report or similar (approx. 10 pages) and presentation (approx. 15 minutes), weighted 2:1 or e) presentation (approx. 30 to 45 minutes), presentations can be held by one candidate each or in groups

Allocation of places

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Additional information

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| Referred to in LPO I (examination regulations for teaching-degree programmes) | -- |
Module title: Theory of Social Policy
Abbreviation: 12-M-TSP-111-m01

Module coordinator: holder of the Chair of Economic Order and Social Policy
Module offered by: Faculty of Business Management and Economics

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

Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents:
The lecture "Theorie der Sozialpolitik" ("Theory of Social Policy") discusses the concept of social security and the concept of social justice. In the first part of the course, which will deal with social security, students will acquire a general overview of possible market failures in an insurance market. One chapter will then each be devoted to the introduction and characterisation of the three main branches of social insurance (pension, health and unemployment insurance). Subsequently, different options for a reform of the individual branches of social insurance will be introduced and evaluated in terms of efficiency. In the second part of the course, which will deal with social justice, different definitions of the concept of justice will be discussed in more detail. Here, the main focus will be on identifying and critically examining different criteria for the measurement of inequality in a society. In addition, efficiency-oriented justifications for redistributive policies by the government will be addressed and discussed with students.

Intended learning outcomes:
The graduate student has acquired following skills and abilities after completion of the module:
(i) Detailed knowledge of institutional foundations of the German social security system
(ii) Mechanics of an insurance market
(iii) Emergence and problems of adverse selection and moral hazard in the context of social insurances
(iv) Measurement and interpretation of inequality measures, particularly of income inequality
(v) Mechanics and welfare effects of state redistribution
(vi) The impact of state redistribution on macroeconomic variables

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

Method of assessment:
a) written examination (approx. 60 to 90 minutes) or b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or c) term paper (approx. 15 pages) or d) case studies, project report or similar (approx. 10 pages) and presentation (approx. 15 minutes), weighted 2:1 or e) presentation (approx. 30 to 45 minutes), presentations can be held by one candidate each or in groups

Allocation of places:
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Additional information:
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Referred to in LPO I (examination regulations for teaching-degree programmes)
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### Module title
Advanced Auditing

### Abbreviation
12-M-WPF-111-m01

### Module coordinator
holder of the Chair of Business Management and Accounting

### Module offered by
Faculty of Business Management and Economics

### ECTS
5

### Method of grading
numerical grade

### Only after succ. compl. of module(s)
--

### Duration
1 semester

### Module level
graduate

### Other prerequisites
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### Contents

**Content:**
The course discusses business-risk oriented financial statement audits according to International Standards on Auditing (IASs). Selected topics of testing theory are also addressed.

**Outline of syllabus:**
1. Review process
   - Conditions, order taking, audit planning, risk model-based testing methods
   - Development of the risk-based audit approach
   - Fraud and going concern
   - Judgment, reporting and documentation
2. Testing theory
   - Overview of the state of research
   - The auditor's independence
   - Audit fees, concentration, competition

**Reading:**
Other reading to be specified in class.

**Intended learning outcomes**
After completion of the module "Auditing for advanced" students can

(i) represent the risk-based audit approach, establish and analyze critical;
(ii) analyze selected complex audit issues on the basis of national and international audit standards and, based largely develop self-directed solutions;
(iii) judge selected research papers examining theory independently and, building design research or application-oriented projects.

### 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. 60 to 90 minutes) or b) term paper (approx. 15 pages) and presentation (approx. 20 minutes), weighted 2:1

### Allocation of places
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### Additional information
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**Referred to in LPO I** (examination regulations for teaching-degree programmes)
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### Module title
Process and System Modelling

### Abbreviation
12-PSM-111-m01

### Module coordinator
holder of the Chair of Business Management and Business Information Systems

### Module offered by
Faculty of Business Management and Economics

### ECTS
5

### Method of grading
numerical grade

### Only after succ. compl. of module(s)
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### Duration
1 semester

### Module level
graduate

### Other prerequisites
--

## Contents

The course familiarises students with relevant principles, concepts and methods of process and system modelling. It is divided up into two parts:

### Part A: Introduction to business process management

**Contents Part A:**
- Purpose of business process management
- How are business processes modelled?
- What is business process management?
- Strategic Management

### Part B: Simulation

**Contents Part B:**
- Simulation
- Theoretical foundations
- Petri nets
- Smalltalk inscription language

## Intended learning outcomes

The students have

1. substantial knowledge of the basic principles, concepts and methods of process and system modeling and
2. recognize their economic importance and consequences.

## 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. 60 minutes) or b) term paper (approx. 15 pages)

## Allocation of places

Number of places: 20. Should the number of applications exceed the number of available places, 15 places will be set aside for Master's students of Business Information Systems. (1) 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 com-
pleted at least one module component of the respective module will be given preferential consideration. (2) Pla-
ces on all courses of the module component with a restricted number of places will be allocated in the same pro-
cedure. (3) A waiting list will be maintained and places re-allocated as they become available.

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Module title | Abbreviation
---|---
Risk Management - Concepts and Systems | 12-RM-KS-111-m01

Module coordinator | Module offered by
holder of the Chair of Business Management and Accounting | Faculty of Business Management and Economics

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Contents

**Concepts:** The course will provide students with an overview of the main goals, contents, methods and instruments of opportunity and risk management in industrial and commercial enterprises. **Systems:** The course will provide students with an overview of the design and functionality of essential information systems for risk management.

**Intended learning outcomes**

Concepts: After completion of the module students have a sound understanding of basic concepts, processes, methods and tools of risk management. They are able to justify the duties and functions of risk management in the company in theory and practice. They can also evaluate proposed solutions for the design of a risk management system, analyze selected issues of risk management and building on that, develop their own solutions. Systems: After completing this module, students can

(i) judge legal, organizational and methodological requirements for the implementation of risk management processes in a risk management information system (RMIS);
(ii) understand the technical basis for RMIS;
(iii) estimate the different characteristics of various information systems for the RM;
(iv) understand the workings of RMIS.

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

This module comprises 2 module components. Information on courses will be listed separately for each module component.

- 12-RM-KS-1-111: V (no information on SWS (weekly contact hours) and course language available)
- 12-RM-KS-2-111: 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)

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 12-RM-KS-1-111: Risk Management Concepts**

- 3 ECTS, Method of grading: numerical grade
  - a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

**Assessment in module component 12-RM-KS-2-111: Risk Managements Systems**

- 2 ECTS, Method of grading: numerical grade
  - a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Allocation of places

Number of places: 25. 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 restrict-
A limited 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**

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

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Module title: Optimal Tax Theory
Abbreviation: 12-M-F4-111-m01

Module coordinator: holder of the Chair of Public Finance
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Duration: 1 semester
Method of grading: numerical grade
Other prerequisites: graduate

Contents:
Description: The course will discuss the design of an optimal tax system. First, students will learn what criteria have to be met for a tax system to be optimal. Lectures will introduce key rules for taxing commodities as well as income and capital.
Examining specific taxation issues such as eco-tax, family taxation and the taxation of international enterprises, students will then gain more in-depth insights into these rules.
Reading: Lecture notes will be provided.
Outline of syllabus:
1. Optimal commodity taxation
2. Optimal income taxation
3. Optimal taxation of families
4. International tax competition

Intended learning outcomes:
After completing this module students have a basic understanding of what is meant with "optimal taxation". They are able to apply this concept to specific normative questions of tax policy in practice. Students also learn to prepare and present short papers, where they discuss specific normative policy issues in groups.

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) or term paper (approx. 15 pages)

Allocation of places:
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Additional information:
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Referred to in LPO I (examination regulations for teaching-degree programmes):
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Module title: Tax Accounting

Abbreviation: 12-M-STB-111-m01

Module coordinator: holder of the Chair of Business Taxation

Module offered by: Faculty of Business Management and Economics

ECTS: 5

Method of grading: numerical grade

Duration: 1 semester

Module level: graduate

Other prerequisites: --

Contents:
This module introduces the various methods of income recognition in the German Income Tax Code (Einkommensteuergesetz, EStG). It discusses the main reporting and valuation provisions as well as the specific problems and techniques of income calculation for partnerships.

Intended learning outcomes:
Students have in-depth knowledge of tax accounting of companies and are able to solve moderate to complex problems of tax accounting in particular of sole proprietorships and partnerships using legal source.

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

Method of assessment:
written examination (approx. 60 minutes)

Allocation of places:
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Additional information:
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Referred to in LPO I (examination regulations for teaching-degree programmes): --
### Module: Instruments of Strategic Controlling

**Module title**: Instruments of Strategic Controlling  
**Abbreviation**: 12-M-INST-111-m01

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<tr>
<td>holder of the Chair of Chair of Business Management, Controlling and Accounting</td>
<td>Faculty of Business Management and Economics</td>
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#### Contents

The module focuses on controlling instruments, which are applied in the context of the strategic management of enterprises. The module covers analytical and heuristic techniques of planning and control. In the context of these techniques, instruments of target costing, life cycle analysis, value chain analysis and various portfolio techniques are discussed with regard to their theoretical foundation and fields of application.

#### Intended learning outcomes

Initially knowledge about fundamental requirements concerning instruments of decision making and behavior control within enterprises is acquired. What is more the module conveys the obtaining of knowledge about the strengths and weaknesses and therewith fields of application and limits of prevalent instruments of strategic corporate management used by practitioners.

#### 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. 60 minutes) or b) term paper (approx. 15 pages)

#### Allocation of places

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#### Additional information

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#### Referred to in LPO I  
(examination regulations for teaching-degree programmes)  
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<td>Empirical HR Research</td>
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<td>holder of the Chair of Human Resource Management and Organisation</td>
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**Contents**

The seminar “Empirische Personalforschung” (“Empirical Personnel Economics”) introduces and discusses the most important estimation problems and their application in the software package STATA. In addition, students learn, with the help of basic problems of personnel economics, how estimation programs are programmed in STATA. Reading list to be provided in class.

**Intended learning outcomes**

The aim of the seminar is to enable students to understand and apply the most important estimation programs and their application in STATA with a focus on problems in personnel economics.

**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)

Term paper (approx. 10 pages) and presentation (approx. 30 minutes), weighted 2:1 Assessment offered: once a year, summer semester

**Allocation of places**

Number of places: 18. 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**

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

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Module title | Abbreviation
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Advanced Macroeconomics | 12-M-AME-111-m01

Module coordinator | Module offered by
holder of the Chair of International Macroeconomics | Faculty of Business Management and Economics

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Duration | Module level | Other prerequisites
1 semester | graduate | --

Contents

The course covers long-run aspects of macroeconomics. We start with a review of the facts of long-run growth and a review of the Solow growth model. The lecture then focuses on the infinite-horizon Ramsey-Cass-Koopmans model and on endogenous growth theory. Applications of this framework involving urban and regional growth, resources and the environment will be discussed, time permitting.

Outline of syllabus

I Facts and the Solow growth model
II Infinite-horizon Ramsey-Cass-Koopmans model
III Endogenous growth
IV Human capital, social infrastructure and beyond
V Applications (urban and regional growth; growth, resources and the environment)

Reading:
The course draws strongly on the following textbook:
We will also use journal articles and research papers at several points of the lecture.

Intended learning outcomes

Students acquire a working knowledge of the key models and analytical tools of advanced macroeconomics. This enables them to identify the key forces that determine the determinants of income levels and growth rates of incomes, to make informed policy analysis and statements and to critically evaluate current controversies and developments as well as to conduct their own research.

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)
Assessment offered: once a year, summer semester
Language of assessment: English

Allocation of places

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Additional information

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

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## Module Catalogue for the Subject Economathematics

Master's with 1 major, 120 ECTS credits

<table>
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<th>Module title</th>
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<tr>
<td>DSGE Modelling</td>
<td>12-M-DMM-111-m01</td>
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<tr>
<td>holder of the Chair of Monetary Policy and International Economics</td>
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### Contents

The course offers an introduction to "Dynamic Stochastic General Equilibrium Modelling" (DSGE). These models are designed to describe the business cycle at the macro level. In a first step, we analyse the behaviour of a representative household. In particular, we describe how consumption, asset allocation and labour supply plans are formulated. In a second step, we focus on the firm sector and address how firms solve for optimal production plans. In a third step, we explain what role the central bank plays in stabilising the business cycle. Thereby, we show how changes in interest rates interact with optimal decisions taken by households and firms. We also discuss hot topics such as CAPM models and monetary policy in the euro area.

### Intended learning outcomes

The course offers analytical tools designed to solve DSGE models. These analytical skills encompass:

- Solving of intertemporal optimization problems (e.g., consumption Euler-equations).
- Linearization methods (e.g., Taylor-expansions).
- Solving linear difference expectations by minimum state variable techniques (MSV-solution).
- Basic time series concepts such as impulse response functions, variance decompositions.
- Basic insights in MATLAB/Dynare programming: specifying, solving and estimating DSGE models.

### Courses

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### Method of assessment

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### Allocation of places

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### Additional information

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<td>Applied General Equilibrium Models</td>
<td>12-M-NGM-111-m01</td>
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<td>holder of the Chair of Public Finance</td>
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### Contents

**Description:**
This course will mostly be concerned with the analysis of public policy (in areas such as taxation, social security etc.). Providing students with state-of-the-art techniques for quantitative macroeconomic research in this very field and familiarising them with the relevant literature, this course will teach students how such policies redistribute between different generations and also within generations, how they may improve risk sharing when markets are incomplete and how they can trigger distortions and therefore hurt the aggregate economy.

**Outline of syllabus:**
1. Programming with FORTRAN and application of numerical methods
2. Solution techniques for dynamic programming problems
3. The overlapping generations model (OLG) with uninsurable income risk
3. Policy analysis in the stochastic OLG model

**Reading:**
Lecture notes will be provided.

**Intended learning outcomes**
After completing the course "Computational Economics - Advanced Level" students will be able to
(i) edit and solve stochastic economic problems using advanced numerical techniques;
(ii) implement small scale economic models on the computer;
(iii) simulate tax and social security policy reforms and interpret the quantitative results in economic term.

| 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) |

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</table>
**Module title**

Advanced International Trade

**Abbreviation**

12-M-AIT-111-m01

**Module coordinator**

holder of the Chair of International Macroeconomics

**Module offered by**

Faculty of Business Management and Economics

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**Duration**

1 semester

**Module level**

graduate

**Other prerequisites**

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**Contents**

This module will be discontinued, no courses are offered currently or will be offered in future.

This may be due to one of the following reasons:

- the module belongs to a version of the examination regulations that no longer has any enrolled students
- the lecturer who offered the course is no longer employed at the University of Würzburg
- the contents are no longer taught and were substituted with comparable offers

For more information, please contact the Office of the Dean of Studies of the Faculty of Business Management and Economics.

**Intended learning outcomes**

Due to the lack of relevance, no learning outcomes description is available because no courses are held for this module.

**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)

a) written examination (approx. 180 minutes) or b) term paper (approx. 15 pages)

Assessment offered: once a year, winter semester

Language of assessment: English

**Allocation of places**

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**Additional information**

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

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<td>Economic Dynamics</td>
<td>12-M-DWT-111-m01</td>
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<tr>
<td>holder of the Chair of Econometrics</td>
<td>Faculty of Business Management and Economics</td>
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### Contents

Outline of syllabus:
1. Dynamic systems and models in economic theory
2. Differential equations
3. Difference equations
4. Dynamic optimisation
5. Selected models in business cycle theory
6. Selected models in growth theory

### Intended learning outcomes

Students acquire comprehension on the key methods of dynamic economic theory. They will be able to analyze linear and some basic non-linear difference and differential equations and apply those to economic applications.

### 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. 60 minutes) or b) term paper (approx. 15 pages)

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
Module title | Abbreviation
--- | ---
European Monetary Policy - Closed Economy | 12-M-EG1-111-m01

Module coordinator

Holder of the Chair of Monetary Policy and International Economics

Module offered by

Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
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<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
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</table>

Duration

1 semester

Module level

graduate

Other prerequisites

--

Contents

The course deals with the following topics:
1. Intertemporal allocation -- How do households and firms take an optimal decision regarding investments and savings? Why are financial markets efficient? What is the meaning of financial accounting?
2. Banking, financial markets and crisis -- What are the main functions of banks? What are the roles of banks in an economy? What are the reasons and solutions for liquidity and solvency problems of banks?
3. Macroeconomic analysis of banks -- Banks as intermediaries vs. originators of saving deposits. Macro models of banking -- The role of banks during the financial crisis.
4. Money demand -- What are the key determinants of money demand?
5. The monetary transmission channel -- Connection between monetary policy and the real economy in the BMW model. Description of the basic model. Extension of the basic model of fiscal policy.
6. Deflation -- Consequences of deflation on macro variables on the basis of different models.

Intended learning outcomes

By completing this course, students receive a profound understanding of theory and practice of the monetary policy and the financial system. Next to a profound knowledge of banking in general, students learn the monetary transmission channel. Students will be able to analyze these issues based on theoretical models as well as the international historical experience.

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. 60 minutes) or b) term paper (approx. 15 pages)

Allocation of places

Number of places: 30. 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

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

--
Module title | Abbreviation
---|---
European Monetary Policy - Open Economy | 12-M-EG2-111-m01

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

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</table>

Duration | Module level | Other prerequisites
1 semester | graduate | --

Contents

The course deals with the following topics:

The foreign exchange market:
Functioning of foreign exchange markets; market structure, players and evolution; FX transactions; hedging and speculation with FX.

Exchange rate economics:
Theoretical background and empirical validity of covered interest parity (CIP), uncovered interest rate parity (UIP) and purchasing power parity (PPP); Monetary approach: Flexible price monetary model and sticky price (Dornbusch-) overshooting model; Balassa-Samuelson effect; FX valuation via the PPP and the macroeconomic balance approach; Real effective exchange rates; Empirical validity of the exchange rate theories; Exchange rates and the current account.

Exchange rate regimes and monetary policy in open economies:
Classification of exchange rate regimes; the policy trilemma in open economies; historical development of the international monetary system; central bank interventions on the FX market.

Modelling open economy macroeconomics at the intermediate level:
Implications of the Mundell-Fleming model for monetary and fiscal policy under fixed and flexible exchange rates.
The BMW (IS-MP-PC) model of the open economy and its implication for monetary and fiscal policy under fixed and flexible exchange rates; optimum currency areas in the BMW model and in practice.

Currency crises:
International experience with currency crises since the 1970s; modelling currency crises within the Mundell-Fleming framework.

Managed-floating as a solution for the policy trilemma.

Intended learning outcomes

By completing this course, students receive a profound understanding of the functioning of foreign exchange markets, the drivers of exchange rate movements and some exchange rate valuation methods used in practice. Next to a profound knowledge of exchange rate theory the course highlights its practical applicability, e.g. as an investment strategy. In the second part of the course students learn the principles of monetary policy in open economies, including its trade-offs and risks like currency crises. Students will be able to analyze these issues based on theoretical models as well as the international historical experience.

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. 60 minutes) or b) term paper (approx. 15 pages)
## Allocation of places

Number of places: 30. 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

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

---
Module title | Abbreviation
---|---
Topics in International Trade | 12-M-TIT-111-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 | graduate | -- |

Contents

This module will be discontinued, no courses are offered currently or will be offered in future.

This may be due to one of the following reasons:

- the module belongs to a version of the examination regulations that no longer has any enrolled students
- the lecturer who offered the course is no longer employed at the University of Würzburg
- the contents are no longer taught and were substituted with comparable offers

For more information, please contact the Office of the Dean of Studies of the Faculty of Business Management and Economics.

Intended learning outcomes

Due to the lack of relevance, no learning outcomes description is available because no courses are held for this module.

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)

presentation (approx. 60 minutes) and oral examination (approx. 20 minutes), weighted 2:1

Assessment offered: once a year, winter semester

Language of assessment: English

Allocation of places

--

Additional information

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

--
Module title: European Public Finance

Abbreviation: 12-M-EFP-111-m01

Module coordinator: holder of the Chair of Public Finance

Module offered by: Faculty of Business Management and Economics

ECTS: 5

Method of grading: numerical grade

Duration: 1 semester

Module level: graduate

Other prerequisites: --

Contents:

Description:
In this course, students will acquire a basic understanding of the financial system of the European Union as well as selected aspects of European agricultural, tax and climate policy.

Reading: lecture notes provided by Chair.

Outline of syllabus:
1. The budget of the European Union
2. The Common Agricultural Policy (CAP)
3. The Stability and Growth Pact (SGP)
4. Tax competition or tax coordination in Europe?
5. Emissions trading and European climate policy

Intended learning outcomes:
After completing the course "Europäische Finanzpolitik" students know the central revenues and expenditures of the budget of the European Union. They also know the most important instruments of the agricultural policy and the debt problem within the European currency union. Finally they will be able to discuss international tax policy and climate issues using simple partial equilibrium models.

Courses:

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

Method of assessment:
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Allocation of places:
Business Management Master's and Economics Master's: no restrictions. Applied Human Geography Master's and Political and Social Sciences Master's: 10 places. Places will be allocated by lot.

Additional information:

Referred to in LPO I (examination regulations for teaching-degree programmes)
Module title | Abbreviation
--- | ---
European Economic Statistics | 12-M-EWS-111-m01

Module coordinator | Module offered by
holder of the Chair of Econometrics | Faculty of Business Management and Economics

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<tr>
<td>1 semester</td>
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Contents
Outline of syllabus:
1. Subject and tasks of business and economic statistics
2. The European system of national accounting
3. The harmonised consumer price index
4. Structural indicators
5. Money and loans in the European monetary union
6. Data bases of EuroStat

Intended learning outcomes
Students acquire comprehension on the most important indicators and accounting systems of the European and German business and economic statistics. They will be able to use these reporting systems for different macroeconomic questions.

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. 60 minutes) or b) term paper (approx. 15 pages)

Allocation of places
--

Additional information
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Referred to in LPO I (examination regulations for teaching-degree programmes)
--
### Module Catalogue for the Subject Economathematics

**Master's with 1 major, 120 ECTS credits**

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
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<tr>
<td>Public Debt</td>
<td>12-M-F2-111-m01</td>
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<thead>
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<th>Module coordinator</th>
<th>Module offered by</th>
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<tbody>
<tr>
<td>holder of the Chair of Public Finance</td>
<td>Faculty of Business Management and Economics</td>
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<tr>
<th>Duration</th>
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<td>1 semester</td>
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<th>Contents</th>
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</table>
| **Description:** The module provides an introduction to some specific issues of public debt that are in the focus of the public and scientific debate. Reading: lecture notes provided by Chair.  

**Outline of syllabus:**
1. Measurement of public debt  
2. Growth effects of public debt  
3. Intergenerational effects of public debt  
4. Public debt in open economies  
5. Neutrality of public debt  
6. Political economy of public debt  
7. Theory of sovereign debtors  

**Intended learning outcomes**
After completing the course "National Debt" students are able to distinguish and discuss the most important measurement concepts and problems of public debt. They can discuss the growth and distributional consequences using simple equilibrium models of closed and open economies. They can evaluate the relevance of Ricardian neutrality and know the political economy explanations of rising debt levels and debt overhangs in specific countries.

<table>
<thead>
<tr>
<th>Courses (type, number of weekly contact hours, language — if other than German)</th>
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<tr>
<td>V + Ü (no information on SWS (weekly contact hours) and course language available)</td>
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**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. 15 pages)

**Allocation of places**

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**Additional information**

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

---
### Module title

**Principles of European Regulation**

**Abbreviation**

12-M-PRE-111-m01

### Module coordinator

holder of the Chair of Industrial Economics

### Module offered by

Faculty of Business Management and Economics

### ECTS

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<th>ECTS</th>
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<tbody>
<tr>
<td>5</td>
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</table>

### Duration

| 1 semester | graduate | --      |

### Contents

**Description:**
This module examines the regulation of traditional network industries (railroads, electricity, telecommunications) in Europe: theory and practice

**Outline of syllabus:**
1. Overview of the regulation of railroads in Germany and Europe in practice
2. Overview of the regulation of the electricity industry in Germany and Europe in practice
3. Overview of the regulation of the telecommunications industry in Germany and Europe in practice
4. Political economy of regulation
5. Natural monopoly and price regulation under ideal conditions
6. Price regulation under realistic circumstances
7. Procurement: advantages and disadvantages
8. Network access regulation

### Intended learning outcomes

After successfully completing this module, students will be able to
(i) describe central problems in regulation of the traditional network industries;
(ii) identify and apply the appropriate results from Industrial Organization;
(iii) assess the advantages and disadvantages of existing regulatory mechanisms by using results from the industrial organization theory.

### 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)

a) written examination (approx. 60 to 90 minutes) or b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or c) term paper (approx. 15 pages) or d) case studies, project report or similar (approx. 10 pages) and presentation (approx. 15 minutes), weighted 2:1 or e) presentation (approx. 30 to 45 minutes), presentations can be held by one candidate each or in groups

### Allocation of places

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### Additional information

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

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<table>
<thead>
<tr>
<th>Module title</th>
<th>Quantitative Economic Policy</th>
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<tbody>
<tr>
<td>Abbreviation</td>
<td>12-M-QWP-111-m01</td>
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<table>
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<tr>
<th>Module coordinator</th>
<th>holder of the Chair of Econometrics</th>
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<tr>
<td>Module offered by</td>
<td>Faculty of Business Management and Economics</td>
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<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
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<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
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</table>

### Contents

Outline of syllabus:
1. Subject and tasks of quantitative economic policy
2. Quantitative economic policy in the static model
3. Fundamentals of systems and control theory
4. Econometric models
5. Stabilisation theory and policy in dynamic models
6. Optimal quantitative economic policy

### Intended learning outcomes

Students have an understanding of the importance of most methods of quantitative economic policy. They are able to analyze static and dynamic economic policy models and apply them to concrete economic problems.

### 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)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
### European Macroeconomic Policy

**Module title**
European Macroeconomic Policy

**Abbreviation**
12-M-EMP-111-m01

**Module coordinator**
holder of the Chair of Monetary Policy and International Economics

**Module offered by**
Faculty of Business Management and Economics

**ECTS**
5

**Method of grading**
umerical grade

**Duration**
1 semester

**Module level**
graduate

**Other prerequisites**
--

### Contents

**Description:**
The course provides students with an overview of the macroeconomic conditions and consequences of European integration and monetary union. The course thus helps students gain a deeper understanding of the current crisis in the euro area as well as the debate on the future of European economic integration.

**Content:**
The first part of the course provides students with an overview of the history of European integration with a focus on economic and monetary integration. We then discuss the institutional framework of the European Monetary System, the predecessor of the euro area in the period from 1979 to 1998. Next, the criteria for admission to the European Monetary Union (EMU) and the monetary policy strategy of the European Central Bank will be presented and discussed. Building on the traditional Mundell-Fleming model, the course will make students familiar with the theory of the optimum monetary area and will then provide them with deeper insights into this theory on the basis of a simple New Keynesian model. Students will thus be able to make a well-founded assessment of the advantages and disadvantages of monetary union as well as the conditions under which monetary union can be successful. In the final part of the course, we analyse the coordination and incentive problems that arise for fiscal policy in a monetary union. In particular, we deal with the question of how these issues are addressed within the European Monetary Union. Current macroeconomic developments within the euro area as well as the causes and consequences of the euro crisis are discussed at various points in the course.

**Intended learning outcomes**
After completing this course students will have gained a profound understanding of the costs and benefits of monetary integration in general and specifically in the EMU. Thus, they will enhance their general macroeconomic understanding by applying it to real world problems. In addition, students will have knowledge of the institutions of common fiscal and monetary policy in Europe.

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

**Method of assessment**
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

**Allocation of places**
Number of places: 30, thereof 10 places for Master's students of Business Management and Master's students of Economics assigned as described below and 10 places each for Master's students of Applied Human Geography and Master's students of Political and Social Sciences, assigned by lot. (1) Should the number of applicants 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. (2) Places on all courses of the module component with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated as they become available.
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<th>Additional information</th>
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<td>Referred to in LPO I (examination regulations for teaching-degree programmes)</td>
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</table>
### Module Catalogue for the Subject Economathematics
#### Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>Seminar: Selected Topics in Business Management and Economics</td>
<td>12-M-APS-111-m01</td>
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<table>
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<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
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<tr>
<td>Dean of the Faculty of Business Management and Economics</td>
<td>Faculty of Business Management and Economics</td>
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<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
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<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
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</table>

### Contents

This module serves the purpose of transferring credits from:
- courses taken at other German or non-German universities
- additional courses offered on a short-term basis
- courses offered by new Chairs that are yet to be included in the FSB (subject-specific provisions)

The holders of the respective Chairs will ensure that the courses are eligible for credit transfer.

### Intended learning outcomes

As a result of accrediting multiple kinds of modules, a description of acquired skills cannot be given.

### Courses

<table>
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<tr>
<th>Type, number of weekly contact hours, language — if other than German</th>
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<td>S (no information on SWS (weekly contact hours) and course language available)</td>
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### Method of assessment

<table>
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<tr>
<th>Type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus</th>
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<tr>
<td>term paper (approx. 20 pages) and presentation (approx. 20 minutes), weighted 2:1 Assessment offered: in the semester in which the course is offered</td>
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### 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

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### Referred to in LPO I

(examination regulations for teaching-degree programmes)

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European Competition Policy

Module coordinator: holder of the Chair of Industrial Economics

Module offered by: Faculty of Business Management and Economics

ECTS: 5

Method of grading: numerical grade

Only after succ. compl. of module(s): --

Duration: 1 semester

Module level: graduate

Other prerequisites: --

Contents

Outline of syllabus:
1. Legal environment, competition laws
2. Market definition
   - Qualitative methods
   - Simple quantitative methods
   - Hypothetical monopoly test
3. Horizontal agreements and collusion: repeated games and factors affecting likelihood of collusion
4. Horizontal mergers and collusion
   - Economic theory
   - Efficiency effects
   - Coordinated effects
5. Vertical relations and contracts
   - Economic analysis of contracts
   - "More economic approach"
6. Abuse of dominant position
   - Classification of abusive conduct
   - Economic analysis of abusive conduct and theory of harm

The course will be taught in English.

Intended learning outcomes

After completion of the module students can use the advanced concepts introduced in the lecture of competition policy, including the legal framework, the trace models and methods for the study of competition policy issues, as well as understand the approach of European competition policy in high profile cases. When they are confronted with practical problems, they can refer to these cases, and the same logic to practical examples apply by draining the relevant economic theories that identify variables to be measured and methodologies for assessing, and based on that adequate conclusions for appropriate cases. They will sufficiently understand the subject in order to open up that build upon literature in journals and being able to think critically.

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)

a) written examination (approx. 60 to 90 minutes) or b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or c) term paper (approx. 15 pages) or d) case studies, project report or similar (approx. 10 pages) and presentation (approx. 15 minutes), weighted 2:1 or e) presentation (approx. 30 to 45 minutes), presentations can be held by one candidate each or in groups

Allocation of places

Business Management Master’s and Economics Master’s: no restrictions. Applied Human Geography Master’s and Political and Social Sciences Master’s: 10 places. Places will be allocated by lot.

Additional information

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</table>
### Module Title

**Topics in Labor Market Economics and Social Policy**

**Abbreviation**

12-M-SPÜ-111-m01

### Module Coordinator

holder of the Chair of Economic Order and Social Policy

### Module Offered by

Faculty of Business Management and Economics

### ECTS

5

### Method of Grading

Only after succ. compl. of module(s)

### Duration

1 semester

### Module Level

graduate

### Contents

The module "Sozialpolitische Übungen" ("Advanced Topics in Economic Policy") deals with current economic policy issues and intends to launch an open discussion with the students.

### Intended Learning Outcomes

The discussion of current economic policy issues enables the students to gain a profound understanding of how economic and political markets function. Furthermore, autonomous use of research results in economic policy is fostered.

### Courses

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<thead>
<tr>
<th>Type</th>
<th>Number of Weekly Contact Hours</th>
<th>Language</th>
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<tr>
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<td>(weekly contact hours) and</td>
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<td></td>
<td>course language available)</td>
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### Method of Assessment

- a) written examination (approx. 60 to 90 minutes)
- b) written examination (questions concerning mathematical methodology; approx. 120 minutes)
- c) term paper (approx. 15 pages)
- d) case studies, project report or similar (approx. 10 pages)
- e) presentation (approx. 15 minutes), weighted 2:1
- f) case studies, project report or similar (approx. 10 pages)
- g) presentation (approx. 30 to 45 minutes), presentations can be held by one candidate each or in groups

### Allocation of Places

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### Additional Information

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### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
Management and Leadership in Organizations

Module title: Management and Leadership in Organizations
Abbreviation: 12-MFO-111-m01

Module coordinator: holder of the Chair of Business Management and Business Information Systems
Module offered by: Faculty of Business Management and Economics

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

Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents

Part I:
The complexity of the modern work environment and the constantly changing organisational structures of companies lead to a demand for young managers with a high diversity of expertise that are able to play their part in managing the organisational world. The lecture will provide students with an insight into the characteristics, tasks and instruments as well as the challenges of management in organisations and situations that are becoming ever more complex.

Outline of syllabus:
- Introduction -- Power in the daily management routine
- Fundamentals of management in complex organisations
- Tasks and instruments of management
- Leadership in an intercultural context
- Assurance of employability
- Conclusion -- Management of supervisors and colleagues

Part II:
Today’s world of work is characterised by continuous change in a global context. Mergers, integrations and acquisitions - these are key terms in this context. The majority of change processes does not have the desired effect or even fails. This is not least due to the fact that not enough attention is paid to the complexity of these processes and to employees. The support and integration of successful change processes is a central responsibility of managers as well as a complex and central task that requires sound preparation.

Outline of syllabus:
- Introduction - typical change scenarios
- Psychological basics and concepts
- Approaches and control in change projects
- Measures and instruments of change management
- The role of management
- Conclusion - example of application acquisitions and cases

Intended learning outcomes

Part I: Course objectives:
- Provide a widespread insight into the current status of theory and practice regarding management in complex organizations
- Introduction of essential tasks and instruments of managers and their apply to authentic cases.
- To illustrate and reflect the tensions of management in complex situations and international context

Part II: Course objectives:
- Provide a widespread insight into the current status of theory and practice regarding changes
- Introduction, suitability of daily use and critical reflection of essential concepts, models and methods
- Foster the understanding for the necessity, complexity of changes as well as their constraints and barriers.

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

This module comprises 2 module components. Information on courses will be listed separately for each module component.
- 12-MFO-1-111: V (no information on SWS (weekly contact hours) and course language available)
- 12-MFO-2-111: 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)

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 12-MFO-1-111: General Management - Key Skills for Young Professionals**
- 3 ECTS, Method of grading: numerical grade
- written examination (approx. 60 minutes)

**Assessment in module component 12-MFO-2-111: Managing Change**
- 2 ECTS, Method of grading: numerical grade
- written examination (approx. 60 minutes)

**Allocation of places**
--

**Additional information**
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**Referred to in LPO I** (examination regulations for teaching-degree programmes)
--
## Module Catalogue for the Subject Economathematics

### Master's with 1 major, 120 ECTS credits

### Module: Entrepreneurial Management in Science and Engineering

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial Management in Science and Engineering</td>
<td>12-M-EMN-111-m01</td>
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</table>

<table>
<thead>
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<th>Module coordinator</th>
<th>Module offered by</th>
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</thead>
<tbody>
<tr>
<td>holder of the Chair of Entrepreneurship and Management</td>
<td>Faculty of Business Management and Economics</td>
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<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
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<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
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</tbody>
</table>

### Contents

This module will be discontinued, no courses are offered currently or will be offered in future.

This may be due to one of the following reasons:

- the module belongs to a version of the examination regulations that no longer has any enrolled students
- the lecturer who offered the course is no longer employed at the University of Würzburg
- the contents are no longer taught and were substituted with comparable offers

For more information, please contact the Office of the Dean of Studies of the Faculty of Business Management and Economics.

### Intended learning outcomes

Due to the lack of relevance, no learning outcomes description is available because no courses are held for this module.

### 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)

extensive final report on project (approx. 20 to 25 pages), 2 talks during project period (approx. 15 minutes each) and oral contributions to the discussion of talks of other participants in the seminar, weighted 12:3:3.2

Language of assessment: English or German

### Allocation of places

Number of places: 25. 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

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### Referred to in LPO I

(examination regulations for teaching-degree programmes)

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### Module Catalogue for the Subject Economathematics
Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>Advanced Seminar: Selected Aspects of Managerial Accounting</td>
<td>12-M-AUAS-111-m01</td>
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<th>Module offered by</th>
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<tr>
<td>holder of the Chair of Chair of Business Management, Controlling and Accounting</td>
<td>Faculty of Business Management and Economics</td>
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<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
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</tbody>
</table>

### Contents

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

### Intended learning outcomes

After completing the controlling master seminar, students will be able to
(i) understand and apply scientific literature reviews;
(ii) use elaborated contents to write scientific papers;
(iii) create presentations and speeches 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 (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1
Assessment offered: once a year, summer semester

### 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

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

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Module title | Abbreviation
--- | ---
Advanced Seminar: Marketing Strategy | 12-M-MSS-111-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)
10 | numerical grade | at least two of the modules 12-M-MS, 12-M-MM, 12-M-IMM, 12-M-SM

Duration | Module level | Other prerequisites
1 semester | graduate | --

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

Reading:
will vary according to topic

Intended learning outcomes
After completing the course "Marketing Strategie", 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 (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1

Allocation of places
Number of places: 10. 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
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Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Module title
Advanced Seminar: Entrepreneurship and Management

Abbreviation
12-M-SAS-111-m01

Module coordinator
holder of the Chair of Entrepreneurship and Management

Module offered by
Faculty of Business Management and Economics

ECTS
10

Method of grading
numerical grade

Only after succ. compl. of module(s)

Duration
1 semester

Module level
graduate

Other prerequisites
--

Contents
This seminar deals with current topics of entrepreneurship, innovation and corporate sustainability. Students are required to independently analyse a selected topic and to write a term paper. The term paper may be based on literature, empirical analysis or independent work with formal models. In addition, students are required to deliver a talk.

Intended learning outcomes
After completing the seminar, the students acquired detailed knowledge of important fields of entrepreneurship, innovation or corporate sustainability. They are also able to process and to structure their research findings in a written assignment and to present it in a lecture.

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
Assessment offered: once a year, winter semester
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
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Referred to in LPO I (examination regulations for teaching-degree programmes)
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### Module Catalogue for the Subject
Economathematics
Master’s with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
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<tr>
<td>Advanced Seminar: Banking</td>
<td>12-M-SBL-111-m01</td>
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<tr>
<td>holder of the Chair of Business Management, Banking and Finance</td>
<td>Faculty of Business Management and Economics</td>
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<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
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</table>

### Contents
This course will take the form of a seminar. It will deal with current topics of banking. 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
Students will gain in-depth knowledge in key application areas of banking management. The students are able to process independently deeper problems within the topics, to work up these structured in writing and present it in a lecture.

### 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 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1

### Allocation of places
Number of places: 10. 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
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### Referred to in LPO I (examination regulations for teaching-degree programmes)
--
### Advanced Seminar: Financial Accounting and Auditing

**Abbreviation**: 12-M-SER-111-m01

**Module coordinator**
holder of the Chair of Business Management and Accounting

**Module offered by**
Faculty of Business Management and Economics

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<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
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</table>

### Contents

The module provides students with more in-depth insights into current problems of external accounting and auditing, usually using scientific primary literature in English or German language.

### Intended learning outcomes

After completion of the module, participants have

(i) consolidated the learned issues and possibly applied additional techniques of scientific work;
(ii) created and defended a qualifying level relevant scientific work;
(iii) conducted a scientific examination of the work results of other seminar participants;
(iv) the ability to present and develop solution-oriented their own performance adequately considering communicative 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. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1

Assessment offered: once a year, winter semester

### 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

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* Referred to in LPO I (examination regulations for teaching-degree programmes)
## Module Catalogue for the Subject
### Economathematics
#### Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>Advanced Seminar: Business Cycles and Economic Growth</td>
<td>12-M-SEWF-111-m01</td>
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<tr>
<td>holder of the Chair of International Macroeconomics</td>
<td>Faculty of Business Management and Economics</td>
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<td>graduate</td>
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## Contents

This module will be discontinued, no courses are offered currently or will be offered in future.

This may be due to one of the following reasons:

- the module belongs to a version of the examination regulations that no longer has any enrolled students
- the lecturer who offered the course is no longer employed at the University of Würzburg
- the contents are no longer taught and were substituted with comparable offers

For more information, please contact the Office of the Dean of Studies of the Faculty of Business Management and Economics.

## Intended learning outcomes

Due to the lack of relevance, no learning outcomes description is available because no courses are held for this module.

## Courses

<table>
<thead>
<tr>
<th>(type, number of weekly contact hours, language — if other than German)</th>
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<td>S (no information on SWS (weekly contact hours) and course language available)</td>
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## Method of assessment

<table>
<thead>
<tr>
<th>(type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)</th>
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<tbody>
<tr>
<td>term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1 Assessment offered: once a year, summer semester</td>
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</table>

## 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 reallocated as they become available.

## Additional information

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## Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
Module title
Advanced Seminar: Productions and Operations Management

Abbreviation
12-M-SI-111-m01

Module coordinator
holder of the Chair of Business Management and Industrial Management

Module offered by
Faculty of Business Management and Economics

ECTS
10

Method of grading
numerical grade

Only after succ. compl. of module(s)
--

Duration
1 semester

Module level
graduate

Other prerequisites
--

Contents
In the seminar, students will write seminar papers on selected topics in the field of industrial management. The central issues and findings of these papers will have to be presented in class.

Intended learning outcomes
The students have acquired in-depth knowledge in key application areas of industrial management and learned by taking care of the seminar to deepen their knowledge for making scientific work, to research literature necessary, to filter, to evaluate, to critically analyze and to ask each other. On this basis, and, where appropriate, with introduction of own scientifically based further developments, the participants will learn to prepare a written contribution to the topic of Industrial Management, which complies with the principles of scientific work. Through the lecture, students learn to present selected content of their housework in a suitable form and a predetermined time frame and to defend the findings in the course of a critical, 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)
term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1

Allocation of places
Number of places: 10. 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
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Referred to in LPO I (examination regulations for teaching-degree programmes)
--
### Module Catalogue for the Subject Economathematics

#### Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
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<tbody>
<tr>
<td>Advanced Seminar: Industrial Organization</td>
<td>12-M-SIO-111-m01</td>
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<tr>
<td>holder of the Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
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<tr>
<td>1 semester</td>
<td>graduate</td>
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#### Contents

Content:
In this course, students will acquire important knowledge and skills that will enable them to prepare a well-structured paper and to present the results of their work with the help of relevant topics in the field of industrial economics.

#### Intended learning outcomes

After completing the course "Seminar: Industrieökonomik", 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 (approx. 20 pages) and presentation (approx. 20 minutes), weighted 2:1

#### Allocation of places

--

#### Additional information

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

--
Module title | Abbreviation
---|---
Advanced Seminar: Econometrics | 12-M-SOE-111-m01

Module coordinator | Module offered by
holder of the Chair of Econometrics | Faculty of Business Management and Economics

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</table>

Contents

This module will take the form of a seminar and will cover advanced topics in econometrics. Students will be required to independently familiarise themselves with the respective topics and to present the results of their work both in a seminar paper and orally during a seminar session.

Intended learning outcomes

Students are able to analyze independently academic publications on their relevance for a given theme. They can 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. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1

Allocation of places

Number of places: 10. 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

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

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## Module Catalogue for the Subject Economathematics

**Master's with 1 major, 120 ECTS credits**

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>Advanced Seminar: Topics in Personnel Economics and Organizational Theory</td>
<td>12-M-SPO-111-m01</td>
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<tbody>
<tr>
<td>holder of the Chair of Human Resource Management and Organisation</td>
<td>Faculty of Business Management and Economics</td>
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<td>1 semester</td>
<td>graduate</td>
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### 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

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 to 25 pages) and **presentation** (approx. 20 minutes), weighted 2:1
- Assessment offered: once a year, winter semester

### 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 reallocated as they become available.

### Additional information

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

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## Module Catalogue for the Subject

### Economathematics

**Master’s with 1 major, 120 ECTS credits**

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>Advanced Seminar: Selected Problems in Analytical Tax Research</td>
<td>12-M-SSL-111-m01</td>
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<tr>
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<td>Faculty of Business Management and Economics</td>
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### Contents

In this seminar, current problems of tax research will be analysed. Usually, students will read and discuss research papers in German and/or English language. Although the seminar will be held in German, individual seminar papers may be written and discussed in English if a participant prefers this to German.

### Intended learning outcomes

After the seminar, students are able
- to analyze a complex issue in taxation using research methods,
- to identify problems and to suggest solutions,
- to formulate and to defend their analysis and suggested solutions.

### Courses

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

### Method of assessment

- term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1

### Allocation of places

Number of places: 10. 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

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<td>Advanced Seminar: Trade Theory and Policy</td>
<td>12-M-STT-111-m01</td>
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<tr>
<td>holder of the Chair of International Macroeconomics</td>
<td>Faculty of Business Management and Economics</td>
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**Contents**

Content:
Current topics in international economics [e. g. outsourcing, offshoring and multinational firms; competition of locations, jurisdictions and systems; globalisation and the environment; trade, multinational firms and labour markets; Triumph of the City].

Reading:
peer-reviewed articles from international journals and/or monographs.

**Intended learning outcomes**

Students are based on current research literature introduced to demanding questions and methods. About seminaristic methods they learn to analyze issues critically and independently. Both in writing and orally, the results are presented and the students are enabled to critically analyze and discuss the work of their peers.

**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 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1
Assessment offered: once a year, summer semester
Language of assessment: 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**

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

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<tr>
<td>holder of the Chair of Monetary Policy and International Economics</td>
<td>Faculty of Business Management and Economics</td>
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**Contents**

Gaining a more in-depth understanding of specific problems of macroeconomics and, in particular, monetary policy.

**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 better for the processing of the master's 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. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1

**Allocation of places**

Number of places: 10. 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 reallocated as they become available.

**Additional information**

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

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**Module title**  
Advanced Seminar: Public Finance

**Abbreviation**  
12-M-SV5-111-m01

**Module coordinator**  
holder of the Chair of Public Finance

**Module offered by**  
Faculty of Business Management and Economics

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**Duration**  
1 semester

**Module level**  
graduate

**Other prerequisites**  
--

**Contents**
Gaining a more in-depth understanding of specific problems discussed in lectures on public finance using scientific economic journal articles in German and English language.

**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 better for the processing of the master’s 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. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1

Assessment offered: once a year, summer semester

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

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### Module title
**Advanced Seminar: Economic Order and Social Policy**

### Abbreviation
12-M-SWOSP-111-m01

### Module coordinator
holder of the Chair of Economic Order and Social Policy

### Module offered by
Faculty of Business Management and Economics

### ECTS
10

### Method of grading
numerical grade

### Only after succ. compl. of module(s)
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### Duration
1 semester

### Module level
graduate

### Other prerequisites
--

### Contents
The seminar covers various topics in the field of economic policy and provides students with more in-depth insights into certain aspects addressed in other lectures offered by the Chair.

### Intended learning outcomes
The seminar gives a better understanding of certain aspects in economic policy and strengthens students' research skills.

### 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 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1

### Allocation of places
Number of places: 10. 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
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### Referred to in LPO I
(examination regulations for teaching-degree programmes)
--
Module title | Abbreviation
--- | ---
Advanced Seminar: Business Information Systems | 12-WI-Sem-111-m01

Module coordinator | Module offered by
holder of the Chair of Business Management and Business Information Systems | Faculty of Business Management and Economics

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<td>By way of exception, additional prerequisites are listed in the section on assessments.</td>
</tr>
</tbody>
</table>

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, 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
This module has 2 components; information on courses listed separately for each component.
- 12-WI-Sem-1-111: S (no information on language and number of weekly contact hours available)
- 12-WI-Sem-2-111: S (no information on language and number of weekly contact hours available)

Method of assessment
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 12-WI-Sem-1-111: Seminar für Wirtschaftsinformatiker (BWL 6)
- 10 ECTS credits, method of grading: numerical grade
- term paper (approx. 20-25 pages) and presentation (approx. 20 minutes), weighted 2:1
- examination offered once a year, winter semester
- Other prerequisites: admission prerequisite to assessment: regular attendance (minimum 70%) of seminars.

Assessment component to module component 12-WI-Sem-2-111: Seminar für Wirtschaftsinformatiker (BWL10)
- 10 ECTS credits, method of grading: numerical grade
- term paper (approx. 20-25 pages) and presentation (approx. 20 minutes), weighted 2:1
- Other prerequisites: admission prerequisite to assessment: regular attendance (minimum 70%) of seminars.

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 restric-
ted 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**

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

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Module title | Abbreviation
---|---
Advanced Seminar: Logistics | 12-LogSem-111-m01

Module coordinator | Module offered by
holder of the Chair of Logistics and Quantitative Methods in Business Administration | Faculty of Business Management and Economics

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<td>Admission prerequisite to assessment: regular attendance (minimum 70%) of seminar.</td>
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</table>

Contents
In this seminar, students will learn, on a case-by-case basis, how companies have successfully implemented quantitative planning methods to optimise their processes in logistics and supply chain management.

Intended learning outcomes
After the seminar, students
(i) recognize complex problems of logistics and understand mathematical model formulation to solve practical problems;
(ii) understand, evaluate and scrutinize critically the results of such models;
(iii) recognize, describe and assess the limitations of formal models in a practical context.

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 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1
Assessment offered: once a year, winter semester

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
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Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module Catalogue for the Subject
Economathematics
Master's with 1 major, 120 ECTS credits

<table>
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<tr>
<th>holder of the Chair of Business Management and Accounting</th>
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<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
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</tr>
</tbody>
</table>

**Contents**

In this seminar, students will gain an overview of different ethical aspects in business and economy, e.g. leadership ethics, corruption, ethical theories, consumer ethics, CSR.

**Intended learning outcomes**

Using common scientific methods the student should be able to write a seminar paper dealing with a selected ethical problem in business and/or economy. He/she should be able to present a complex problem in an clear and understandable way und he/she should discuss the arguments with other participants in the 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 (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1

**Allocation of places**

Number of places: 12. 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**

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

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### Module Catalogue for the Subject Economathematics

#### Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar: Macroeconomics and Quantitative Economic Research</td>
<td>12-M-MEW-111-m01</td>
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</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Monetary Policy and International Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
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<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
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<tr>
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<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

#### Contents

This course will provide students with a more in-depth understanding of specific problems of macroeconomics and quantitative economic research. A current list of topics, from which students may select one, is available on my website.

#### 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 better for the processing of the master’s 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. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1

#### Allocation of places

Number of places: 10. 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

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

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### Module Catalogue for the Subject Economathematics

#### Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>Thesis Business Mathematics (Master Thesis)</td>
<td>10-M-MAAW-102-m01</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
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<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
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<th>Duration</th>
<th>Module level</th>
<th>Registration for assessment and assignment of topic in consultation with supervisor. The supervisor may make the successful completion of certain modules that are relevant for the respective topic a prerequisite for the assignment of the topic.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td></td>
</tr>
</tbody>
</table>

### Contents

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

### Intended learning outcomes

The student is able to work independently on a given topic in business mathematics and apply the skills and methods obtained during his/her studies in the master 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 or English

### Allocation of places

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### Additional information

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

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