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: 2021
Responsible: Institute of Mathematics
Responsible: Faculty of Business Management and Economics
Course of Studies - Contents and Objectives

German contents and learning outcome available but not translated yet.

Das Studienfach Wirtschaftsmathematik wird von der Fakultät für Mathematik und Informatik und der Wirtschaftswissenschaftlichen Fakultät der JMU als forschungsorientierter Studiengang mit dem Abschluss „Master of Science“ (M.Sc.) im Rahmen eines konsekutiven Bachelor- und Master-Studienmodells angeboten. Der Grad des Master of Science stellt einen weiteren berufsqualifizierenden sowie forschungsorientierten Abschluss dar, die im Rahmen des Master-Studiums erworbene Qualifikation entspricht der eines Diplom-Wirtschaftsmathematikers (Universität) bzw. einer Diplom-Wirtschaftsmathematikerin (Universität).

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:

ASPO2015

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

09-Jun-2021 (2021-62)

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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| **Module Group Stochastics and Statistics (0-40 ECTS credits)** | | | | |
| 10-M=AIST-161-m01 | Industrial Statistics 1 | 10 | NUM | 86 |
| 10-M=ASTP-161-m01 | Stochastical Processes | 10 | NUM | 170 |
| 10-M=AZRA-212-m01 | Time Series Analysis | 10 | NUM | 188 |
| 10-M=VIST-161-m01 | Industrial Statistics 2 | 10 | NUM | 87 |
| 10-M=VSTA-161-m01 | Statistical Analysis | 10 | NUM | 163 |

| **Module Group Financial and Insurance Mathematics (0-40 ECTS credits)** | | | | |
| 10-M=ASMR-161-m01 | Stochastic Models of Risk Management | 10 | NUM | 169 |
| 10-M=AVSM-161-m01 | Insurance Mathematics 1 | 10 | NUM | 183 |
| 10-M=VFNM-161-m01 | Selected Topics in Financial Mathematics | 10 | NUM | 29 |
| 10-M=VVSM-161-m01 | Insurance Mathematics 2 | 10 | NUM | 184 |

| **Compulsory Electives Business Management and Economics (40 ECTS credits)** | | | | |
| | Two focuses with 40 ECTS credits | | | |
| **Strategic Marketing Management (20 ECTS credits)** | | | | |
| 12-M-IIMM-161-m01 | International Marketing | 5 | NUM | 93 |
| 12-M-SM-161-m01 | Strategic Marketing | 5 | NUM | 173 |

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| 12-M-MM-161-m01 | Brand Management & Market Research | 5 | NUM | 103 |
| 12-M-INST-182-m01 | Strategic Managerial Accounting | 5 | NUM | 89 |
| 12-M-KOBO-182-m01 | Coordination, Budgeting and Incentives in Organizations | 5 | NUM | 100 |
| 12-GPU-192-m01 | Business Software 1: IS-based Enterprise Management | 5 | NUM | 38 |
| 12-M-IBS-192-m01 | E-Business Strategies | 5 | NUM | 53 |
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### Subdivided Module Catalogue for the Subject Economathematics

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

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#### Industrial Management (20 ECTS credits)

**Core (10 ECTS credits)**

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<td>12-M-LA-182-m01</td>
<td>Industrial Management 2</td>
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**Core Electives (10 ECTS credits)**

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<td>Advanced Operations &amp; Logistics Management</td>
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<td>12-M-GLSC-182-m01</td>
<td>Global Logistics &amp; Supply Chain Management</td>
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<td>12-M-MADM-182-m01</td>
<td>Managerial Analytics &amp; Decision Making</td>
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<td>Seminar: Supply Chain Competition</td>
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#### Information Systems (20 ECTS credits)

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**Core Electives (10 ECTS credits)**

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<td>12-M-IBS-192-m01</td>
<td>E-Business Strategies</td>
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<td>Topics in Information Systems 1</td>
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<td>Topics in Information Systems 2</td>
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<td>12-M-DSS-192-m01</td>
<td>Decision Support Systems</td>
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#### Logistics & Supply Chain Management (20 ECTS credits)

**Core (10 ECTS credits)**

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#### Human Resource Management and Organization (20 ECTS credits)

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**Core Electives (10 ECTS credits)**

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<td>12-M-OEA-182-m01</td>
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<tr>
<td>12-M-UGF1-182-m01</td>
<td>Corporate Entrepreneurship</td>
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<td>12-M-AMFW-161-m01</td>
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### Financial Accounting and Business Taxation (20 ECTS credits)

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- 12-M-SP-161-m01 Economics of Tax Planning  
  5 NUM 165

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- 12-M-STB-161-m01 Tax Accounting  
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- 12-M-WPF-161-m01 Advanced Auditing  
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- 12-M-UA-161-m01 Financial Statement Analysis and Business Valuation  
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- 12-M-FER-161-m01 Case Studies on Business Taxation  
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- 12-M-REKA-182-m01 Accounting and Capital Markets  
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- 12-M-IFM-211-m01 International Financial Management  
  5 NUM 95
- 12-M-CF2-182-m01 Portfolio and Capital Market Theory  
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### Public Finance (20 ECTS credits)

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- 12-M-F1-182-m01 Policy of Taxation  
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- 12-M-F3-182-m01 Social Insurance and the Welfare State  
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**Core Electives (10 ECTS credits)**

- 12-M-F2-182-m01 Public Debt  
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- 12-M-F4-182-m01 Optimal Tax Theory  
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- 12-M-EFP-202-m01 European Public Finance  
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- 12-M-NGM-182-m01 Advanced Computational Economics  
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- 12-M-IB-161-m01 International Taxation  
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- 12-M-P-EM-182-m01 Policy Evaluation Methods  
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- 12-M-T2-182-m01 Applied Industrial Organization  
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- 12-M-EIO-182-m01 Market Research and Demand Analysis  
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- 12-M-AM-182-m01 Advanced Microeconomics  
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- 12-M-GE-3182-m01 Econometrics 3  
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- 02-N-P-W13-182-m01 European and German Competition Law I  
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- 12-M-CF1-182-m01 Discounted Cashflow  
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- 12-M-CF2-182-m01 Portfolio and Capital Market Theory  
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- 12-M-CF3-182-m01 Risk Management and Corporate Finance  
  5 NUM 130
- 12-M-CF4-182-m01 Selected Topics in Corporate Finance  
  5 NUM 36
- 12-M-CF5-182-m01 Risk measurement and risk valuation: Concepts and applications for banks  
  5 NUM 131
- 12-M-FMO-182-m01 Analysis of Financial Market Data  
  5 NUM 70
- 12-M-REKA-182-m01 Accounting and Capital Markets  
  5 NUM 125
### Risk Management (20 ECTS credits)

**Core (10 ECTS credits)**

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<td>Stochastic Models for Risk Analysis</td>
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<td>Risk Management - Concepts and Systems</td>
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### Strategic Corporate Communication (20 ECTS credits)

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<td>12-M-ECC-182-m01</td>
<td>Business Communication in Print, Online and Social Media</td>
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<td>06-MK-MKW1-Ex-182-m01</td>
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### Monetary Policy (20 ECTS credits)

**Core (10 ECTS credits)**

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### Econometrics (20 ECTS credits)

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**Strategic Entrepreneurship (20 ECTS credits)**

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## Subdivided Module Catalogue for the Subject Economathematics

Master's with 1 major, 120 ECTS credits

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### Managerial Accounting (20 ECTS credits)

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

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<td>12-M-SCC-161-m01</td>
<td>Seminar: Supply Chain Competition</td>
<td>5</td>
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**Thesis (30 ECTS credits)**

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<thead>
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<th>Course Title</th>
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<td>Master Thesis Mathematics for Economics</td>
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Module title | Abbreviation
--- | ---
Advanced Computational Economics | 12-M-NGM-182-m01

**Module coordinator**
Unknown

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

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<tbody>
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<td>unknown</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 (2) + Ü (2)
Module taught in: English

**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)
Language of assessment: English

**Allocation of places**
--

**Additional information**
Research track module in Master's programme IEP

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)
### Module title
Advanced Labour Economics

### Abbreviation
12-M-OEA-182-m01

### Module coordinator
unknown

### 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
unknown

### Other prerequisites
--

## 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 (2) + Ü (2)

### 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)
Language of assessment: English

### Allocation of places
--

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)
--
**Module title**  
Advanced Macroeconomics

**Abbreviation**  
12-M-MFF-182-m01

**Module coordinator**  
unknown

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

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**Duration**  
1 semester

**Module level**  
unknown

**Other prerequisites**  
English

**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 (2) + Ü (2)

**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)
Language of assessment: English
creditable for bonus

**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>Abbreviation</th>
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<td>Advanced Microeconomics</td>
<td>12-M-AM-182-m01</td>
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<tbody>
<tr>
<td>holder of the Chair of Economics, Information and Contract Economics</td>
<td>Faculty of Business Management and Economics</td>
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<tr>
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</table>

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

V (2) + Ü (2)
Module taught in: English

**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)
Language of assessment: English
creditable for bonus

**Allocation of places**

--

**Additional information**

--

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

--
### Module title
Advanced Operations & Logistics Management

### Abbreviation
12-M-AOLM-182-m01

### Module coordinator
holder of the Chair of Logistics and Quantitative Methods in Business Administration

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

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<th>ECTS</th>
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### Duration
1 semester

### Module level
unknown

### Other prerequisites
--

### Contents
The course "Advanced Operations & Logistics Management" acquaints students with advanced methods for the planning of integrated production and logistics systems and demonstrates the application of these with the help of multiple case studies.

### Intended learning outcomes
After completing this course students can
(i) analyze and evaluate integrated production and logistics systems;
(ii) develop and apply appropriate methods to plan complex production and logistics systems;
(iii) evaluate the consequences of uncertainties in processes, and
(iv) apply concepts and methods to plan uncertainties processes.

### Courses
(V (2) + Ü (2))
Module taught in: English

### Method of assessment
(a) written examination (approx. 60 minutes) or (b) term paper (approx. 15 to 20 pages)
Language of assessment: English
Creditable for bonus

### Allocation of places
--

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)
--
### Module title
Advanced Seminar: Labour Economics

### Abbreviation
12-M-SWOSP-182-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)
--

### Duration
1 semester

### Module level
unknown

### 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 (2)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)
term paper (15 to 20 pages) and presentation (approx. 20 minutes), weighted 2:1
Language of assessment: German and/or English

### Allocation of places
10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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>
<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-182-m01</td>
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<thead>
<tr>
<th>Module coordinator</th>
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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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</table>

**Contents**

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

**Intended learning outcomes**

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

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

S (2)

Module taught in: English

**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)

**Allocation of places**

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

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

--
Module title | Analytical Information Systems
---|---
Abbreviation | 12-BI-192-m01

Module coordinator | --
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 | -- | --

Contents

Intended learning outcomes

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

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)
Creditable for bonus
Language of assessment: German and/or English

Allocation of places
40 places.
WM1:
Should the number of applications exceed the number of available places, places will be allocated as follows:
1) Master’s students of Information Systems will be given preferential consideration.
2) The remaining places will be allocated to students of other subjects.
3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

Additional information

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

<table>
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<tr>
<th>Module title</th>
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<td>Applied Analysis</td>
<td>10-M=AAAN-161-m01</td>
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**Module coordinator**
Dean of Studies Mathematik (Mathematics)

**Module offered by**
Institute of Mathematics

**ECTS**
10

**Method of grading**
Numerical grade

**Duration**
1 semester

**Module level**
Graduate

**Other prerequisites**
--

**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 (type, number of weekly contact hours, language — if other than German)**
V (4) + Ü (2)
Module taught in: German and/or English

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

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
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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<td>V (2) + Ü (2)</td>
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Module taught in: English

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<tr>
<td>a) written examination (approx. 60 minutes) or</td>
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<tr>
<td>b) term paper (approx. 15 pages) or</td>
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<tr>
<td>c) oral examination (one candidate each: approx. 10 to 15 minutes, groups of 2: approx. 20 minutes, groups of 3: approx. 30 minutes)</td>
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Language of assessment: English

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<tr>
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</table>
Module title: Applied Industrial Organization
Abbreviation: 12-M-TI2-182-m01

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: unknown
Other prerequisites: --

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 (type, number of weekly contact hours, language — if other than German)
V (2)
Module taught in: English

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 120 minutes) or b) term paper (15 to 20 pages)
Assessment offered: In the semester in which the course is offered
Language of assessment: English
creditable for bonus

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>Abbreviation</th>
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<td>Research in Groups - Dynamical Systems and Control Theory</td>
<td>10-M=GDSC-161-m01</td>
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<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
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<th>Other prerequisites</th>
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<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
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</table>

**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 (2) + S (2)

Module taught in: German and/or English

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

talk (60 to 120 minutes)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

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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<table>
<thead>
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<td>Research in Groups - Measure and Integral</td>
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<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
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<td>graduate</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**

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

V (2) + S (2)

Module taught in: German and/or English

**Method of assessment**

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

talk (60 to 120 minutes)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I**

(examination regulations for teaching-degree programmes)

--
### Module title
Research in Groups - Numerical Mathematics and Applied Analysis

### Abbreviation
10-M=GNMA-161-m01

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

### Module offered by
Institute of Mathematics

### ECTS
10

### Method of grading
numerical grade

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

### Duration
1 semester

### Module level
graduate

### Other prerequisites
--

### 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)

<table>
<thead>
<tr>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>V</td>
<td>2</td>
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<tr>
<td>S</td>
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Module taught in: German and/or English

### 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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<thead>
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<tr>
<td>talk</td>
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<td>German or English</td>
<td>In the semester in which the course is offered and in the subsequent semester</td>
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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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<thead>
<tr>
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<td>Research in Groups - Robotics,</td>
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<tr>
<td>Optimization and Control Theory</td>
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<tr>
<td>1 semester</td>
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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)*

V (2) + S (2)

Module taught in: German and/or English

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

Talk (60 to 120 minutes)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

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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**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 (2) + S (2)

Module taught in: German and/or English

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

talk (60 to 120 minutes)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

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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<td>1 semester</td>
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</table>

**Contents**

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.

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

V (2) + S (2)

Module taught in: German and/or English

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

talk (60 to 120 minutes)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

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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**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

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

S (2)

**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) and b) talk (approx. 30 minutes), weighted 3:2] or [a) written examination (approx. 120 minutes) and b) presentation (approx. 15 minutes) and c) written elaboration of presentation (approx. 10 pages), weighted 3:1:1]

**Allocation of places**

30 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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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<tr>
<th><strong>Module title</strong></th>
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<td>Institute of Mathematics</td>
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<tr>
<td>1 semester</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** (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)

Module taught in: German and/or English

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

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English creditable for bonus

**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>Faculty of Business Management and Economics</td>
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<th>Other prerequisites</th>
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<tbody>
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<td>Course type: V and Ü might also be offered as a workshop</td>
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<tbody>
<tr>
<td>a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 15 pages) or c) portfolio (approx. 20 pages)</td>
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<td>Language of assessment: German and/or English</td>
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<td>creditable for bonus</td>
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<td>Selected Topics in Numerical and Applied Mathematics</td>
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<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
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</table>

**Contents**

In-depth discussion of a specialised topic in numerical or applied mathematics taking into account recent developments and interrelations with other mathematical concepts.

**Intended learning outcomes**

The student is acquainted with advanced results in a selected topic in numerical or applied mathematics, and is able to apply these to complex problems.

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

V (4) + Ü (2)

Module taught in: German and/or English

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

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Language of assessment: German and/or English

Assessment offered: Only when announced in the semester in which the courses are offered and in the subsequent semester creditable for bonus

**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
Selected Topics in Optimization

### Abbreviation
10-M=VOPT-161-m01

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

### Module offered by
Institute of Mathematics

### ECTS
10

#### Method of grading
numerical grade

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

### Duration
1 semester

#### Module level
graduate

#### Other prerequisites
--

### 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 (4) + Ü (2)
Module taught in: German and/or English

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

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English
creditable for bonus

### Allocation of places
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### Additional information
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(examination regulations for teaching-degree programmes)
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Contents

Selected topics in linear and non-linear control theory, e.g. networked linear control systems, controllability of bilinear systems.

Intended learning outcomes

The student gains insight into contemporary research problems in 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 (4) + Ü (2)
Module taught in: German and/or English

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

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English
creditable for bonus

Allocation of places

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Additional information

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<tbody>
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<td>1 semester</td>
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**Contents**

Contemporary topics in mathematics for economics, for example in the field of statistics, finance or insurance mathematics.

**Intended learning outcomes**

The student is acquainted with fundamental concepts and methods in a contemporary field of mathematics for economics, and is able to apply these skills to complex questions.

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

V (4) + Ü (2)
Module taught in: German and/or English

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

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English
Creditable for bonus

**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
Selected Topics in Corporate Finance

### Abbreviation
12-M-CF4-182-m01

### Module coordinator
unknown

### 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
unknown

### Other prerequisites
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### Contents
No information on contents available.

### Intended learning outcomes
No information on intended learning outcomes available.

### Courses
V (2) + Ü (2)

### Method of assessment
a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 15 pages)
Assessment offered: In the semester in which the course is offered
Language of assessment: German and/or English

### Allocation of places
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### Additional information
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**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

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

V (2) + Ü (2)
Module taught in: English

**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 120 minutes) or b) term paper (15 to 20 pages)
Assessment offered: In the semester in which the course is offered
Language of assessment: English
creditable for bonus

**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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Intended learning outcomes

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

V (2) + Ü (2)
Module taught in: English

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) or
c) oral examination (one candidate each: approx. 10 to 15 minutes, groups of 2: approx. 20 minutes, groups of 3: approx. 30 minutes)
Language of assessment: English
creditable for bonus

Allocation of places

Additional information

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| a) Written examination (approx. 60 minutes) or  
b) oral examination (one candidate each: approx. 10 to 15 minutes, groups of 2: approx. 20 minutes, groups of 3: approx. 30 minutes) or  
c) Term paper (15 to 20 pages) or  
Creditable for bonus  
Language of assessment: German and/or English  
Assessment offered: Once a year, winter semester |

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| 20 places.  
Should the number of applications exceed the number of available places, places will be allocated as follows:  
(1) Master’s students of Information Systems will be given preferential consideration.  
(2) The remaining places will be allocated to students of other subjects.  
(3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group. |

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**Contents**

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**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses**

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

V (2) + Ü (2)

**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)

Assessment offered: In the semester in which the course is offered

Language of assessment: German and/or English

creditable for bonus

**Allocation of places**

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**Additional information**

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(examination regulations for teaching-degree programmes)

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**Intended learning outcomes**

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

V (2) + Ü (2)

Module taught in: English

**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: English

creditable for bonus

**Allocation of places**

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No information on intended learning outcomes available.

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

V (2) + Ü (2)

**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)
Language of assessment: German and/or English
creditable for bonus

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

V (2) + Ü (2)

Module taught in: English

**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 120 minutes) or b) term paper (15 to 20 pages) or c) oral examination of one candidate each (approx. 10 to 15 minutes) or oral examination in groups (groups of 2 approx. 20 minutes, groups of 3 approx. 30 minutes)

Language of assessment: English

**Allocation of places**

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**Additional information**

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**Module coordinator**

holder of the Chair of Entrepreneurship and Management

**Module offered by**

Faculty of Business Management and Economics

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Language of assessment: English

**Allocation of places**

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**Allocation of places**

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3. When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

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

V (2) + Ü (2)

Module taught in: English

**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)

Assessment offered: In the semester in which the course is offered

Language of assessment: English
creditable for bonus

**Allocation of places**

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**Additional information**

Research track module in Master's programme IEP

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

V (2) + Ü (2)  
Module taught in: English

**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 120 minutes) or b) log (15 to 20 pages) or c) oral examination (one candidate each: approx. 10 to 15 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)  
Language of assessment: English

**Allocation of places**

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**Intended learning outcomes**

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**Courses**

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

V (2) + Ü (2)

Module taught in: English

**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 120 minutes) or b) term paper (15 to 20 pages)

Language of assessment: English

creditable for bonus

**Allocation of places**

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**Contents**
No information on contents available.

**Intended learning outcomes**
No information on intended learning outcomes available.

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

- V (2) + Ü (2)
  
  Module taught in: English

**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 120 minutes) or b) term paper (15 to 20 pages)
  
  Assessment offered: In the semester in which the course is offered
  
  Language of assessment: English
  
  creditable for bonus

**Allocation of places**

- --

**Additional information**

- --

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

- --
### Module title
Discounted Cashflow

### Abbreviation
12-M-CF1-182-m01

### Module coordinator
unknown

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

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### Duration
1 semester

### Module level
unknown

### Other prerequisites
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### Contents
No information on contents available.

### Intended learning outcomes
No information on intended learning outcomes available.

### 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 to 90 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English
creditable for bonus

### 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>1 semester</td>
<td>graduate</td>
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### 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 (type, number of weekly contact hours, language — if other than German)

V (3) + Ü (1)

Module taught in: German and/or English

### 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, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English

 créditable for bonus

### 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: DSGE Modelling

Abbreviation: 12-M-DMM-182-m01

Module coordinator: unknown

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: unknown

Other prerequisites: --

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 (type, number of weekly contact hours, language — if other than German):
V (2) + Ü (2)

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)
Language of assessment: German and/or English

Allocation of places:
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Additional information:
Research track module in Master's programme IEP

Referred to in LPO I (examination regulations for teaching-degree programmes):
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**Contents**
Fundamentals of dynamical systems, e.g. stability theory, ergodic theory, Hamiltonian systems.

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

**Courses** (type, number of weekly contact hours, language — if other than German)
V (3) + Ü (1)
Module taught in: German and/or English

**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, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English creditable for bonus

**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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| 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 a) oral examination (one candidate each: approx. 10 to 15 minutes, groups of 2: approx. 20 minutes, groups of 3: approx. 30 minutes) or Creditable for bonus Language of assessment: German and/or English |

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<thead>
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<th>Allocation of places</th>
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<td>40 places.</td>
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| Should the number of applications exceed the number of available places, places will be allocated as follows: |
| (1) Master’s students of Information Systems will be given preferential consideration. |
| (2) The remaining places will be allocated to students of other subjects. |
| (3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group. |

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**Contents**
No information on contents available.

**Intended learning outcomes**
No information on intended learning outcomes available.

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

V (2) + Ü (2)
Module taught in: English

**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 120 minutes) or b) term paper (15 to 20 pages)
Language of assessment: English
creditable for bonus

**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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### 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 model's 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 (2) + Ü (2)
Module taught in: German (winter semester), English (summer semester)

### 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)
Language of assessment: German and/or English creditable for bonus

### Allocation of places

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### Additional information

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Module title | Abbreviation
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Economic Geography | 12-M-EG-182-m01

Module coordinator | Module offered by
unknown | Faculty of Business Management and Economics

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

Contents

Description:
The course covers the determinants of economic activity in space: basics of urban and regional economics; the origins of the new economic geography and model tools involving mobile labour and mobile capital; applications to trade, tax and regional policy issues are examined and the empirics of agglomeration and trade are discussed.

Outline of syllabus:
1. Introduction
2. Economic activity in space: basics
3. From the new trade theory to the new economic geography
4. The core-periphery model and beyond
5. The footloose-capital model and applications
6. Housing, welfare and regional policy
7. The empirics of agglomeration and trade
8. Policy issues
9. Where to go from here?

Reading:
The course uses a combination of textbooks and journal articles. The main textbooks used are:
Krugman, P.R., 1991, Geography and Trade, MIT Press.

Intended learning outcomes

Students acquire a knowledge of the forces which determine the allocation of economic activity in space and they learn to apply fundamental models of agglomeration to understand and analyze policy issues involving trade, taxation and regional policy questions both analytically and in an economic intuitive way.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)
Module taught in: English

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)
Language of assessment: English
credible for bonus

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
Empirical HR Research with Stata

### Abbreviation
12-M-EPF-161-m01

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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 (2)

### 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)
Assessment offered: Once a year as announced
Language of assessment: German and/or English

### Allocation of places
12 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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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<td>holder of the Chair of Public Finance</td>
<td>Faculty of Business Management and Economics</td>
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### 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 (type, number of weekly contact hours, language — if other than German)

| V (2) + Ü (2) |

### 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)

Language of assessment: German and/or English creditable for bonus

### Allocation of places

6 places. There are no restrictions with regard to available places for students of the Master's degree programs Business Management, International Economic Policy or Economics, Information Systems, Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these 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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### Module title

**European and German Competition Law I**

### Abbreviation

02-N-P-W13-182-m01

### Module coordinator

Dean of Studies Faculty of Law

### Module offered by

Faculty of Law

### ECTS

3

### Method of grading

Numerical grade

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

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### Duration

1 semester

### Module level

Unknown

### Other prerequisites

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### Contents

German contents available but not translated yet.


### Intended learning outcomes

German intended learning outcomes available but not translated yet.


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

V (2)

### 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: Usually once a year, winter semester

### Allocation of places

Max. 10 places. There are no restrictions with regard to available places for students of the degree programme Rechtswissenschaft (Law) pursuing the degree Erste Juristische Staatsprüfung (first state examination in law) as well as Bachelor’s students with the minor Privatrecht (Private Law). A total of 10 places will be allocated to students of the Master’s degree programme International Economic Policy and of the Master’s degree programme Management. Should there be more than 10 applications, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information

--

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

--
**Module title**
European and German Competition Law II

**Abbreviation**
02-N-P-W21-182-m01

**Module coordinator**
Dean of Studies Faculty of Law

**Module offered by**
Faculty of Law

**ECTS**
3

**Method of grading**
numerical grade

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

**Duration**
1 semester

**Module level**
unknown

**Other prerequisites**
--

**Contents**
No information on contents available.

**Intended learning outcomes**
No information on intended learning outcomes available.

**Courses**
(type, number of weekly contact hours, language — if other than German)
V (2)

**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: Usually once a year, summer semester

**Allocation of places**
max. 10 places. There are no restrictions with regard to available places for students of the degree programme Rechtswissenschaft (Law) pursuing the degree Erste Juristische Staatsprüfung (first state examination in law) as well as Bachelor’s students with the minor Privatrecht (Private Law). A total of 10 places will be allocated to students of the Master’s degree programme International Economic Policy and of the Master’s degree programme Management. Should there be more than 10 applications, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**
--

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)
--
Subdivided 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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<td>European Competition Policy</td>
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<tr>
<td>Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
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<tr>
<th>Duration</th>
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<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
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</table>

**Contents**

I. Legal environment, competition laws  
II. Market Definition Qualitative methods, simple quantitative methods, hypothetical monopoly test  
III. Horizontal Agreements and Collusion, Repeated games and factors affecting likelihood of collusion  
IV. Horizontal Mergers and Collusion, Economic theory, efficiency effects, coordinated effects  
V. Vertical Relations and Contracts, Economic analysis of contracts, “more economic approach”  
VI. Abuse of Dominant Position  
VI.a. Classification of abusive conduct  
VI.b. Economic of analysis of selection abusive conduct and theory of harm

**Intended learning outcomes**

After successful completion of this class, the students should be familiar with main issues that arise in the implementation of competition law. For each type of issue, they will become familiar with basic economic models and methods which inform decisions of competition authorities and courts. Based on in class case studies, they will learn about the famous cases in Europe which underlie the current practice in the implementation of competition laws in Europe. In practical situations, they will be in a position to identify relevant economic theories, and together with the data of the problem at hand, they will be able develop policy suggestions. 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 (2)  
Module taught in: English

**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 120 minutes) or  
b) Term paper (15 to 20 pages)  
Creditable for bonus  
Language of assessment: English

**Allocation of places**

There are no restrictions with regard to available places for students of the Master's degree programmes Management, International Economic Policy, Information Systems, Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these places will be allocated by lot.

**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-202-m01

Module coordinator: holder of the chair for monetary policy and international economics
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: Numerical grade
Only after successful completion of module(s): --
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 (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: English

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)
Language of assessment: English
Creditable for bonus: --

Allocation of places

6 places. There are no restrictions with regard to available places for students of the Master’s degree programs Business Management, International Economic Policy or Economics, Information Systems, Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these 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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**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

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

V (2) + Ü (2)

Module taught in: English

**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)

Assessment offered: In the semester in which the course is offered

Language of assessment: English

creditable for bonus

**Allocation of places**

--

**Additional information**

Research track module in Master's programme IEP

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

--
**Module title**
Advanced Financial Accounting (German GAAP, IFRS)

**Abbreviation**
12-M-ER-161-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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**Duration**
1 semester

**Module level**
graduate

**Other prerequisites**
--

**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)

Ü (2) + V (2)

**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 to 120 minutes)
Language of assessment: German and/or English creditable for bonus

**Allocation of places**
--

**Additional information**
--

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

--
Case Studies on Business Taxation

12-M-FER-161-m01

holder of the Chair of Business Taxation
Faculty of Business Management and Economics

5
numerical grade
--

1 semester
graduate
--

This module offers a cross-sectional view of business taxation by means of case studies which will be prepared by participants in advance and will be discussed in class. The focus will be on German income taxation, income calculation for tax purposes, taxation of partnerships as well as tax problems of foreign activities of German companies.

Students deepen their knowledge of the German tax law. They are enabled to solve complex tax problems on their own.

written examination (approx. 120 minutes)
Language of assessment: German and/or English creditable for bonus

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>Financial Reporting and Risk Management</td>
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<tr>
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### Contents

No information on contents available.

### Intended learning outcomes

No information on intended learning outcomes available.

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

V (2)

### 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)

Language of assessment: German and/or English

credible for bonus

### Allocation of places

30 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information

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

--
Analysis of Financial Market Data

Module coordinator: unknown

Module offered by: Faculty of Business Management and Economics

ECTS: 5

Method of grading: numerical grade

Duration: 1 semester

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 (2) + Ü (2)

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)
Language of assessment: German and/or English creditable for bonus

Allocation of places

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<th>Additional information</th>
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<td>Research track module in Master's programme IEP</td>
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Monetary Policy, Foreign Exchange Markets, and the International Monetary System

Module title: Monetary Policy, Foreign Exchange Markets, and the International Monetary System
Abbreviation: 12-M-EG2-182-m01
Module coordinator: unknown
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: unknown
Other prerequisites: --

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 (2) + Ü (2)

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)
Language of assessment: German and/or English
creditable for bonus
### Allocation of places

30 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places reallocated by lot as they become available.

### Additional information

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

--
### Module title
Monetary Policy and the Financial System

### Abbreviation
12-M-EG1-182-m01

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<th>Module level</th>
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<tr>
<td>1 semester</td>
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### 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 (2) + Ü (2)

### 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)

Language of assessment: German and/or English creditable for bonus

### Allocation of places
30 places. 
(1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. 
(2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. 
(3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information
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### Referred to in LPO I
(examination regulations for teaching-degree programmes)
--
### Module title
Giovanni Prodi Seminar (Master)

### Abbreviation
10-M=SGPCin-152-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
--

### 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 (2)
Module taught in: English

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)
talk (60 to 120 minutes)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: English

### Allocation of places
--

### Additional information
--

### Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Module title | Abbreviation
---|---
Global Logistics & Supply Chain Management | 12-M-GLSC-182-m01

Module coordinator | Module offered by
unknown | Faculty of Business Management and Economics

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

Contents
The course "Global Logistics & Supply Chain Management" acquaints students with advanced methods for the planning of global production networks and demonstrates the application of these with the help of multiple case studies.

Intended learning outcomes
After completing this course students can
(i) analyze and evaluate global production networks;
(ii) develop and apply appropriate methods to plan production networks;
(iii) evaluate the consequences of uncertainties in processes and apply concepts and methods to plan uncertain processes.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)
Module taught in: English

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 to 20 pages)
Language of assessment: English
creditable for bonus

Allocation of places
--

Additional information
--

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

Module title | Abbreviation
--- | ---
Basics in Optimization | 10-M=AOPT-161-m01

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

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

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 (4) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)
a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English creditable for bonus

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Module title: Trade Policy and the World Trading System
Abbreviation: 12-M-TP-182-m01

Module coordinator: holder of the Chair of International Macroeconomics
Module offered by: Faculty of Business Management and Economics
ECTS: 5
Method of grading: numerical grade
Duration: 1 semester
Module level: unknown
Other prerequisites: --

Contents:

Content:
Based on a synopsis of the basic arguments in favour of free trade, this module provides a systematic introduction to and analysis of a number of arguments in favour of trade operations and trade policy instruments (duties, quotas etc.). The arguments that will be discussed include market power in international markets, domestic distortions, the strategic trade policy, the infant industry argument and industrial policy. The lecture will also address the political-economic causes of protectionist policies, the logic of international trade agreements as well as current issues of the world trade system.

Outline of syllabus:
1. Development of lines of the world trade system, of world trade and current issues
2. The doctrine of free trade and its challenges
3. Trade policy instruments and their effects under perfect competition
4. Competition effects of market opening
5. Native market failure: trade policy as a second, third, or ... -best
6. Trade policy in market power on the international commodity markets
7. Political economy, international integration and the world trade system

Reading:
- Lines of development and current issues of the world trade system are described in a clear and understandable way in the following books:
- A basic knowledge of international economics is a prerequisite for participation in this course. Students can refresh their existing knowledge with the help of the two following textbooks:

Intended learning outcomes:
Students acquire a critical understanding of the benefits of free trade and the possible displayed at various circumstances economic policy arguments. Students are placed in a position to classify current trade policy issues critically-analytically and to present their ideas verbally and economically-intuitive. Students also gain an understanding of the structure and dynamics of the world trade order.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

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 120 minutes) or b) term paper (15 to 20 pages)
<table>
<thead>
<tr>
<th>Language of assessment: German and/or English creditable for bonus</th>
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<tbody>
<tr>
<td>Allocation of places</td>
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<tr>
<td>Additional information</td>
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### Human Resource Management and Industrial Relations

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<tr>
<th>Module title</th>
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<tbody>
<tr>
<td>Human Resource Management and Industrial Relations</td>
<td>12-M-HRM-192-m01</td>
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### Module coordinator
holder of the Chair of Human Resource Management and Organisation

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

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<th>ECTS</th>
<th>Method of grading</th>
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### Duration
1 semester

### Module level
graduate

### Other prerequisites
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### Contents
This lecture focuses on the organisation of decentralised structures using theoretical models, empirical applications and relevant econometric methods. In addition, the impact of important institutional rules on problems of human resources management is discussed. The first part of the lecture concentrates on organisational problems of human resources management.

### Intended learning outcomes
Students gain in-depth knowledge on basic mechanisms of establishment organisation as well as the impact of important institutional rules in theory and empirical applications.

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

- V (2) + Ü (2)

### 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)

Language of assessment: German and/or English

### Allocation of places
There are no restrictions with regard to available places for students of the Master’s degree programmes Management, International Economic Policy, Information Systems, Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these places will be allocated by lot.

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

--
Module title: Incentives in Organizations
Abbreviation: 12-M-AO-182-m01

Module coordinator: holder of the Chair of Human Resource Management and Organisation
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 "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:
V (2) + Ü (2)
Module taught in: English

Method of assessment:
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/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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Industrial Management 1

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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 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)

V (2) + Ü (2)

Course type: might also be offered as eLearning, seminary, workshop, etc.

**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. 40 to 60 minutes) or b) presentation (approx. 20 minutes) and term paper (15 to 20 pages), weighted 1:1 or c) term paper (approx. 30 to 40 pages) or d) entirely or partly computerised written examination (approx. 60 minutes) or e) portfolio (approx 20 pages)

Language of assessment: German and/or English
creditable for bonus

**Allocation of places**

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places reallocated by lot 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
--- | ---
Industrial Management 2 | 12-M-LA-182-m01

Module coordinator | Module offered by
unknown | Faculty of Business Management and Economics

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

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

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)
V (2) + Ü (2)
Course type: might also be offered as eLearning, seminary, workshop, etc.

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. 40 to 60 minutes) or b) presentation (approx. 20 minutes) and term paper (15 to 20 pages), weighted 1:1 or c) term paper (approx. 30 to 40 pages) or d) entirely or partly computerised written examination (approx. 60 minutes) or e) portfolio (approx 20 pages)
Language of assessment: German and/or English creditable for bonus

Allocation of places
20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information
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**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)

V (2) + Ü (2)
Course type: might also be offered as eLearning, seminary, workshop, etc.

**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. 40 to 60 minutes) or b) presentation (approx. 20 minutes) and term paper (15 to 20 pages), weighted 1:1 or c) term paper (approx. 30 to 40 pages) or d) entirely or partly computerised written examination (approx. 60 minutes) or e) portfolio (approx 20 pages)
Language of assessment: German and/or English creditable for bonus

**Allocation of places**

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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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### Contents

### Intended learning outcomes

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

V (2) + Ü (2)

### 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. 40 to 60 minutes) or
b) Presentation (approx. 20 Minutes) and term paper (15 to 20 pages), weighted 1:1 or
c) Term paper (30 to 40 pages) or
d) entirely or partly computerised written examination (approx. 60 minutes) or
e) Portfolio (approx. 20 pages)

Creditable for bonus
Language of assessment: German and/or English

### Allocation of places

20 places.
1. A total of 15 places will be allocated to students of the Master's degree programmes Management as well as International Economic Policy.
   Should the number of applications exceed 15, these places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.
2. A total of 5 places will be allocated to students of the Master's degree programme Information Systems.
   Should the number of applications exceed 5, these places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.
3. When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

### Additional information

Module can be taught in form of E Learning course, seminar, workshop etc.

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<th>Module title</th>
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<td>Industrial Statistics 1</td>
<td>10-M=AIST-161-m01</td>
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<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
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<td>1 semester</td>
<td>graduate</td>
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</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** (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)

Module taught in: German and/or English

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

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English

**Allocation of places**

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**Additional information**

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<td>Dean of Studies Mathematik (Mathematics)</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 (4) + Ü (2)
Module taught in: German and/or English

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)
a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English
creditable for bonus

**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>Strategic Networks in Industry</td>
<td>12-M-MS-161-m01</td>
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<tr>
<td>holder of the Chair of Business Management and Marketing</td>
<td>Faculty of Business Management and Economics</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 (2) + Ü (2)

**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 and/or English

**Allocation of places**

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**Additional information**

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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 (2) + Ü (2)

**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)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

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**Additional information**

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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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**Duration**
- 1 semester

**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 (2) + Ü (2)

**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 and/or English
creditable for bonus

**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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<tr>
<td>Interdisciplinary Seminar</td>
<td>10-M=SIDC-161-m01</td>
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<tr>
<td>Dean of Studies Mathematik</td>
<td>Institute of Mathematics</td>
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<tr>
<td>1 semester</td>
<td>graduate</td>
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**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 (2)

Module taught in: German and/or English

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

Talk (60 to 120 minutes)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English

**Allocation of places**

--

**Additional information**

--

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

--
Module title: International Taxation  
Abbreviation: 12-M-IB-161-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  
Only after succ. compl. of module(s): --

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

Contents
The module discusses tax aspects (legal facts as well as economic effects) of cross-border business activities. Students become familiar with the principles of international taxation, relevant aspects of German income tax law, the function of double taxation treaties as well as recent developments of taxation within the European Union (mostly triggered by the Court of Justice of the European Union). The topics are introduced in the form of lectures. Complex case studies are used for an in-depth discussion of selected aspects.

Intended learning outcomes
After completion of the module students are able
(i) to assess tax issues of cross-border business activities and develop structured solutions;
(ii) to assess the economic effects of rules of international tax law on its own;
(iii) systematically apply double tax treaties.

The students have knowledge of the basics of international taxation and the German international tax law. They are able to judge and to analyze, using the relevant sources of law complex, case studies on the taxation of cross-border business activities independently and to develop design proposals for the solution.

Courses
(type, number of weekly contact hours, language — if other than German)
S (2)

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), presentation of term paper (approx. 20 minutes), weighted 3:2
Assessment offered: To be announced
Language of assessment: German and/or English
creditable for bonus

Allocation of places
12 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information
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**Contents**

**Description:**
The module builds on the knowledge acquired during the Bachelor's degree program 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 (2) + Ü (2)

**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 and/or English

**Allocation of places**

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### Additional Information

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**Contents**

**Intended learning outcomes**

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

V (2) + Ü (2)
Module taught in: English

**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 and/or English
creditable for bonus

**Allocation of places**

**Additional information**

**Referred to in LPO I** (examination regulations for teaching-degree programmes)
Module title: International Trade and the Multinational Firm

Abbreviation: 12-M-ITMF-182-m01

Module coordinator: unknown

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: unknown
Other prerequisites: --

Contents

Description:
The course starts out with theories of international trade based on comparative advantage (Ricardo and Heckscher-Ohlin) followed by theories based on monopolistic and oligopolistic competition to explain intra-industry trade. The final part covers firm heterogeneity and multinational firms.

Outline of syllabus:
1. Structure of the lecture
2. Ricardian trade theory
3. Heckscher-Ohlin trade theory
4. The general neoclassical model
5. Sector-specific factors: the Ricardo-Viner model
6. New trade theory: intra-industry trade, increasing returns to scale and imperfect competition
7. Firm heterogeneity, trade and FDI
8. The multinational firm

Reading:
A detailed list of references with further references, journal articles in particular, will be provided with each chapter of the lecture.

Intended learning outcomes

The students acquire the ability to critically understand the causes and drivers of world trade and the developments of specialization patterns in the global economy. They learn to analyze, discuss and defend these developments and to apply the tools and methods to evaluate controversies associated with the ongoing deepening of the international division of labor, in particular the repercussions of the global economy on national economies.

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

V (2) + Ü (2)
Module taught in: English

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)
Language of assessment: English
creditable for bonus

Allocation of places
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### Inverse Problems

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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**

--

### Contents

Linear operator equations, ill-posed problems, regularisation theory, Tikhonov regularisation, iterative regularisation methods, examples of ill-posed problems.

### Intended learning outcomes

The student can judge whether a given problem is well posed or ill posed. He/She can apply regularisation methods and examine them regarding stability and convergence, and is familiar with selected inverse problems.

### Courses

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

V (3) + Ü (1)

Module taught in: German and/or English

**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, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English

creditable for bonus

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

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

**Duration**
1 semester

**Module level**
graduate

**Other prerequisites**

**Contents**

**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 (2) + Ü (2)

**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) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)

Language of assessment: German and/or English creditable for bonus

**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: Coordination, Budgeting and Incentives in Organizations

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<td>Coordination, Budgeting and Incentives in Organizations</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 behavioural 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

- **V (2) + Ü (2)**

### Method of assessment

- a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
- Language of assessment: German and/or English
creditable for bonus

### Allocation of places

--

### Additional information

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### Referred to in LPO I

( examination regulations for teaching-degree programmes)
## Module title
Learning by Teaching 1

### Abbreviation
10-M=ELT1-192-m01

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

### Module offered by
Institute of Mathematics

### ECTS
5

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

### (not) successfully completed
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### Duration
1 semester

### Module level
graduate

### Other prerequisites
--

### Contents
Supervising a tutorial or study group in the Bachelor’s programme under guidance of the respective lecturer.

### Intended learning outcomes
The student gains his/her first experience in teaching university mathematics. He/She knows basic didactical methods and can apply them in practical situations.

### Courses
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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)

 Assessment of tutoring activities by supervising lecturers or exercise supervisors (1 to 2 teaching units)

 Language of assessment: German

### Allocation of places
--

### Additional information
Application and selection with the teaching coordinator for mathematics

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

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### Module title
Managerial Analytics & Decision Making

### Abbreviation
12-M-MADM-182-m01

### Module coordinator
unknown

### 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
unknown

### Other prerequisites
--

## Contents
The course "Managerial Analytics & Decision Making" discusses quantitative methods to structure and solve a diverse set of management problems and demonstrates the application of modern methods with the help of multiple case studies.

## Intended learning outcomes
After completing this course students can
(i) better understand and structure problems;
(ii) apply important theoretical and empirical frameworks to practical problems that evaluate good and bad decision making;
(iii) implement advanced analytical methods to support decision making under risk.

## Courses
(type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)
Module taught in: English

## 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 to 20 pages)
Language of assessment: English
creditable for bonus

## 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>Brand Management &amp; Market Research</td>
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<tr>
<td>holder of the Chair of Business Management and Marketing</td>
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### 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 (2) + Ü (2)

**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 and/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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### Module title
Marketing & Strategic Communication

### Abbreviation
06-MK-MKW2-Ex-182-m01

### Module coordinator
unknown

### Module offered by
Institute of Human Computer Media

### ECTS
5

### Method of grading
numerical grade

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

### Duration
1 semester

### Module level
unknown

### Other prerequisites
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### Contents
No information on contents available.

### Intended learning outcomes
No information on intended learning outcomes available.

### Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

### 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. 100 minutes) or b) oral examination of one candidate each (approx. 30 minutes)
- Language of assessment: German and/or English
- creditable for bonus

### Allocation of places
12 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information
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**Contents**

Outline of syllabus:
1. Recap of econometric methods
   - Identification and estimation of simultaneous equation models
   - Endogeneity
   - Variants of GMM and ML estimation
2. Estimation of demand
   - Representative consumer models
   - Discrete choice models with individual data
   - Discrete choice models with aggregate data
   - Demand models with consumer heterogeneity
3. Estimation of static market models
   - Supply and demand estimation: NEIO framework
   - Inferring/estimation of marginal costs
4. Applications
   - Market definition
   - Empirical merger analysis

The course will be taught in English.

**Intended learning outcomes**

The students taking this class will learn modern empirical methods in studying questions related to industry outcomes. They will become familiar with methods used in estimating demand and during exercises will learn how one can do it in practice. They will have a thorough understanding of the so-called New Empirical Industrial Organization (NEIO) methodology. They will become familiar with methods used in estimating demand and imperfect competition models among firms. They will learn how to use such models to infer marginal costs as well as constructing policy simulations based on the estimated models to evaluate the effects of changes in the competitive environment, such as mergers. A student which successfully completes this course will not only be able to read empirical academic papers but will also implement a few important models in computer exercises. Furthermore, they will be able to draw implications of empirical studies for economic policy in areas such as antitrust and regulation.

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

V (2) + Ü (2)
Module taught in: English

**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 120 minutes) or b) term paper (15 to 20 pages)
Language of assessment: English
creditable for bonus

**Allocation of places**

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**Additional information**

Research track module in Master's programme IEP
Referred to in LPO I (examination regulations for teaching-degree programmes)
<table>
<thead>
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<tr>
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<td>graduate</td>
<td>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.</td>
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**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**

No courses assigned to module

**Method of assessment**

Master's thesis (750 to 900 hours total)

Registration and assignment of topic in consultation with supervisor.  
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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Module title: Microeconometrics
Abbreviation: 12-M-MIK-182-m01

Module coordinator: unknown
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: unknown
Other prerequisites: --

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)
Ü (2) + Ü (2)

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)
Language of assessment: German and/or English creditable for bonus

Allocation of places:
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Additional information:
Research track module in Master's programme IEP

Referred to in LPO I (examination regulations for teaching-degree programmes)
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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 (3) + Ü (1)

Module taught in: German and/or English

**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, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English creditable for bonus

**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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**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 (4) + Ü (2)

Module taught in: German and/or English

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

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English

creditable for bonus

**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
Numeric of Partial Differential Equations

| Abbreviation | 10-M=VNPE-161-m01 |

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

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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 (4) + Ü (2)
Module taught in: German and/or English

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

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English
creditable for bonus

### 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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Econometrics 2

Module title

Abbreviation
12-M-OE2-182-m01

Module coordinator

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
unknown

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 generalized 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" und "Financial Econometrics".

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

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)
Language of assessment: German and/or English
creditable for bonus

Allocation of places
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Additional information

Research track module in Master's programme IEP

Referred to in LPO I (examination regulations for teaching-degree programmes)
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### Module title
Econometrics 3

### Abbreviation
12-M-OE3-182-m01

### Module coordinator
unknown

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

### ECTS
5

### Method of grading
numerical grade

### Module level
unknown

### Duration
1 semester

### Other prerequisites

### 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 univariate and multivariate econometric time 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 (2) + Ü (2)

### 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)
Language of assessment: German and/or English creditable for bonus

### Allocation of places
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### Additional information
Research track module in Master's programme IEP

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

V (3) + Ü (1)

Module taught in: German and/or English

**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, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English

creditable for bonus

**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**  
Optimal Tax Theory

**Abbreviation**  
12-M-F4-182-m01

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**Duration**  
1 semester

**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 (2) + Ü (2)
Module taught in: English

**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)  
Language of assessment: English  
credible for bonus

**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 title | Policy Evaluation Methods
Abbreviation | 12-M-PEM-182-m01

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

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

Contents

This course offers an introduction to the fundamentals of causal inference and to widely used research designs in the social sciences. In the first part a framework for understanding causality is introduced. Specifically, the epistemological differences between association, intervention and counterfactuals are explained. Then it is shown why experiments are paramount in generating causal knowledge and which assumptions are needed for which level of the causal hierarchy. Finally, we will discuss two widely used approaches to causality in the social sciences, i.e. potential outcomes and directed acyclic graphs.

The second part is devoted to the research designs regressions analysis, difference-in-differences, instrumental variables, and regression discontinuity. The emphasis is how these research designs are for example applied to answer important questions in labor economics such as the effects of a minimum wage increase on employment or the effect of children on female labor supply and wages.

Intended learning outcomes

The assumptions each research design requires in order to identify a causal effect will be at center stage of the lecture. Therefore the emphasis is to teach students what one needs to estimate in order to answer a given question. Further, the research designs are discussed such that students will be able to evaluate and apply these research designs to other questions and fields.

After the course, students should be able to understand the basic concepts and methods of causal inference; should be able to read and interpret research and judge its credibility. This course furthermore serves as a basis for subsequent master courses on statistical inference and estimation, i.e. on how to estimate.

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

V (2) + Ü (2)
Module taught in: English

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)
Language of assessment: English
creditable for bonus

Allocation of places

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Additional information

Research track module in Master's programme IEP

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

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### Contents
No information on contents available.

### Intended learning outcomes
No information on intended learning outcomes available.

### Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

### 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)
Language of assessment: German and/or English creditable for bonus

### 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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**Contents**

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**Intended learning outcomes**

No information on intended learning outcomes available.

**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)

term paper (approx. 15 pages) and presentation (one candidate: approx 10 to 15 minutes @ groups of 2: approx 20 minutes; groups of 3: approx. 30 minutes), weighted 2:1

Assessment offered: In the semester in which the course is offered

Language of assessment: German and/or English

**Allocation of places**

12 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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

**Project: Selected Topics in Business Management and Economics I**

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### Module coordinator

Dean of the Faculty of Business Management and Economics

### Module offered by

Faculty of Business Management and Economics

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### 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

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

S (2)

### 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: In the semester in which the course is offered

Language of assessment: German and/or English

creditable for bonus

### Allocation of places

15 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places reallocated by lot 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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**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

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

S (2)

**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: In the semester in which the course is offered  
Language of assessment: German and/or English  
creditable for bonus

**Allocation of places**

15 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

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

--
Subdivided Module Catalogue for the Subject Economathematics
Master’s with 1 major, 120 ECTS credits

Module title | Abbreviation
--- | ---
Project Management and Control | 12-M-PROM-182-m01

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

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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 with 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)
S (2)

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 and/or English
creditable for bonus

Allocation of places
--

Additional information
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Referred to in LPO 1 (examination regulations for teaching-degree programmes)
--
### Module title
**Project Modul: Audiovisual Business Communication**

### Abbreviation
12-M-PACW-182-m01

### Module coordinator
Professorship of Economic Journalism and Communication

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

### ECTS
10

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

### Duration
1 semester

### Module level
undergraduate

### Other prerequisites
--

### Contents
In this seminar, students learn the basics of audiovisual forms of presentation (news, background report, reportage). They are first introduced to the use of cameras and editing. Students learn how to set news and stories in the picture and how to organize shoots. Students learn television-specific journalistic basics such as the structure and design of a television report, how to organize and deal with different filming situations, how to create storyboards, how to write texts and how to speak.

### Intended learning outcomes
The aim of the course is to impart the editorial and technical knowledge and skills (including teamwork) for the production of television features.

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

- S (2)

### 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)*

- Portfolio (approx. 3 items with a duration of 3 minutes each, audio/video format): e.g. record of research activities, commentary, text analyses of different types of media

- Assessment offered: In the semester in which the course is offered

- Language of assessment: German and/or English

- Creditable for bonus

### 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 title
Project Modul: Crossmedial Business Communication

### Abbreviation
12-M-PCW-182-m01

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### Contents
Online and cross-media journalism take into account the current media convergence. This seminar focuses on the individual elements and phases of production for the website, Facebook, Instagram, Twitter and Tiktok against the background of current trends and developments. In addition, the seminar covers current trends in journalism. In addition to content-related topics, the focus is also on new methods (e.g. of storytelling), as well as technical developments.

### Intended learning outcomes
After successful completion, students will be able to name the individual phases of online and cross-media journalism and carry them out on sample projects, explain and go through the individual production stages, use methods and tools for the individual steps.

### Courses (type, number of weekly contact hours, language — if other than German)
S (2)

### 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)
portfolio (approx. 3 items with a duration of 3 minutes each, audio/video format): e.g. record of research activities, commentary, text analyses of different types of media
Assessment offered: In the semester in which the course is offered
Language of assessment: German and/or English creditable for bonus

### 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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**Contents**

Economic journalism is often regarded as unwieldy, but the reporting usually revolves around content that many media users can relate to: The focus is on market developments and (economic) political conditions. How can these topics be presented in a way that is clear, easy to understand and yet as precise as possible? What makes for good economic policy reporting? What research options and forms of presentation are available? Such questions will first be answered using examples from various media. Subsequently, students will work on a key topic themselves.

**Intended learning outcomes**

The students know terminology, topics and framework conditions of economic journalism. They have an overview of selected areas of application. They are proficient in research and the various forms of presentation in economic journalism.

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

S (2)

**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)

portfolio (approx. 3 items with a duration of 3 minutes each, audio/video format): e. g. record of research activities, commentary, text analyses of different types of media

Assessment offered: In the semester in which the course is offered

Language of assessment: German and/or English

creditable for bonus

**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>Faculty of Business Management and Economics</td>
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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 (2) + Ü (2)

**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)

Language of assessment: German and/or English

creditable for bonus

**Allocation of places**

--

**Additional information**

--

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

--
Legal Foundations of Riskmanagement and Compliance

### Contents

Content: This module analyses the presentation of opportunities and risks in financial reports, i.e. annual or interim reports, in conjunction with selected value-based management and profitability analysis approaches.

Outline of syllabus:
1. Basics of financial reporting and risk management;
2. Practice of risk reporting;
3. Profitability analysis according to Penman;
4. Value-based management and risk management;
5. Residual income and business valuation;
6. Analysis of equity risk;
7. Analysis of credit risk;
8. Risk management monitoring by audit committees and auditors.

Reading list to be provided in class.

### Intended learning outcomes

After completing the course, the students will be able
1. to present the relation between risk management and financial reporting;
2. to analyze and solve independently complex problems with respect to the presentation of opportunities and risk in financial reports based on national and international standards;
3. to identify the relation between risks and value-based management;
4. to evaluate independently selected research results concerning risk reporting and designing own research- or practice-oriented projects.

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

V (2)

### 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)
Language of assessment: German and/or English

### Allocation of places

30 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.
### Module title
Control Theory

### Abbreviation
10-M=ARTH-161-m01

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

### Module offered by
Institute of Mathematics

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### Duration
1 semester

### Module level
graduate

### 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 (type, number of weekly contact hours, language — if other than German)
V (4) + Ü (2)

Module taught in: German and/or English

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)
a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English
creditable for bonus

### 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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**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

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

V (2) + Ü (2)

**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. 50 minutes) or b) oral examination of one candidate each (approx. 20 minutes)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

12 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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
Risk Management - Concepts and Systems

| Abbreviation          | 12-RM-KS-161-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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### Duration
1 semester

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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)

V (2)

### 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) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)

Language of assessment: German and/or English creditable for bonus

### Allocation of places

25 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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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### Contents

No information on contents available.

### Intended learning outcomes

No information on intended learning outcomes available.

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

| V (2) + Ü (2) |

### 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)

Language of assessment: German and/or English

Creditable for bonus

### 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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**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

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

V (2) + Ü (2)

**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)
Language of assessment: German and/or English creditable for bonus

**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 Seminar: Selected Problems in Analytical Tax Research

### Abbreviation
12-M-SSL-161-m01

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<tr>
<td>1 semester</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 (type, number of weekly contact hours, language — if other than German)
S (2)

### 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
Language of assessment: German and/or English

### Allocation of places
10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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: Selected Aspects of Managerial Accounting** | 12-M-AUAS-182-m01

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
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<tbody>
<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**

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 (2)

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

term paper (15 to 20 pages) and presentation (approx. 20 minutes), weighted 2:1
Assessment offered: Once a year, summer semester
Language of assessment: German and/or English creditable for bonus

**Allocation of places**

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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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## Selected Topics of European Integration

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<tr>
<td>Selected Topics of European Integration</td>
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### Module coordinator
Holder of the Chair of Monetary Policy and International Economics

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

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<td>1 semester</td>
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### Contents
The module provides students with a more in-depth understanding of specific problems of macroeconomics and current economic 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 (2)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)
term paper (approx. 15 pages) and presentation (approx. 15 minutes), weighted 2:1
Assessment offered: Once a year, summer semester
Language of assessment: German and/or English

### Allocation of places
15 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places reallocated by lot 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 Analytics

### Abbreviation
12-M-BUA-161-m01

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

### 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 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 field of business management decision models and methods and their application in the development of decision-support systems as well as analytical information systems and quantitative methods of data analysis.

### Intended learning outcomes
The module provides students with knowledge of:
1. Scientific literature
2. Integration of developed results in scientific papers
3. Creating presentations and lectures

### Courses
(type, number of weekly contact hours, language — if other than German)
S (2)

### 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
Language of assessment: German and/or English

### Allocation of places
20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information
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<td>1 semester</td>
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</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 web-based platforms (electronic markets, Web 2.0 etc.) and strategic management of a company.

**Intended learning outcomes**

The module provides students with knowledge of:

1. Scientific literature
2. Integration of developed results in scientific papers
3. Creating presentations and lectures

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

S (2)

**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
Language of assessment: German and/or English

**Allocation of places**

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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: Enterprise Systems

### Abbreviation
12-M-ES-161-m01

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

### 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 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 "Enterprise Systems", 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 (2)

## 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

Language of assessment: German and/or English

## Allocation of places
20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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: Entrepreneurship and Management

### Abbreviation
12-M-SAS-182-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
unknown

### 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 (2)

### 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 (15 to 30 minutes), weighted 2:1
Assessment offered: Once a year, winter semester
Language of assessment: German and/or English

### Allocation of places
20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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: Financial Accounting and Auditing | 12-M-SER-161-m01

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

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

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

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 (2) + S (2)

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
Language of assessment: German and/or English

Allocation of places
20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information
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<td>Faculty of Business Management and Economics</td>
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**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 (2)

**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: German and/or English

**Allocation of places**

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

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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 (2)

**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

Language of assessment: German and/or English

**Allocation of places**

10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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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### Advanced Seminar: Industrial Management

**Abbreviation:** 12-M-SI-161-m01

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**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 (2)

### 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) term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1
- b) term paper (approx. 15 to 20 pages) and presentation (approx. 45 minutes), weighted 1:1

**Language of assessment:** German and/or English

### Allocation of places

10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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: Industrial Organization
Abbreviation: 12-M-SIO-161-m01

Module coordinator:
holder of the Chair of Industrial Economics

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 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 (2)

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
Language of assessment: German and/or English

Allocation of places:
10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information:
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<td>Seminar: International Economics</td>
<td>12-M-SIÖ-161-m01</td>
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<td>holder of the Chair of International Macroeconomics</td>
<td>Faculty of Business Management and Economics</td>
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**Contents**

Current topics in international economics [e. g. outsourcing, offshoring and multinational firms; competition of locations, jurisdictions and systems; globalization 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**

Drawing on current cutting-edge research, students are enabled to analyze current research questions and to learn and apply research methods. The seminar style of the course teaches them to present their own seminar papers and research both in written and in oral form. 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 (2)

**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. 40 minutes) with position paper (1 page), weighted 3:1

Language of assessment: German and/or English

**Allocation of places**

10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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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<td>Seminar: Logistics &amp; Supply Chain Management</td>
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<td>holder of the Chair of Logistics and Quantitative Methods in Business Administration</td>
<td>Faculty of Business Management and Economics</td>
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<tbody>
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<td>1 semester</td>
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**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

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

S (2)

**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

Language of assessment: German and/or English

**Allocation of places**

20 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Students who already have successfully completed courses offered by the Chair of Logistics and Quantitative Methods will be given preferential consideration. (2) Among applicants with the same number of successfully completed modules, places will be allocated according to the total number of ECTS credits achieved in mandatory courses of the focus Logistik und Supply Chain Management (Logistics and Supply Chain Management) or Value Chain Management or another specialisation the applicant has selected which includes courses offered by the Chair. (3) Among applicants with the same number of ECTS credits, places will be allocated by lot.

**Additional information**

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

--
### Module title
Seminar: Macroeconomics and Quantitative Economic Research

### Abbreviation
12-M-MEW-161-m01

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<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
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<tbody>
<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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<td>1 semester</td>
<td>graduate</td>
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### 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 (2)

### 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
Language of assessment: German and/or English

### Allocation of places
10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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>
<thead>
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<th>Module title</th>
<th>Abbreviation</th>
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<tbody>
<tr>
<td><strong>Advanced Seminar: Marketing Strategy</strong></td>
<td>12-M-MSS-161-m01</td>
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</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 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 (2)

### 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
Language of assessment: German and/or English

### Allocation of places

10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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: Econometrics

### Abbreviation
12-M-SOE-182-m01

### Module coordinator
holder of the Chair of Econometrics

### 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
unknown

### Other prerequisites
--

### 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 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 (2)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)
term paper (approx. 15 pages) and presentation (approx. 25 minutes), weighted 2:1
Language of assessment: German and/or English

### Allocation of places
10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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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<thead>
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<td>Practical Seminar: Economic Journalism</td>
<td>12-M-SWJ-182-m01</td>
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<tbody>
<tr>
<td>holder of the Professorship of Economic Journalism at the Chair of Monetary Policy and International Economics</td>
<td>Faculty of Business Management and Economics</td>
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**Contents**

Students will acquire an in-depth insight into the practical side of economics journalism. They must complete their placements at company or other institution at which they will have an opportunity to gain an in-depth knowledge of economics journalism. Students will be required to prepare a practical report on the placement module as well as to submit proof of regular attendance and participation. In addition, a certificate issued by the placement company is to be submitted.

**Intended learning outcomes**

The module strengthens practical competences and encourages work experiences. So it prepares for the career start in economics journalism.

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

V (2) + Ü (2)

**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)

portfolio on observation visit, including work samples (approx 40 pages)

Language of assessment: German and/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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## Seminar: Strategic Incentive Design

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<td>holder of the Chair of Economics, Information and Contract Economics</td>
<td>Faculty of Business Management and Economics</td>
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### Contents

This module will take the form of a seminar and will cover advanced topics in contract theory. Students will be required to independently familiarise themselves with the respective topics as well as to summarise these topics both in a seminar paper and in an oral presentation during a seminar session.

### Intended learning outcomes

Students are able to analyze independently academic publications on their relevance for a given theme. They can write a seminar thesis and present their findings meeting common scientific standards.

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

S (2)

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

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

### Allocation of places

15 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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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### Seminar: Supply Chain Competition

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<td>Seminar: Supply Chain Competition</td>
<td>12-M-SCC-161-m01</td>
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<td>graduate</td>
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</table>

### Contents

In the seminar "Supply Chain Competition", students participate in an online multi-round simulation and apply methods of operations and supply chain management.

### Intended learning outcomes

After completing this seminar students

i. selected and applied quantitative models for procurement, production, sales and supply chain management,
ii. faced the practical problems when using real data to feed models,
iii. and understand the challenges to reach a coordinated decision in a company.

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

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<tr>
<td>term paper (approx. 15 to 20 pages) and presentation (approx. 10 minutes), weighted 2:1 Assessment offered: Once a year, winter semester Language of assessment: German and/or English</td>
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### Allocation of places

12 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Students who already have successfully completed courses offered by the Chair of Logistics and Quantitative Methods will be given preferential consideration. (2) Among applicants with the same number of successfully completed modules, places will be allocated according to the total number of ECTS credits achieved in mandatory courses of the focus Logistik und Supply Chain Management (Logistics and Supply Chain Management) or Value Chain Management or another specialisation the applicant has selected which includes courses offered by the Chair. (3) Among applicants with the same number of ECTS credits, 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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<td>Advanced Seminar: Corporate Finance</td>
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<tr>
<td>holder of the Chair of Business Management, Banking and Finance</td>
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### 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)

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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)

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

### Allocation of places

15 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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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<td>Economic and Business Ethics</td>
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**Module coordinator**

holder of the Chair of Business Management and Accounting

**Module offered by**

Faculty of Business Management and Economics

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**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 a clear and understandable way and he/she should discuss the arguments with other participants in the class.

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

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<th>S (2)</th>
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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)

- Term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1
- Language of assessment: German and/or English

**Allocation of places**

- 12 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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: Seminar Applied Mathematics

Abbreviation: 10-M=SAMA-192-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:

Contents:
A modern topic in applied 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 (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus):
talk (approx. 60 to 120 minutes)
Language of assessment: German or English
Assessment offered: Only when announced in the semester in which the courses are offered and in the subsequent semester

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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## Seminar in Dynamical Systems and Control

<table>
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<tr>
<td>Seminar in Dynamical Systems and Control</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
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 (2)
  - Module taught in: German and/or English

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

- talk (60 to 120 minutes)
  - Assessment offered: In the semester in which the course is offered and in the subsequent semester
  - 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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### Seminar in Financial and Insurance Mathematics

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<td>Seminar in Financial and Insurance Mathematics</td>
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<td>Institute of Mathematics</td>
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### 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 (2)

Module taught in: German and/or English

### Method of assessment

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

- talk (60 to 120 minutes)
- Assessment offered: In the semester in which the course is offered and in the subsequent semester
- 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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<table>
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**Contents**

A modern topic in mathematics in the sciences.

**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 (2)

Module taught in: German and/or English

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

Talk (60 to 120 minutes)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

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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### Module title

Seminar in Non-linear Analysis

### Abbreviation

10-M=SNLA-161-m01

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### Module coordinator

Dean of Studies Mathematik (Mathematics)

### Module offered by

Institute of Mathematics

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### ECTS

5

### Method of grading

Only after succ. compl. of module(s)

### Duration

1 semester

### Module level

graduate

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### Contents

A modern topic in non-linear analysis.

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### 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.

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### Method of assessment

- Talk (60 to 120 minutes)
- Assessment offered: In the semester in which the course is offered and in the subsequent semester
- Language of assessment: German or English

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### Allocation of places

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### Additional information

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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 (2)

Module taught in: German and/or English

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

Talk (60 to 120 minutes)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English

**Allocation of places**

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**Additional information**

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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

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

S (2)

Module taught in: German and/or English

### Method of assessment

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

Talk (60 to 120 minutes)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English

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

S (2)  
Module taught in: German and/or English

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

Talk  
Assessment offered: In the semester in which the course is offered and in the subsequent semester  
Language of assessment: German or English

**Allocation of places**

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**Additional information**

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- unknown

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

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**Contents**

**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.

**Courses**

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

V (2) + Ü (2)

**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)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**
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**Additional information**
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**Referred to in LPO I**
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### Statistical Analysis

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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

(V (4) + Ü (2))

Module taught in: German and/or English

### Method of assessment

(a) written examination (approx. 90 to 120 minutes, usually chosen) or
(b) oral examination of one candidate each (approx. 20 minutes) or
(c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

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

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### 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 (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

### 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) or c) oral examination of one candidate each (approx. 20 minutes)
Language of assessment: German and/or English creditable for bonus

### 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 coordinator**

holder of the Chair of Business Taxation

**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 course deals with tax effects on fundamental economic decisions. Taxes are integrated into standard models for investment decisions, financing decisions, firm valuation, dividend 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 knowledge 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 (2) + Ü (2)

**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) or c) oral examination of one candidate each (approx. 20 minutes)

Language of assessment: German and/or English

creditable for bonus

**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

**Policy of Taxation**

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### Module coordinator

**unknown**

### 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

Unknown

### Other prerequisites

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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

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

V (2) + Ü (2)

### 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)

Language of assessment: German and/or English

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### Additional information

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</table>
**Module title**  
Stochastic Models of Risk Management

**Abbreviation**  
10-M=ASMR-161-m01

<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>Method of grading</th>
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<tr>
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<th>Module level</th>
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<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
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</table>

**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 (4) + Ü (2)  
Module taught in: German and/or English

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

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)  
Assessment offered: In the semester in which the course is offered and in the subsequent semester  
Language of assessment: German or English  
creditable for bonus

**Allocation of places**

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**Additional information**

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

--
Subdivided 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>Stochastical Processes</td>
<td>10-M=ASTP-161-m01</td>
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</table>

**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 (4) + Ü (2)

Module taught in: German and/or English

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

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

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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<tr>
<td>Strategic Decisions and Competition</td>
<td>12-M-SDC-182-m01</td>
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<td>Faculty of Business Management and Economics</td>
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<tbody>
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**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

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

V (2) + Ü (2)

Module taught in: English

**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 120 minutes) or b) term paper (15 to 20 pages)

Language of assessment: English
creditable for bonus

**Allocation of places**

--

**Additional information**

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

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<table>
<thead>
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<th><strong>Module title</strong></th>
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<tr>
<td>Strategic Management of Global Supply Chains</td>
<td>12-M-SMGS-182-m01</td>
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<tbody>
<tr>
<td>holder of the Chair of Logistics and Quantitative Methods in Business Administration</td>
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</table>

**Contents**

Description:
In the course "Strategic Management of Global Supply Chains", students will become familiar with the basic principles of building an efficient global supply chain and will apply what they have learned working on multiple case studies.

**Intended learning outcomes**

After completing this course students
(i) can apply the basic methods and concepts of supply chain management to practical settings and evaluate the results, and
(ii) understand the effects of global value chains onto strategic company decisions.

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

V (2) + Ü (2)
Module taught in: English

**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 and/or English
creditable for bonus

**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
---|---
Strategic Marketing | 12-M-SM-161-m01

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

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

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

**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 (2) + Ü (2)

**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 and/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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### Module title
Social Insurance and the Welfare State

### Abbreviation
12-M-F3-182-m01

### Module coordinator
unknown

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

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### Duration
1 semester

### Module level
unknown

### Other prerequisites
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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 (2) + Ü (2)

### 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)

Language of assessment: German and/or English creditable for bonus

### 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 Industrial Organization
Abbreviation: 12-M-TI1-182-m01

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

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 (2) + Ü (2)
Module taught in: English

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 120 minutes) or b) term paper (15 to 20 pages)
Language of assessment: English
creditable for bonus

Allocation of places:
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Additional information:
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<td>Topics in Human Capital Development</td>
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No information on contents available.

No information on intended learning outcomes available.

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

V (2) + Ü (2)
Module taught in: English

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)
Assessment offered: In the semester in which the course is offered
Language of assessment: English
creditable for bonus

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

**Topics in Information Systems 1**

### Abbreviation

12-M-TIF1-182-m01

### Module coordinator

unknown

### Module offered by

Faculty of Business Management and Economics

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### Contents

No information on contents available.

### Intended learning outcomes

No information on intended learning outcomes available.

### Courses

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

V (2) + Ü (2)

### 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) oral examination (one candidate each: 10 to 15 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes) or c) term paper (approx. 15 to 20 pages)

Assessment offered: In the semester in which the course is offered

Language of assessment: German and/or English

creditable for bonus

### 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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**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

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

V (2) + Ü (2)

**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) oral examination (one candidate each: 10 to 15 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes) or c) term paper (approx. 15 to 20 pages)

Assessment offered: In the semester in which the course is offered

Language of assessment: German and/or English

creditable for bonus

**Allocation of places**

--

**Additional information**

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

--
### Module title
Topics in Migration

### Abbreviation
12-M-TIM-182-m01

### Module coordinator
holder of the Chair of Labor 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
Migration has become a key issue in the political and public debate all over the world. Thus, economists increasingly engaged in studying determinants and consequences of migration as it has a substantial impact on receiving and sending countries. This course offers an introduction to the key concepts of migration economics and will cover the following topics:

1) Migration Decision and Forms of Migration
2) Effects on Migration on Employment and Wages
3) Effects of Migration on Attitudes and Political Economy
4) Integration and Integration Policies
5) Refugee Migration
6) Impacts of Emigration

### Intended learning outcomes
At the end of the course students are familiar with the basic theoretical and empirical concepts in the area of economics of migration. A special focus will be on the understanding of the identification of causal effects and the ability to connect links between the different areas of analysis.

The course will consist of frontal teaching of the basic theoretical as well as empirical tools as well as a careful reading of some of the key scientific articles related to the outlined topics (a reading list will be provided at the beginning of the semester). At the end of the semester, students will have the opportunity to present their term papers.

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

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Module taught in: English

### 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)

Assessment offered: In the semester in which the course is offered

Language of assessment: English

creditable for bonus

### Allocation of places
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### Additional information
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<td>Financial Statement Analysis and Business Valuation</td>
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<td>holder of the Chair of Business Management and Accounting</td>
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## Contents

**Content:**

Underlying value is referred to as fundamental value, the analysis of information about fundamental value is referred to as fundamental analysis. This module discusses fundamental analysis. Fundamental analysis was developed as a matter of appropriate financial statement analysis.

**Outline of syllabus:**

1. Introduction: investing, valuation and financial statements
2. How financial statements are used in valuation
4. Viewing business through the financial statement lens
5. Analysis of the balance sheet and income statement
6. Analysis of the cash flow statement
7. Analysis of profitability
8. The value of operations and the evaluation of enterprise price-to-book-ratios and price-earnings-ratios

**Reading:**


## Intended learning outcomes

The students should be able to analyze financial statements and to value businesses and business strategies using the best technologies available. They should be able to sort out what are good methods, i.e. practical as well as conceptually sound, and what are poor ones. They should demonstrate their knowledge in applying the methods on real cases.

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

V (2) + Ü (2)

## 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 to 120 minutes)

Language of assessment: German and/or English
creditable for bonus

## 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: Insurance Mathematics 1
Abbreviation: 10-M=AVSM-161-m01

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

ECTS: 10
Method of grading: numerical grade
Only after succ. compl. of module(s): --

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

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:
V (4) + Ü (2)
Module taught in: German and/or English

Method of assessment:
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)
a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English
creditable for bonus

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 2 | 10-M=VSM-161-m01

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

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

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

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 (4) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)
a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
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)
--
Subdivided 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>Business Communication in Print, Online and Social Media</td>
<td>12-M-ECC-182-m01</td>
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<table>
<thead>
<tr>
<th>Module coordinator</th>
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<tbody>
<tr>
<td>Professorship of Economic Journalism and Communication</td>
<td>Faculty of Business Management and Economics</td>
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<tbody>
<tr>
<td>1 semester</td>
<td>undergraduate</td>
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**Contents**

This module focuses on the connection of offer characteristics with benefit aspects for the end consumer and the business models on the part of the providers. Starting from the basics of editorial work and professional text management, the new forms of communication management in social networks are presented. The focus in the lecture is on the use of social media in campaigns (Facebook, Twitter, Instagram, Tiktok). There will also be exercises on various Web 2.0 applications (e.g. online social networks) and on the collection and interpretation of online market research data. However, crisis communication of companies will also be covered especially opinion makers on the web as well as protest culture on the web.

**Intended learning outcomes**

Students will be able to prototype and design a social media campaign, describe the editorial and technical approach including feedback, response and customer engagement. In addition, students will be able to design counter-strategies for corporate communication crises.

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

V (2) + Ü (2)

**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 and/or English
creditable for bonus

**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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<tr>
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<tbody>
<tr>
<td>Advanced Auditing</td>
<td>12-M-WPF-161-m01</td>
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**Module coordinator**

holder of the Chair of Business Management and Accounting

**Module offered by**

Faculty of Business Management and Economics

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<td>graduate</td>
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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 (2) + Ü (2)

**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 to 120 minutes)
Language of assessment: German and/or English creditable for bonus

**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>Philosophy of Science and Ethics in Business Management and Economics</td>
<td>12-M-WEW-182-m01</td>
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**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

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

- S (2)

**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: In the semester in which the course is offered
- Language of assessment: German and/or English
- creditable for bonus

**Allocation of places**

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot 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
**Time Series Analysis**

### Abbreviation
10-M=AZRA-212-m01

### Module coordinator
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### Module offered by
Institute of Mathematics

### ECTS
10

### Method of grading
Numerical grade

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

### Duration
1 semester

### Module level
--

### Other prerequisites
--

### Contents
--

### Intended learning outcomes
--

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

- **V (4) + Ü (2)**

Module taught in: German and/or English

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

- **a)** written examination (approx. 90 to 120 minutes, usually chosen) or
- **b)** oral examination of one candidate each (approx. 20 minutes) or
- **c)** oral examination in groups (groups of 2, 15 minutes per candidate)

Language of assessment: German or English

Assessment offered: Only when announced in the semester in which the courses are offered and in the subsequent semester creditable for bonus

### 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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