FAU

Friedrich-Alexander-Universität
School of Business,
Economics and Society

**Master's degree program**

# Master in Economics

## Module handbook—
## winter semester 2022/2023

www.dmse.wiso.fau.de

**Advanced knowledge**

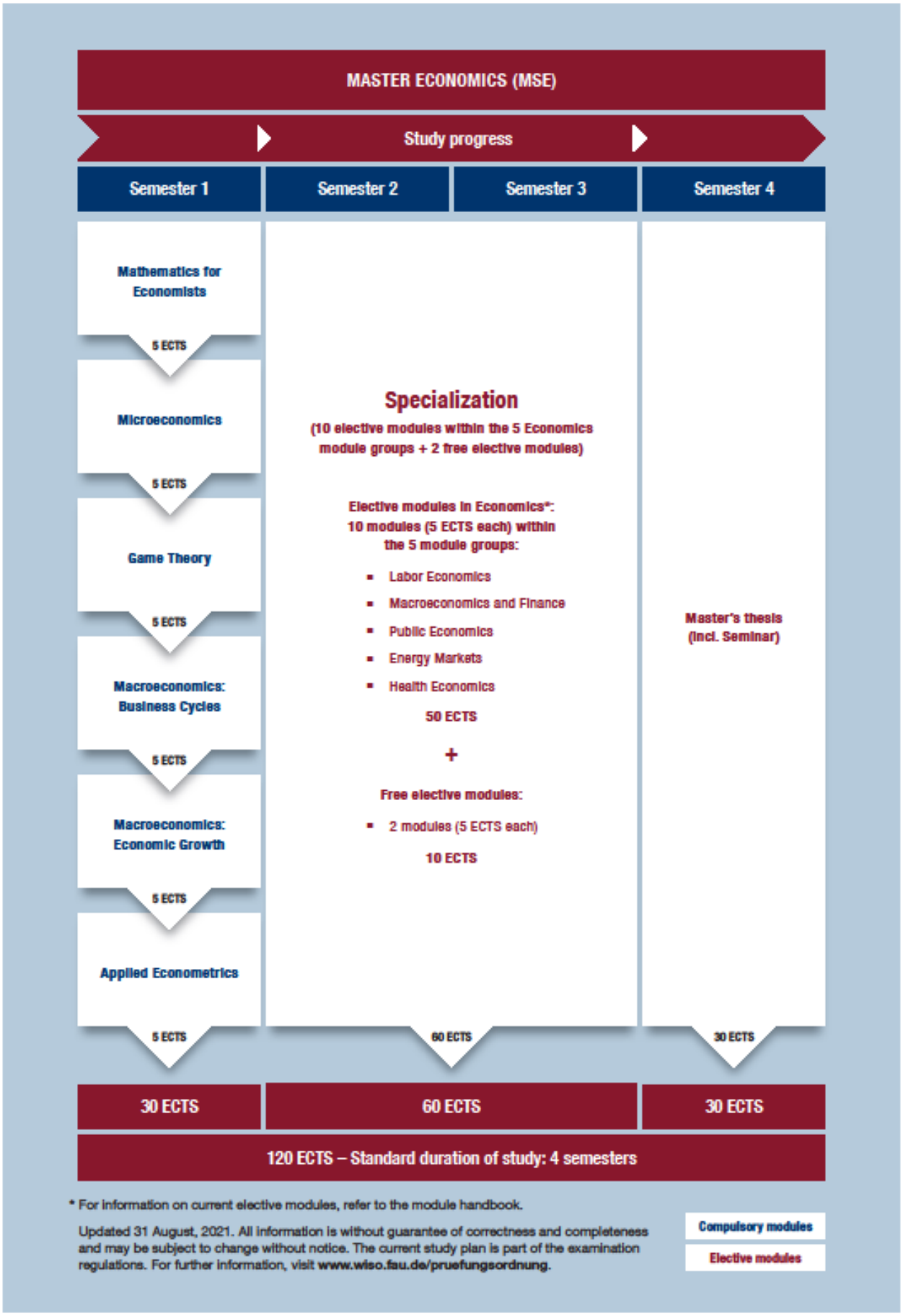
MSE

Master of Science in Economics

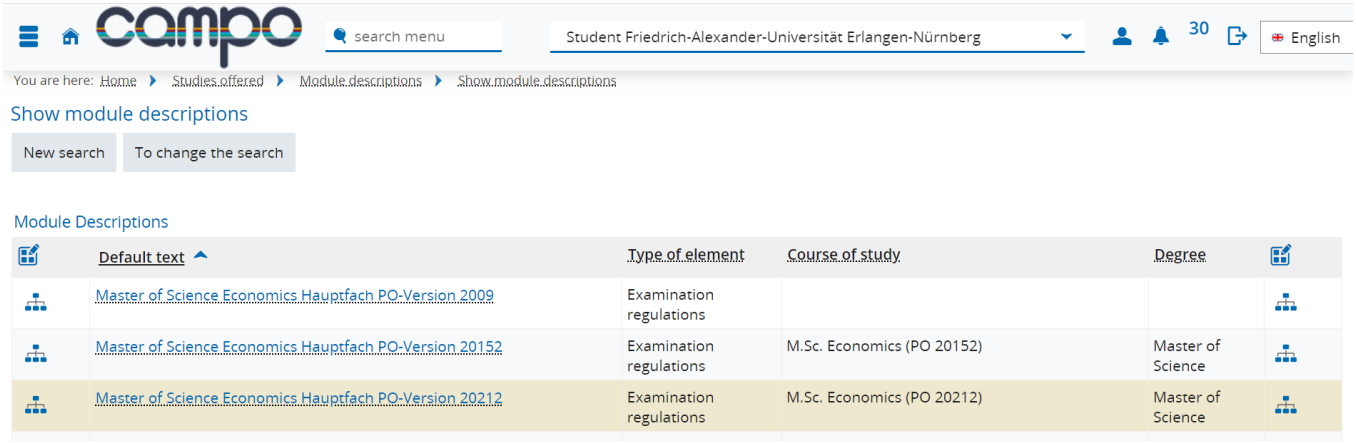
********** Disclaimer **********

The two systems UniVIS and My campus were switched off in the 2022 summer semester. The exam and event administration now takes place via the new portal Campo. Unfortunately, this transition did not go smoothly. Therefore, this module handbook is currently a preliminary version. To search for the module description, please follow the instruction below. If you have any questions, please contact the person responsible for the module or the course coordinator. Instructions and videos for the new portal Campo z. B. to search for module descriptions or to register for and deregister from exams, etc. can be found under

https://www.intern.fau.de/lehre-undstudium/campusmanagement-an-der-fau-das-neue-campoportal/informationsmaterial-zu-hisinone-exa/#collapse_74.


MASTER ECONOMICS (MSE)
Study progress
Semester 1
Semester 2
Semester 3
Semester 4
Mathematics for Economists
5 ECTS
Microeconomics
5 ECTS
Game Theory
5 ECTS
Macroeconomics: Business Cycles
5 ECTS
Macroeconomics: Economic Growth
5 ECTS
Applied Econometrics
5 ECTS
Specialization
(10 elective modules within the 5 Economics module groups + 2 free elective modules)
Elective modules in Economics*:
10 modules (5 ECTS each) within the 5 module groups:
Labor Economics
Macroeconomics and Finance
Public Economics
Energy Markets
Health Economics
50 ECTS
+
Free elective modules:
2 modules (5 ECTS each)
10 ECTS
60 ECTS
Master's thesis (incl. Seminar)
30 ECTS
30 ECTS
60 ECTS
30 ECTS
120 ECTS – Standard duration of study: 4 semesters
* For information on current elective modules, refer to the module handbook.
Updated 31 August, 2021. All information is without guarantee of correctness and completeness and may be subject to change without notice. The current study plan is part of the examination regulations. For further information, visit www.wiso.fau.de/pruefungsordnung.
Compulsory modules
Elective modules

**Instructions for creating course schedule:**




Students can find the module description in the portal Campo. You can either search for a particular module or you can search Master of Science Economics and in the folder Hauptfach PO-Version 20212 you can see all modules related to the MSE program.

Guidance on how to create your final course schedule can be found here:
https://www.wiso.rw.fau.eu/study/program-start/schedule/

# Guideline for the form and extent of examinations

The form of examination that is valid for examinations at the school of business is defined in §16 of the examination regulation for master studies. Furthermore, the extent of examinations is regulated by §§17, 18 of the examination regulation for master studies. The examination regulation can be accessed via the following link:
http://www.zuv.fau.de/universitaet/organisation/recht/studiensatzungen/rw.shtml#Wirtschaft

If the module descriptions do not indicate othervise, the following forms of examination are valid at the school of business:

| Form of examination | | Extent in the Master |
|---|---|---|
| **1.** | **Written examination:** | |
| a. | Written examination | 60/90/120 minutes |
| b. | Written assignment | ca. 15 pages |
| c. | Seminar paper | ca. 15 pages |
| **2.** | **oral examination** | ca. 20 minutes |
| **3.** | **Special cases, in particular:** | |
| a. | Research project/Project report | ca. 30 pages |
| b. | Placement report | ca. 4 pages |
| c. | Handout | ca. 2 pages |
| d. | Report | ca. 6 pages |
| e. | Short test | ca. 15 minutes |
| f. | Presentation | ca. 25 minutes |
| g. | Presentation/presentation paper | ca. 20 minutes/ca. 20 pages |
| h. | Discussion paper | ca. 10 pages |
| i. | Moderation | ca. 20 minutes |
| j. | Demonstration lesson | ca. 45 minutes |
| k. | Case study | ca. 25 minutes and/or 10 pages |
| l. | Class participation (formerly Discussion participation) | ca. 10 minutes |
| m. | Portfolio | k.A. |
| n. | Electronic examination | ca. 90 minutes |
| o. | Multiple-choice tes | ca. 30 minutes |
| p. | Research participation | ca. 60 minutes |
| q. | Reflection paper | ca. 10 minutes or 10 pages |
| r. | Strategic concept | ca. 6 pages |

## Specialisations

Students can choose to study **specialisations**, in which a minimum of 15 ECTS are to be completed. If a module is allocated to more than one specialisation students may decide themselves which specialisation it is to be allocated to. To avoid confusion, please note that *specialisations* and *module groups* are different concepts!

The five available specialisations and their respective modules are the following:

| | Term | Language | **Module group*** |
|---|---|---|---|
| **Specialisation: *Labor Economics*** | | | |
| Public economics (54611) | S | EN | *Public* |
| Behavioral economics (53281) | S | EN | *Public* |
| Labor and personnel economics (52900) | S | EN | *Labor* |
| Mikroökonometrie und Machine Learning (53106) | S | DE | *Labor* |
| Ökonomie der Sozialpolitik (53082) | S | DE | *Public* |
| Personnel economics (53071) | S | EN | *Labor* |
| Seminar behavioral economics 1 (52930) | S/W | EN | *Public* |
| Spatial economics (55960) | S | EN | *Public* |
| Seminar economics of human capital (52391) | S | EN | *Labor* |
| Empirische Arbeitsmarktforschung (53370) | W | DE | *Labor* |
| Labor market policy (52910) | W | EN | *Labor* |
| Labor markets: A macroeconomic perspective (53344) | W | EN | *Macro* |
| Literaturseminar zu aktuellen Fragen der Arbeitsmarktökonomie (52390) | W | DE | *Labor* |
| Panel and evaluation methods (53055) | W | EN | *Labor* |
| Seminar behavioral economics 2 (52940) | W | EN | *Public* |
| International trade and labor (57130) | S | EN | *Macro* |
| Labor markets in the knowledge economy (57131) | W | EN | *Labor* |
| Semiparametric Methods in Econometrics and Applications (57176) | W | EN | *Labor* |
| **Specialisation: *Macroeconomics and Finance*** | | | |
| Public economics (54611) | S | EN | *Public* |
| Asset liability management (56530) | S | DE | *Macro* |
| Financial engineering und structured finance (56270) | S | DE | *Macro* |
| Lebensversicherung (56540) | S | DE | *Macro* |
| Mikroökonometrie und Machine Learning (53106) | S | DE | *Labor* |
| Multivariate time series analysis (53313) | S | EN | *Macro* |
| European topics in economics (57400) | S | EN | *Macro* |
| Bayesian Econometrics (57340) | S | EN | *Macro* |
| Macroeconomic stabilization in severe economic crises (52392) | S | EN | *Macro* |
| Banking supervision: Bank rating, stress testing, financial stability (52560) | W | EN | *Macro* |
| Finanz- und Bankmanagement (53770) | W | DE | *Macro* |

| | | | |
|---|---|---|---|
| International finance (52290) | W | EN | *Macro* |
| Labor markets: A macroeconomic perspective (53344) | W | EN | *Macro* |
| Panel and evaluation methods (53055) | W | EN | *Public* |
| Versicherungs- und Risikotheorie (56470) | W | DE | *Macro* |
| International trade and labor (57130) | S | EN | *Macro* |
| Topics in gender and family economics (53115) | S | EN | *Macro* |
| Applying extreme value analysis in financial and insurance markets (55676) | W | DE | *Macro* |
| Applying statistical methods for risk management in financial institutions (55675) | S | DE | *Macro* |
| Issues in International Political Economy (54440) | W | EN | *Public* |
| Issues in International Trade (54452) | W | EN | *Macro* |

### Specialisation: *Public Economics*

| | | | |
|---|---|---|---|
| Public economics (54611) | S | EN | *Public* |
| Behavioral economics (53281) | S | EN | *Public* |
| Ökonomie der Sozialpolitik (53082) | S | DE | *Public* |
| Seminar behavioral economics 1 (52930) | S/W | EN | *Public* |
| Seminar public economics 1 (52950) | S | EN | *Public* |
| Spatial economics (55960) | S | EN | *Public* |
| Economics of innovation (53295) | S | EN | *Public* |
| Seminar economics of human capital (52391) | S | EN | *Labor* |
| Panel and evaluation methods (53055) | W | DE | *Labor* |
| Seminar behavioral economics 2 (52940) | W | EN | *Public* |
| Seminar public economics 2 (52960) | W | EN | *Public* |
| Development economics (57330) | W | EN | *Public* |
| Seminar Experimental Economics (52945) | W | EN | *Public* |
| Issues in International Political Economy (54440) | W | EN | *Public* |
| Issues in Political Economy (56911) | S | DE | *Public* |

### Specialisation: *Energy Markets*

| | | | |
|---|---|---|---|
| Behavioral economics (53281) | S | EN | *Public* |
| Seminar energy markets (52990) | S | DE/EN | *Energy* |
| Linear optimization (52971) | W | DE | *Energy* |
| Combinatorial optimization (52972) | W | DE | *Energy* |
| Methods and applications of mathematical optimization (52980) | W | DE | *Energy* |
| Quantitative methods in energy market modelling (52591) | W | EN | *Energy* |
| Seminar behavioral economics 2 (52940) | W | EN | *Public* |
| Seminar Optimierung in Energiemärkten (54340) | W | DE | *Energy* |
| Mathematical optimization for communications & signal processing (53180) | W | EN | *Energy* |

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|---|---|---|---|
| Empirical environmental economics (53285) | W | EN | *Energy* |
| Economics of climate change (53286) | W | EN | *Energy* |

**Specialisation: *Health Economics***

| | | | |
|---|---|---|---|
| Public economics (54611) | S | EN | *Public* |
| Behavioral economics (53281) | S | EN | *Public* |
| Ökonomie der Sozialpolitik (53082) | S | DE | *Public* |
| Seminar behavioral economics 1 (52930) | S/W | EN | *Public* |
| The economics of health insurance (56792) | S | EN | *Health* |
| The supply of medical services (52153) | S | DE | *Health* |
| Panel and evaluation methods (53055) | W | EN | *Labor* |
| Applied empirical health economics (52162) | W | DE | *Health* |
| Seminar behavioral economics 2 (52940) | W | EN | *Public* |
| Gesundheitsökonomische Evaluationen I (54821) | S | DE | *Health* |
| Gesundheitsökonomische Evaluationen II (52850) | W | DE | *Health* |

**Miscellaneous**
(Modules that do not belong to any specialisation)

| | | | |
|---|---|---|---|
| Economic internship (56441) | W/S | | *Public* |
| Exchange module 1 (55693) | W/S | | *Public* |
| Exchange module 2 (55694) | W/S | | *Public* |

***Module groups*** (Modulgruppen) as defined in the examination regulations and study plan: Labor (Labor Economics), Public (Public Economics), Macro (Macroeconomics and Finance), Energy (Energy Markets), and Health (Health Economics).

## Language classes

Students can take up to 10 ECTS from language classes. These ECTS would be part of the elective area. The first course can be from any language level (A1-C1), except for German classes where students cannot get credited for courses lower than B1. The second language course has to be on level at least B2.

Friedrich-Alexander-Universität
Erlangen-Nürnberg

# Module description

for the degree programme

Master of Science Economics

(Prüfungsordnungsversion: 20212)

# Table of contents

# Compulsory modules

| | | | |
|---|---|---|---|
| 1 | **Module name**<br>52890 | **Applied econometrics** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Ü: Applied Econometrics (2 SWS)<br>Vorlesung: VL: Applied Econometrics (2 SWS)<br>Tutorium: TUT: Applied Econometrics (Online) ( SWS) | 2,5 ECTS<br>2,5 ECTS<br>0 ECTS |
| 3 | Lecturers | Irina Simankova<br>Prof. Dr. Harald Tauchmann | |

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|---|---|---|
| 4 | **Module coordinator** | Prof. Dr. Harald Tauchmann |
| 5 | **Contents** | The linear Regression model based on a firm theoretical basis and using rigorous notation; endogeneity and instrumental variables estimation; the generalized regression model and heteroscedasticity, the basics of maximum likelihood estimation; using STATA® for applied econometric work |
| 6 | **Learning objectives and skills** | The students deepen their knowledge of linear and non-linear estimation techniques as well as their knowledge of hypotheses testing; students learn how to apply their methodical knowledge to empirical work using the software STATA® and how to interpret estimation results. |
| 7 | **Prerequisites** | Basic knowledge of statistics and econometrics as covered by the optional preparatory course (levelling course). |
| 8 | **Integration in curriculum** | Semester: 1 |
| 9 | **Module compatibility** | Pflichtbereich Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Greene, W. H. (2012): Econometric Analysis, Pearson, 7th ed. |

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|---|---|---|---|
| 1 | **Module name**<br>53201 | **Game theory** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Game Theory (2 SWS)<br>Übung: Game Theory Übung (2 SWS) | 5 ECTS<br>- |
| 3 | Lecturers | Prof. Dr. Veronika Grimm<br>Julia Grübel | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | Game Theory analyzes the behavior of rational<br><br>agents in decision-making situations in which several agents are<br><br>involved. Unlike Decision Theory, Game Theory studies<br><br>situations in which the utilities of the individual agents are not only<br><br>dependent on their own decisions, but also on those of the other agents. The course seeks to apply the basic game theoretical concepts (e.g., Nash equilibrium, subgame perfect equilibrium) to more complicated economic interactions. In addition, it introduces<br><br>advanced concepts, such as the analysis of the games with<br><br>incomplete information, auction theory and briefly, elements of mechanism design. We discuss different equilibrium concepts and their various refinements in the context of these games. |
| 6 | **Learning objectives and skills** | Students acquire a more formal understanding of<br><br>game theoretical concepts and learn to differentiate between different types of games and their appropriate solution concepts. They learn the applications of these concepts to advanced economic problems. Students should be able to<br><br>formally approach real-world multi-person decision problems and give economic predictions based on the equilibrium concepts studied in the course. |
| 7 | **Prerequisites** | Basic knowledge of game theory and its core applications |
| 8 | **Integration in curriculum** | Semester: 1 |
| 9 | **Module compatibility** | Pflichtbereich Master of Science Economics 20212 |
| 10 | **Method of examination** | Hausarbeit<br>Klausur (90 Minuten) |
| 11 | **Grading procedure** | Hausarbeit (20%)<br>Klausur (80%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |

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|---|---|---|
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Main Textbook: Fudenberg, D. and Tirole, J. (1991), Game Theory, Cambridge, MIT Press. Krishna, V. (2002), Auction Theory, Academic Press. Further (helpful) reading: Osborne, M. and Rubenstein, A. (1994), A Course in Game Theory, Cambridge, MIT Press. Maschler, M., Solan E. and Zamir, S. (2013), Game Theory, Cambridge University Press |

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|---|---|---|---|
| 1 | **Module name**<br>53212 | **Macroeconomics: Business cycles** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Computer Übung Macroeconomics: Business Cycles (2 SWS)<br>Vorlesung: Macroeconomics: Business Cycles (2 SWS)<br>Übung: Übung Macroeconomics: Business Cycles (2 SWS) | -<br>2,5 ECTS<br>2,5 ECTS |
| 3 | Lecturers | Timo Sauerbier<br>Prof. Dr. Christian Merkl | |

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| 4 | **Module coordinator** | Prof. Dr. Christian Merkl |
| 5 | **Contents** | • Stylized facts of the business cycle<br>• Business cycle theories<br>• Business cycle and the labor market<br>• Monetary theory and policy |
| 6 | **Learning objectives and skills** | Students<br>• learn about modern dynamic business cycle theory<br>• learn about dynamic labor market theory (search and matching)<br>• apply standard techniques (e.g., intertemporal optimization, loglinearization or simple simulations)<br>• learn about modern monetary theory<br>• compare the implications of monetary theory with modern policy making |
| 7 | **Prerequisites** | Advanced Mathematics, Macroeconomics (Bachelor) |
| 8 | **Integration in curriculum** | Semester: 1 |
| 9 | **Module compatibility** | Pflichtbereich Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%)<br>Students can improve their grade through two assignments during the winter term: one programming assignment with Matlab (about 30 lines of code) and one analytical problem (about four written pages). This requires the written exam to be graded not worse than 4.0; the maximum improvement is 0.3 grades. |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Gali, J., Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework and its Applications, 2015, second edition. |

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|---|---|---|---|
| 1 | **Module name**<br>53221 | **Macroeconomics: Economic growth** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Macroeconomics: Economic Growth (2 SWS) | 5 ECTS |
| 3 | Lecturers | Dr. Boryana Madzharova<br>Prof. Dr. Thiess Büttner<br>Maximilian Pöhnlein | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The lecture is concerned with the development of the economy over time, in particular with economic growth. In a first step, the lecture considers how dynamic issues are dealt with in the context of traditional macroeconomics. We then go on and develop a dynamic model in which households, firms, and the government form expectations about future conditions and take account of future implications of current decisions. This model is varied to see implications of uncertainty and overlapping generations. Finally, we discuss the sources and limits of economic growth. |
| 6 | **Learning objectives and skills** | Students<br>• learn how to derive a standard macroeconomic model from a set of optimal decisions of agents and their (intertemporal) constraints<br>• learn how to use the model for basic predictions about effects of changes in endowments and starting conditions on short- and long-term equilibria<br>• learn to modify the basic model to take account of uncertainty, infinite time and overlapping generations and understand the difficulties that are associated with some of these extensions<br>• learn to apply techniques of intertemporal optimization<br>• get acquainted with basic characteristics of economic growth<br>• learn conditions under which the macroeconomic model is consistent with continuous economic growth<br>• learn about the limits and determinants of economic growth |
| 7 | **Prerequisites** | None |
| 8 | **Integration in curriculum** | Semester: 1 |
| 9 | **Module compatibility** | Pflichtbereich Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Romer, D. (1996): Advanced Macroeconomics, 2. edition, Mc-Graw-Hill. |

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|---|---|---|---|
| 1 | **Module name**<br>53231 | **Mathematics for economists** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Mathematics for Economists (2 SWS)<br>Vorlesung: Mathematics for Economists (2 SWS) | -<br>- |
| 3 | Lecturers | Prof. Dr. Johannes Rincke<br>Franziska Pechtl<br>Dr. Ricardo Correa da Silva | |

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|---|---|---|
| 4 | **Module coordinator** | Prof. Dr. Alexander Martin |
| 5 | **Contents** | The main focus of this lecture is on vector spaces, eigenvalues, quadratic forms, analysis of n variables including Taylor derivatives, finite difference and differential equation as well as optimization. |
| 6 | **Learning objectives and skills** | The aim of this module is to practice common mathematical techniques, which are required for advanced courses in Economics. |
| 7 | **Prerequisites** | Basic knowledge as known from school and typical math courses given within Bachelor programs on Economics, see for instance Sydsætter, Knut und Hammond, Peter (2008), Essential Mathematics for Economics Analysis, Prentice Hall, or<br><br>the Bachelor chapters in Mosler, Karl, Rainer Dyckerhoff und Christoph Scheicher (2009), Mathematische Methoden für Ökonomen, Springer-Verlag (in German). |
| 8 | **Integration in curriculum** | Semester: 1 |
| 9 | **Module compatibility** | Pflichtbereich Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Sydsætter, Knut und Hammond, Peter (2008), Further Mathematics for Economics Analysis, Prentice Hall; Mosler, Karl; Dyckerhoff, Rainer und Scheicher, Christoph (2009), Mathematische Methoden für Ökonomen, Springer Verlag (in German). |

| | | | |
|---|---|---|---|
| 1 | **Module name**<br>53191 | **Microeconomics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Microeconomics Lecture (2 SWS)<br>Übung: Microeconomics Exercise (2 SWS) | -<br>- |
| 3 | Lecturers | Prof. Dr. Johannes Rincke<br>Katharina Adler | |

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|---|---|---|
| 4 | **Module coordinator** | Prof. Dr. Johannes Rincke |
| 5 | **Contents** | Theory of the Consumer, Theory of the Firm, Partial Equilibrium, General Equilibrium, Anomalies |
| 6 | **Learning objectives and skills** | Students are made familiar with the fundamental concepts of microeconomics on an advanced level, including advanced formal mathematical methods. The lecture covers topics in the theory of the consumer, the theory of the firm, partial equilibrium, general equilibrium, and anomalies in behavior in relation to the standard model. In the Exercises course, students learn how to apply these concepts to selected economic problems in various settings. The module is of fundamental importance for Master students who want to advance to studying applied problems in all field of applied micro, including labor economics, public economics, and industrial organization. |
| 7 | **Prerequisites** | Basic training in formal microeconomic techniques |
| 8 | **Integration in curriculum** | Semester: 1 |
| 9 | **Module compatibility** | Pflichtbereich Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten)<br>Präsentation (90 Minuten) |
| 11 | **Grading procedure** | Klausur (80%)<br>Präsentation (20%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Jehle, Geoffrey A. und Reny, Philip J. (2001), Advanced Microeconomic Theory, 2nd ed., Addison-Wesley |

# Specialization: Labor economics

| | | | |
|---|---|---|---|
| 1 | **Module name**<br>53281 | **Behavioral economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Behavioral Economics (2 SWS) | - |
| 3 | Lecturers | Prof. Dr. Veronika Grimm<br>Yuval Ofek-Shanny | |

| | | |
|---|---|---|
| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The course provides a theoretical and empirical introduction into the area of Behavioral Economics. This relatively new area of economics research wants to identify important deviations from the predictions of classical economics models and to extend existing models to account for these findings. |
| 6 | **Learning objectives and skills** | In the course the method of experimental economics is introduced and its use for behavioral oriented research is learned. Students learn the skill of using empirical and experimental studies as complements to theory in the study of strategic interactions. |
| 7 | **Prerequisites** | Completed Bachelor degree in Economics or in a related discipline, Microeconomics I and II |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Camerer, Colin F. (2003), Behavioral Game Theory: Experiments on Strategic Interaction, Princeton Univ. Press. Journale articles, announcement on chair website |

| | | | |
|---|---|---|---|
| 1 | **Module name**<br>53370 | **Empirical labor market research** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Empirische Arbeitsmarktforschung (3 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Claus Schnabel<br>Dr. Bianca Willert | |

| | | |
|---|---|---|
| 4 | **Module coordinator** | Prof. Dr. Claus Schnabel |
| 5 | **Contents** | Mittels vorgegebener Datensätze werden ökonometrische Analysemethoden auf aktuelle Fragestellungen der Arbeitsmarktökonomik angewendet und diese eigenständig empirisch untersucht. |
| 6 | **Learning objectives and skills** | Die Studierenden lernen, Arbeitsmarktstudien kompetent zu interpretieren, zu bewerten und zu hinterfragen. Sie verstehen quantitative Methoden differenziert einzusetzen, Hypothesen zu bilden und diese empirisch zu überprüfen. Durch eigenes Arbeiten am PC werden sie in die Lage versetzt, selbständig Forschungsdesigns zu entwickeln, ökonometrische Analysen durchzuführen und deren Ergebnisse aufzubereiten. Zudem verstehen sie es, Erkenntnisse aus fremden oder eigenen empirischen Arbeiten prägnant darzustellen, kritisch zu bewerten und der (Fach-) Öffentlichkeit zu vermitteln. |
| 7 | **Prerequisites** | Grundkenntnisse in Arbeitsmarktökonomik und Ökonometrie |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Praktische Prüfung/Test<br>Hausarbeit |
| 11 | **Grading procedure** | Praktische Prüfung/Test (20%)<br>Hausarbeit (80%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Wechselnde aktuelle Forschungsliteratur |

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|---|---|---|---|
| 1 | **Module name**<br>57130 | **International trade and labor** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Ma-Vorl: International Trade & Labor (0 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Christoph Moser | |

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| 4 | **Module coordinator** | Prof. Dr. Christoph Moser<br>Prof. Dr. Klaus Moser |
| 5 | **Contents** | This module deals with the consequences of globalization for the domestic labor market and discusses the winners and losers of trade liberalization. The module focuses on the impact of international economic integration on domestic wages, jobs and inequality, in particular in Germany and the United States. |
| 6 | **Learning objectives and skills** | Students are made familiar with the main relevant concepts of international trade and aquire specialized knowledge of the labor market effects of trade liberalization. Students learn about key theoretical predictions, their empirical evidence and the empirical strategies to assess their relevance. The module focuses on topics at the intersection between international trade and labor. |
| 7 | **Prerequisites** | Recommended prerequisites:<br><br>Basic knowledge of microeconomics (e.g., Varian, Hal (2014), Intermediate Microeconomics: A Modern Approach, 9th international edition) and econometrics (e.g., Wooldridge, Jeffrey (2013), Introductory Econometrics: A Modern Approach, 5th international edition).<br><br>Module compatibility:<br><br>Master Economics: Specialization in Macroeconomics and Finance<br><br>Master IBS: elective course (Wahlbereich): English-speaking<br><br>countries; Europe<br><br>Master Arbeitsmarkt und Personal: Wahlbereich<br><br>Master Sozialökonomik: freier Vertiefungsbereich |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |

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| | | Written examination: 60 min. (Klausur 60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%)<br>Written examination result 100% (Prüfungsergebnis 100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Krugman, P., M. Obstfeld and M. Melitz (2017/18), International Trade: Theory and Policy OR International Economics: Theory and Policy, 11th global edition. Further course materials will be announced in the course. |

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| 1 | **Module name**<br>52900 | **Labor and personnel economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Labor and Personnel Economics (2 SWS)<br>Übung: Übung Labor and Personnel Economics (2 SWS) | 3 ECTS<br>2 ECTS |
| 3 | Lecturers | Prof. Dr. Claus Schnabel | |

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| 4 | **Module coordinator** | Prof. Dr. Claus Schnabel |
| 5 | **Contents** | • Labor supply<br>• Human capital<br>• Labor demand<br>• Search and matching<br>• Mobility and migration<br>• Wages<br>• Employment relationships and work incentives<br>• Unemployment |
| 6 | **Learning objectives and skills** | The course imparts the major methods and insights of the analysis of labor markets and employment relationships. Students<br>• learn the major determinants of labor supply and demand-<br>• understand the importance of human capital and work incentives-<br>• analyze the functioning of labor markets and the main reasons for unemployment-<br>• critically reflect labor market theories- are able to interpret and scrutinize empirical studies-<br>• evaluate labor market policy and firms compensation policy. |
| 7 | **Prerequisites** | Basic knowledge of microeconomics and empirical research methods/ econometrics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 40 h<br>Independent study: 110 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Cahuc, P./Carcillo, S./Zylberberg, A.: Labor Economics, 2nd ed., Cambridge, Mass. 2014 Garibaldi, P.: Personnel Economics in Imperfect Labour Markets, Oxford 2006 |

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|---|---|---|---|
| 1 | **Module name**<br>52910 | **Labor market policy** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Labor Market Policy (2 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Gesine Stephan | |

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| 4 | **Module coordinator** | Prof. Dr. Gesine Stephan |
| 5 | **Contents** | The module analyzes main topics in labor market policy, with a focus on evaluation studies of labor market institutions and active and passive labor market programs |
| 6 | **Learning objectives and skills** | Students<br>• acquire specialized knowledge on policy debates, theoretical backgrounds, evaluation techniques, and empirical evidence for core labor market policies.<br>• assess theoretical approaches, applied methods, and empirical results of recent research papers.<br>• clearly present and scrutinize complex facts and results.<br>• discuss presentations of fellow students and provide constructive feedback. |
| 7 | **Prerequisites** | Solid knowledge in microeconomics and econometrics |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Diskussionsbeitrag<br>Seminararbeit |
| 11 | **Grading procedure** | Präsentation (0%)<br>Diskussionsbeitrag (0%)<br>Seminararbeit (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Boeri, T., van Ours. J. (2013). The Economics of Imperfect Labor Markets, 2nd edition. Princeton: Princeton University Press. Varying recent literature |

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| 1 | **Module name**<br>57131 | **Labor Markets in the Knowledge Economy** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung mit Übung: Labor Markets in the Knowledge Economy (4 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Markus Nagler | |

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| 4 | **Module coordinator** | Prof. Dr. Markus Nagler |
| 5 | **Contents** | The course analyzes topics in labor economics and their connection to technological change and the knowledge economy. We will mostly discuss topics in labor economics such as labor supply and migration which are seen through a technology and knowledge economy perspective. The course is mainly based on empirical research papers: labor economics is a front-runner in the use of econometrics and data. |
| 6 | **Learning objectives and skills** | Students know the key issues in the intersection of labor and innovation economics. They are able to assess current research in the area and are able to relate its results to fundamental policy questions. Students are acquainted with important empirical approaches in labor economics. |
| 7 | **Prerequisites** | Basic microeconomics, basic econometrics |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Labour Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Angrist, Joshua and Jörn-Steffen Pischke (2008). Mostly Harmless Econometrics, Princeton University Press.<br><br>Autor, David H. Why are there still so many jobs? The history and future of workplace automation. The Journal of Economic Perspectives 29.3 (2015): 3-30. |

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| 1 | **Module name**<br>52390 | **Literature seminar on current issues of labor economics** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Lutz Bellmann |
| 5 | **Contents** | Auswertung, Interpretation und Diskussion bestehender Studien zu aktuellen Arbeitsmarktthemen (wie z.B. Fragen der Entlohnung, der Qualifikation und Bildung, der Arbeitsbeziehungen und der Arbeitsmarktpolitik). Der Schwerpunkt liegt dabei auf mikroökonometrischen Studien. |
| 6 | **Learning objectives and skills** | Die Studierenden lernen anhand aktueller empirischer Studien aus der Literatur, Arbeitsmarktstudien kompetent zu interpretieren, zu bewerten und zu hinterfragen. Sie verstehen quantitative Methoden differenziert einzusetzen, Hypothesen zu bilden und diese empirisch zu überprüfen. Zudem verstehen sie es, Erkenntnisse aus fremden empirischen Arbeiten prägnant darzustellen, kritisch zu bewerten und der (Fach-) Öffentlichkeit zu vermitteln. Sie erschließen dabei eigenständig Informationen, erstellen Präsentationen und geben Kommiliton(inn)en wertschätzendes Feedback zu deren Präsentationen. |
| 7 | **Prerequisites** | Kenntnisse in Arbeitsmarktökonomie und Ökonometrie |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Hausarbeit |
| 11 | **Grading procedure** | Präsentation (20%)<br>Hausarbeit (80%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Wechselnde aktuelle Forschungsliteratur |

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|---|---|---|---|
| 1 | **Module name**<br>52393 | **Machine Learning: Applications in Economic Research** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Johannes Rincke |
| 5 | **Contents** | Methods in machine learning and applications in economics |
| 6 | **Learning objectives and skills** | Students will<br>• learn to program in Python (in particular, Pandas) and to use tools like SQL and Google BigQuery<br>• familiarize themselves with different machine learning topics relevant for economic research, including natural language processing and machine learning methods for count data, model regularization, random forests and causal forests, as well as deep learning<br>• apply the methods and techniques described above using examples from recent academic papers relating to different areas of economic research |
| 7 | **Prerequisites** | All techniques and methods that are part of the curriculum in the first semester of the study program MSE |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Labour Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Fallstudie(n)<br>schriftlich |
| 11 | **Grading procedure** | Fallstudie(n) (50%)<br>schriftlich (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Will be provided |

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|---|---|---|---|
| 1 | **Module name**<br>53107 | **Microeconometrics and Machine Learning** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Microeconometrics and machine learning (2 SWS)<br>Übung: Microeconometrics and machine learning - Übung (2 SWS) | 2,5 ECTS<br>2,5 ECTS |
| 3 | Lecturers | Prof. Regina Therese Riphahn<br>Irakli Sauer | |

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| 4 | **Module coordinator** | Prof. Regina Therese Riphahn |
| 5 | **Contents** | Maximum Likelihood estimation, binary dependent variables, multinomial and ordered dependent variables, Tobit models, selection models, duration models, count data models, applications of machine learning in economics. Practical application of empirical methods using Stata. |
| 6 | **Learning objectives and skills** | Based on introductory econometrics modules students acquire specialized knowledge regarding maximum likelihood estimation and microeconometric problems, and methods of machine learning. Students learn how to apply these methods using the statistics software STATA. They discuss and evaluate the appropriateness of specific methods in the framework of practical applications and have the opportunity to voluntarily prepare written empirical homeworks. |
| 7 | **Prerequisites** | Basic knowledge in statistics and econometrics |
| 8 | **Integration in curriculum** | Semester: 2;4 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Cameron, C. und P. K. Trivedi, 2005, Microeconometrics. Methods and Applications, Cambridge Univ. Press.<br><br>Greene, William H., 2020, Econometric Analysis, 8. ed., Pearson<br><br>Hastie, T., R. Tibsharani, und J., 2009, The Elements of Statistical Learning: Data Mining, Inference and Prediction, Springer.<br><br>Wooldridge, J.M., 2010, Econometric Analysis of Cross Section and Panel Data, 2.A., MIT Press. |

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|---|---|---|---|
| 1 | **Module name**<br>53083 | **Economics of social policy** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: MA S Ökonomie der Sozialpolitik (3 SWS) | 5 ECTS |
| 3 | Lecturers | Sebastian Ach<br>Prof. Dr. Matthias Wrede<br>Elisa Poletto | |

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| 4 | **Module coordinator** | Prof. Dr. Matthias Wrede |
| 5 | **Contents** | Ausgewählte ökonomische Analysen der Sozialpolitik unter Einschluss ethischer und ökonomischer Grundlagen sowie institutioneller Aspekte |
| 6 | **Learning objectives and skills** | • Studierende kennen ausgewählte Bereiche der Sozialpolitik und können diese beschreiben und international vergleichen.<br>• Studierende können ethische und ökonomische Grundlagen staatlicher Eingriffe in ausgewählten Bereichen sozialer Sicherung darstellen, interpretieren und diskutieren.<br>• Studierende können Wirkungen sozialpolitisch relevanter Größen theoretisch und empirisch verstehen, bewerten und hinterfragen.<br>• Studierende können sozialpolitische Maßnahmen unter Effizienz- und Gerechtigkeitsgesichtspunkten bewerten und hinterfragen.<br>• Studierende geben Ihren Kommilitonen im Rahmen ihrer Präsentationen strukturiertes Feedback.<br>• Studierende fördern die Fachkenntnisse der anderen Studierenden durch themenspezifische Diskussionsbeiträge.<br>• Studierende erfassen, bewerten und diskutieren ausgewählte aktuelle, meist englischsprachige Forschungsarbeiten in Ihrer Seminararbeit. |
| 7 | **Prerequisites** | Mikroökonomische und ökonometrische Kenntnisse |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Hausarbeit |
| 11 | **Grading procedure** | Präsentation (30%)<br>Hausarbeit (70%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Die Literatur wird während des Kurses bekannt gegeben. |

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| 1 | **Module name**<br>53055 | **Panel and evaluation methods** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Panel- and Evaluation Methods (PEV)-Übung (2 SWS)<br>Tutorium: Panel- and Evaluation Methods-Tutorium (2 SWS)<br>Vorlesung: Panel- and Evaluation Methods (2 SWS)<br>Übung: Panel- and Evaluation Methods Softskills (2 SWS) | -<br>-<br>5 ECTS<br>- |
| 3 | Lecturers | Dr. Selina Gangl<br>Prof. Regina Therese Riphahn | |

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| 4 | **Module coordinator** | Prof. Regina Therese Riphahn |
| 5 | **Contents** | Endogeneity in the linear regression model; instrumental variables estimation; static and dynamic panel data models; matching; difference-in-differences estimation; regression discontinuity design; quantile regression; practical application of methods using statistics software STATA |
| 6 | **Learning objectives and skills** | Based on the introductory econometrics module Ökonometrie 1 students acquire specialized knowledge in panel und evaluation methods and apply it using the statistics software STATA. Students evaluate to what degree empirical patterns can be interpreted as causal and decide to what extent problems of endogeneity can be solved via panel data or exogeneous variation Students can produce own empirical analyses. |
| 7 | **Prerequisites** | Basic knowledge in statistics and econometrics |
| 8 | **Integration in curriculum** | Semester: 3;1 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%)<br>100 % written exam (a voluntarily submitted homework can account for 20 % of the final grade if it improves the grade. In the homework an empirical analysis is performed based on Stata. The final grade can be improved by up to 0.7 points. However, the exam must be passed. The homework only counts towards final grades in the semester in which they are produced, i.e. only in the winter semester.) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Wooldridge, J.M., 2010, Econometric Analysis of Cross Section and Panel Data, 2.A., MIT Press. Greene, William H., 2020, Econometric Analysis, 8. ed., Pearson, New Jersey<br><br>Cameron, C.A. and P.K. Trivedi, 2005, Microeconometrics. Methods and Applications, Cambridge University Press |

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| | | Angrist, J. and J.-S. Pischke, 2009, Mostly Harmless Econometrics, Princeton University Press, Princeton, and Oxford.<br><br>Verbeek, M., 2017, A Guide to Modern Econometrics, 5. A., Wiley. |

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| 1 | **Module name**<br>53071 | **Personnel economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Personnel Economics (2 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Regina Therese Riphahn | |

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| 4 | **Module coordinator** | Prof. Regina Therese Riphahn |
| 5 | **Contents** | The module addresses key topics of modern personnel economics research, such as hiring, contract design, motivation, training, teamwork, and group incentives. |
| 6 | **Learning objectives and skills** | Students acquire specialized knowledge of personnel economics theories and research questions. By preparing short thesis papers and a seminar paper, students learn to evaluate and critically discuss methodological choices and substantive conclusions drawn in recent empirical research papers. Students assess theoretical approaches, applied empirical methods and results of recent research papers. Students present and scrutinize complex facts and results. They discuss the theoretical background, empirical method, and empirical evidence on personnel economics research contributions, discuss presentations of fellow students and provide constructive feedback.<br><br>Compulsory attendance is required for discussion and feedback processes. |
| 7 | **Prerequisites** | Basic knowledge of microeconomics and econometrics |
| 8 | **Integration in curriculum** | Semester: 2;4 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich<br>Seminararbeit<br>Seminar paper, thesis papers |
| 11 | **Grading procedure** | schriftlich (40%)<br>Seminararbeit (60%)<br>Seminar paper (group work) (60 %), thesis papers (40 %) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Garibaldi, Pietro (2006), Personnel Economics in Imperfect Labour Markets, Oxford Univ. Press. Neilson, William S. (2007), Personnel Economics, Pearson Educ. Inc.<br><br>Lazear, Edward P. (1998), Personnel Economics, MIT Press.<br><br>Selected research papers. |

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| 1 | **Module name**<br>54611 | **Public economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Public Economics in Theory and Practice (L) (0 SWS) | 5 ECTS |
| 3 | Lecturers | Anne Maria Kesselring<br>Anne Maria Kesselring<br>Prof. Dr. Thiess Büttner | |

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| 4 | **Module coordinator** | Prof. Dr. Thiess Büttner<br>Nima Farhang-Damghani<br>Anne Maria Kesselring |
| 5 | **Contents** | The lecture provides an introduction in public economics at the intermediate level. The course first derives the basic theoretical foundations for an optimal design of public policy. In the second step, the course discusses specific aspects of public policy, such as taxation and redistribution, social security, tax evasion, debt finance, interjurisdictional competition and fiscal federalism. It supplements theory by exploring practical problems. |
| 6 | **Learning objectives and skills** | Students know how to characterize efficient public policies using microeconomic decision models. They can use this framework to study public policy in a rigorous and consistent general equilibrium context. Students are acquainted with important empirical approaches to evaluate public policies quantitatively. Moreover, they acquire knowledge about options, methods and limits to implement efficient public policy |
| 7 | **Prerequisites** | Basic microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Health Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten)<br>Written exam (90 minutes) |
| 11 | **Grading procedure** | Klausur (100%)<br>Written exam (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Hindriks, J., and Myles, G., (2006), Intermediate Public Economics, MIT Press, Cambridge Atkinson, A.B., Stiglitz, J. E., (1980), Lectures on Public Economics . MacGraw-Hill, New York Lecture notes are provided at the beginning of the course. |

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| 1 | **Module name**<br>52930 | **Seminar: Behavioral economics 1** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Behavioral Economics 1 (3 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Veronika Grimm<br>Xiaoyu Zhou | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The seminar sheds light on various issues in market and institution design focusing on selected applications. Market and institution design applies methods of game theory and (behavioral) economics to develop effective market rules. In this seminar, the focus will lie on market rules of various markets such as labor-markets or markets in the sector of health or public economics. In different market environments, phenomena like trust, social preferences, or bounded rationality are important. Understanding these aspects is of key importance for specifying the details of a particular market environment. In the seminar, we will analyse the peculiarities of selected markets and their implications for the effective organization of those markets from a theoretical and/or behavioural perspective. |
| 6 | **Learning objectives and skills** | Students<br>• Analyze the peculiarities of markets and their operating mode within the frame of complex theoretic and behavioral models,<br>• Discuss the validity of those models based on experimental or empirical studies,<br>• Evaluate, based on the literature, different market and institution designs,<br>• Autonomously analyze complex questions and develop solution concepts<br>• Are able to write a relevant theoretic or empirical scientific essay,<br>• Develop their presentation skills. |
| 7 | **Prerequisites** | Solid knowledge of microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Seminararbeit<br>mündlich<br>Präsentation |
| 11 | **Grading procedure** | Seminararbeit (50%)<br>mündlich (20%)<br>Präsentation (30%) |
| 12 | **Module frequency** | in jedem Semester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |

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| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Changing recent scientific literature |

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|---|---|---|---|
| 1 | **Module name**<br>52940 | **Seminar: Behavioral economics 2** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Behavioral Economics 2 (3 SWS) | 5 ECTS |
| 3 | Lecturers | Xiaoyu Zhou<br>Prof. Dr. Veronika Grimm | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The seminar deals with theories and methods from behavioural and experimental economics. Although behavioral and experimental economics are relatively recent fields of research, many insights have been gained from applying the methods of the field to key economic questions. Relevant topics include, but are not limited to, nudging (in the sector of health, labor, public and energy economics), norm compliance (mainly public and labor economics), social preferences (mainly health and labor economics) or uncertainty preferences (energy economics). Depending on the topic of the seminar, questions of experimental design, conducting studies and analysis of behavioural data can be dealt with. |
| 6 | **Learning objectives and skills** | Students<br>• Gain fundamental understanding of the methods of behavioral and experimental economics,<br>• Learn to autonomously apply those methods,<br>• Conceptualize own research ideas,<br>• Analyze the peculiarities of complex economic situations,<br>• Develop their presentation skills. |
| 7 | **Prerequisites** | Solid knowledge of microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>mündlich<br>Seminararbeit |
| 11 | **Grading procedure** | Präsentation (30%)<br>mündlich (20%)<br>Seminararbeit (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Camerer, Löwenstein and Rabin (2003), Advances in Behavioral Economics, Princeton University Press. Changing recent scientific literature |

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|---|---|---|---|
| 1 | **Module name**<br>52391 | **Seminar economics of human capital** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Markus Nagler<br>Prof. Dr. Johannes Rincke |
| 5 | **Contents** | Topics in the Economics of Human Capital |
| 6 | **Learning objectives and skills** | Students<br>• study selected parts of the academic literature on the economics of human capital and learn how to deal with this literature<br>• learn how to identify relevant contributions in large bodies of economic literature<br>• learn about up-to-date methods (theory and empirics) in the economics of human capital<br>• learn how to read economic papers and to evaluate and assess contributions, both in terms of theory and empirical methods<br>• learn how to delineate conclusions from the academic literature in terms of policy implications and recommendations<br>• learn how to structure and write academic theses in economics<br>• expand their skills in terms of presentation techniques and participation in academic discussion |
| 7 | **Prerequisites** | All techniques and methods that are part of the curriculum in the first semester of the study program MSE |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Labour Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich/mündlich |
| 11 | **Grading procedure** | schriftlich/mündlich (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Will be provided |

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|---|---|---|---|
| 1 | **Module name**<br>57176 | **Semiparametric methods in econometrics and applications** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung mit Übung: Semiparametric Methods in Econometrics and Applications (2 SWS) (  SWS) | - |
| 3 | Lecturers | Prof. Bernd Fitzenberger<br>Leonie Wicht | |

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| 4 | **Module coordinator** | Prof. Bernd Fitzenberger |
| 5 | **Contents** | This course presents nonparametric and semiparametric regression techniques which are part of the tool set of modern microeconometric methods and applications. The course covers saturated OLS regression, kernel density estimation, nonparametric regression, partially linear models, semiparametric selection models, inverse probability weighting, penalized regression models as well as parametric and nonparametric quantile regression as basic tools. These methods are used for cross-section data and longitudinal data. Students will familiarize themselves with applying the methods based on selected applications in economic research papers. |
| 6 | **Learning objectives and skills** | Students<br>• learn how to learn to think of regression as modelling conditional expectations and features of conditional distribution<br>• learn how that there is a bias and variance trade-off between choosing a flexible regression specification and obtaining precise estimates in light of the curse-of-dimensionality<br>• learn that flexible regression methods require the choice of tuning parameters and how to use statistical approaches to choose the tuning parameters<br>• learn how semiparametric methods are applied in real world econometric studies |
| 7 | **Prerequisites** | Master level Einführung in die Ökonometrie (Introduction into econometrics) (mandatory) and a further course (recommended) in microeconometrics such as Panel and Evaluation Methods or Mikroökonometrie und Maschinelles Lernen. |
| 8 | **Integration in curriculum** | Semester: 1 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Pagan, A. and A. Ullah (1999): Nonparametric Econometrics, Cambridge University Press.  Wooldridge, J. M. (2010): Econometric Analysis of Cross Section and Panel Data. 2nd edition, Cambridge, MA: MIT Press. |

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| 1 | **Module name**<br>55960 | **Spatial economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: MA V Spatial Economics (2 SWS)<br>Übung: MA Üb Spatial Economics (2 SWS) | -<br>2,5 ECTS |
| 3 | Lecturers | Prof. Dr. Matthias Wrede<br>Luisa Schneider | |

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| 4 | **Module coordinator** | Prof. Dr. Matthias Wrede |
| 5 | **Contents** | Urban Economics, Trade, Mobility, and Agglomeration, Spatial Concentration, Regional Policy |
| 6 | **Learning objectives and skills** | At the end of this course,<br>• Students are able to describe and to internationally compare the regional patterns of major economic activities in terms of stylized facts.<br>• Students are able to present, interpret, and discuss selected theories in regional and urban economics.<br>• Students are able to apply and assess selected empirical methods in spatial economics.<br>• Students are able to assess empirical tests of selected hypotheses from theories in regional and urban economics to evaluate and critically examine their informative value.<br>• Students are able to discuss and evaluate regional political implications of selected economic theories in regional and urban economics.<br>• Students will assess, evaluate and discuss selected recent research papers in English. |
| 7 | **Prerequisites** | Microeconomics, Econometrics I |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Klausur (60 Minuten) |
| 11 | **Grading procedure** | Präsentation (20%)<br>Klausur (80%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Brakman, S., H. Garretsen und C. van Marrewijk (2020). An Introduction to Geographical and Urban Economics. Cambridge University Press. Cambridge, UK, 3. Ed. |

# Specialization: Macroeconomics and finance

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|---|---|---|---|
| 1 | **Module name**<br>55675 | **Applying statistical methods for risk management in financial institutions** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung mit Übung: Anwendung statistischer Methoden im Risikomanagement von Finanzinstituten (4 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Matthias Fischer | |

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| 4 | **Module coordinator** | Prof. Dr. Matthias Fischer<br>Prof. Dr. Thomas Fischer |
| 5 | **Contents** | Statistische Grundlagen (z.B. Ergebnisse der Extremwertstatistik, Schätzung von Verteilungsparameter); Ausgewählte Modelle zur Messung von Kreditrisiken, Marktrisiken, Operationelle Risiken |
| 6 | **Learning objectives and skills** | Einschätzen der o.g. Verfahren und Kompetenz in deren Anwendung mittels statistischer Programmpakete (insb. R)<br><br>Analytische Bewertung und Analyse der Ergebnisse |
| 7 | **Prerequisites** | Einführende Veranstaltungen der Statistik in einschlägigen BA-Studiengängen |
| 8 | **Integration in curriculum** | no Integration in curriculum available! |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | mündlich (30 Minuten) |
| 11 | **Grading procedure** | mündlich (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Quantitative Risk Management  Concepts, Techniques and Tools - Revised Edition Alexander J. McNeil, Rüdiger Frey & Paul Embrechts (2015); Introduction to Credit Risk Modeling, Second Edition (Chapman & Hall/CRC Financial Mathematics) Christian Bluhm, Ludger Overbeck, Christoph Wagner 2008 |

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| 1 | **Module name**<br>56530 | **Asset liability management (insurance)** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Übung Asset Liability Management (Versicherungen) (1 SWS)<br>Vorlesung: Vorlesung Asset Liability Management (Versicherungen) (Asset liability management (insurance)) (2 SWS) | 2,5 ECTS<br>2,5 ECTS |
| 3 | Lecturers | Prof. Dr. Nadine Gatzert | |

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| 4 | **Module coordinator** | Prof. Dr. Nadine Gatzert |
| 5 | **Contents** | • Einführung: Rahmenbedingungen im Finanzdienstleistungssektor; strategische Zielgrößen von Versicherungsunternehmen (Konzepte und Messung von Kennzahlen)<br>• Asset Management: grundsätzliche Überlegungen; Risikostreuung in Theorie und Praxis; rechtliche Rahmenbedingungen; Chancen und Risiken von Investitionen in Infrastruktur und erneuerbare Energien unter Solvency II; strategische Aspekte der Kapitalanlagepolitik; Performancemessung; Berücksichtigung von Nachhaltigkeitsaspekten in der Kapitalanlage<br>• Liability Management: Ausgleich im Kollektiv; Chain Ladder Verfahren; Rückversicherungsformen; Alternativer Risikotransfer (u.a. Insurance Linked Securities, Cat Bonds)<br>• Asset Liability Management für Versicherungen: Immunisierungsansätze (Cashflow und Duration Matching); Optimierungsstrategien; Szenarioanalysen und Dynamische Finanzanalyse; wissenschaftliche Forschungsarbeiten im Kontext des ALM<br>• Cyber-Risiken im Kontext des ALM, Versicherbarkeit und Management von Cyber-Risiken<br>• Umsetzung von Szenarioanalysen mit Monte-Carlo Simulation im Rahmen einer Excel-basierten ALM Case Study |
| 6 | **Learning objectives and skills** | Die Studierenden<br>• erlernen die grundlegenden und vertiefenden Konzepte des Asset Liability Managements eines Versicherungsunternehmens;<br>• können Modellannahmen hinterfragen;<br>• können die theoretischen Konzepte auf konkrete Fragestellungen anwenden;<br>• können Monte-Carlo Simulation in Excel einsetzen, dabei ihre theoretischen Kenntnisse anwenden und eigenständig im Rahmen einer ALM-Simulationsstudie mit Szenarioanalysen umsetzen;<br>• lernen interaktiv im Rahmen von Workshops in Gruppen aktuelle Fragestellungen im Kontext des ALMs zu strukturieren, zu erarbeiten und zu präsentieren; |

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| | | • entwickeln und vertiefen dabei ihre Kompetenzen in der Teamarbeit |
| 7 | **Prerequisites** | Keine. |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten)<br>*Im Sommersemester besteht vorlesungsbegleitend die Möglichkeit einer freiwilligen Notenverbesserung, wobei eine Verbesserung um bis zu 0,3 Notenstufen erfolgen kann. Dazu können Studierende auf StudOn vier je ca. 10-minütige Online-Kurztests (Quizze) zur Aufbereitung des Vorlesungsstoffs bearbeiten. Die Notenverbesserung erfolgt, wenn die Quizze erfolgreich bearbeitet wurden sowie die Klausur mit der Note 4,0 oder besser bestanden wurde. Etwaige Quizergebnisse aus dem Sommersemester werden für eine Nachholprüfung im Wintersemester übernommen.* |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Die vorbereitende Literatur und auch die weitergehende, forschungsbezogene Literatur werden im Rahmen der Veranstaltung bekannt gegeben. |

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|---|---|---|---|
| 1 | **Module name**<br>52560 | **Banking supervision: Bank rating, stress testing, financial stability** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Banking Supervision (2 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Christian Merkl | |

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| 4 | **Module coordinator** | Prof. Dr. Christian Merkl |
| 5 | **Contents** | This course covers a wide range of topics in banking supervision (e.g., bank rating models and risk assessment in banking supervision; different concepts of stress testing credit, market, and liquidity risk; development and analysis of bank stability indicators; bank resolution; financial stability and macroprudential oversight in the EU). Basic analytical concepts will be provided as a background; the last EBA/SSM Stress Test will be used to analyze the implications of such an exercise for banks, policy makers, and international organizations. A case study based on the econometrics software Stata will be used to develop empirical bank rating and stress testing tools. |
| 6 | **Learning objectives and skills** | Students<br>• learn about banking structure, regulation, bank bailouts, and corporate governance in banking.<br>• understand and apply different concepts of bank rating and stress testing; develop tools using the econometrics software Stata.<br>• analyze competition and efficiency in banking markets and understand the concept of financial stability. |
| 7 | **Prerequisites** | Macroeconomics (Bachelor) |
| 8 | **Integration in curriculum** | Semester: 1 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%)<br>The grade can be improved up to 0.7 units with a voluntary project work. |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Presentation slides and relevant literature will be provided. |

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| 1 | **Module name**<br>57340 | **Bayesian econometrics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung mit Übung: Bayesian Econometrics (Lecture/ Excercise Session) (4 SWS) | 5 ECTS |
| 3 | Lecturers | Hector Perico Ortiz<br>Prof. Dr. Jonas Dovern | |

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| 4 | **Module coordinator** | Prof. Dr. Jonas Dovern |
| 5 | **Contents** | Basics of Bayesian statistics; Bayesian estimation of linear regression models with various priors; Bayesian estimation of models for limited dependent variables; Bayesian VAR models; forecasting with Bayesian models; Bayesian estimation of macroeconomic DSGE models; posterior simulation techniques (Monte Carlo integration, importance sampling, Gibbs sampler, Metropolis-Hastings algorithm); implementation of methods in R |
| 6 | **Learning objectives and skills** | Ability to explain the differences between Bayesian and frequentist econometrics; ability to derive posterior parameter distributions for different priors for a range of empirical models; ability to investigate how sensitive results are with respect to prior choices; ability to interpret results of Bayesian analyses in academic research papers; skills to implement Bayesian estimations of the covered models in R |
| 7 | **Prerequisites** | Basic knowledge in statistics<br><br>Courses: Applied econometrics and Mathematics for economists |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | mündlich (20 Minuten) |
| 11 | **Grading procedure** | mündlich (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Koop, G. (2003), Bayesian Econometrics, Wiley, West Sussex. Del Negro, M. and F. Schorfheide (2011), Bayesian Macroeconomics, in: Geweke, J., G. Koop, and H. van Dijk (eds.), The Oxford Handbook of Bayesian Econometrics, p.293389, Oxford University Press, Oxford. Kilian, L. and H. Lütkepohl (2017), Structural Vector Autoregressive Analysis, Cambrige University Press, Cambridge. |

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| 1 | **Module name**<br>57400 | **European topics in economics** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Christian Merkl |
| 5 | **Contents** | • European topics in economics |
| 6 | **Learning objectives and skills** | Students<br>• use a microeconomic or macroeconomic dataset.<br>• apply advanced econometric techniques to answer economic questions related to the European Union.<br>• write a seminar work that describes key empirical results.<br>• present their results in Brussels. |
| 7 | **Prerequisites** | Macroeconomics: Business Cycles and Applied Econometrics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Seminarleistung |
| 11 | **Grading procedure** | Seminarleistung (100%) |
| 12 | **Module frequency** | Unregelmäßig |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | no Bibliography information available! |

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|---|---|---|---|
| 1 | **Module name**<br>55676 | **Applying extreme value analysis in financial and insurance markets** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Extremwertstatistik mit Anwendungen in Finanz- und Versicherungsmärkten (0 SWS) | 5 ECTS |
| 3 | Lecturers | Johannes Stübinger | |

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| 4 | **Module coordinator** | Prof. Dr. Matthias Fischer |
| 5 | **Contents** | Begriffe und Wiederholungen; Univariate Extremwerttheorie (GEV als Modell für Maxima, GPD als Modell für Überschreitungen, Tail Index Schätzung); Bivariate Extremwerttheorie (Copula, Tailabhängigkeits-Koeffizienten (TDC)); Extremwerttheorie stationäre Zeitreihen (Grenzwertsätze, Extremwertindex) |
| 6 | **Learning objectives and skills** | Einschätzen der o.g. Verfahren und Kompetenz in deren Anwendung mittels statistischer Programmpakete (insb. R)<br><br>Analytische Bewertung und Analyse der Ergebnisse |
| 7 | **Prerequisites** | Einführende Veranstaltungen der Statistik in einschlägigen BA-Studiengängen |
| 8 | **Integration in curriculum** | no Integration in curriculum available! |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | mündlich (30 Minuten) |
| 11 | **Grading procedure** | mündlich (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Embrechts/ Klüppelberg/ Mikosch: Modelling Extremal Events for Insurance and Finance. Springer, Berlin, 2001 Embrechts/ Frey/ McNeil: Quantitative Risk Management. Princeton, 2005 |

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|---|---|---|---|
| 1 | **Module name**<br>56270 | **Financial engineering and structured finance** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Financial Engineering und Structured Finance (VL) (2 SWS)<br>Übung: Financial Engineering und Structured Finance (ÜB) (1 SWS) | 5 ECTS<br>- |
| 3 | Lecturers | Prof. Dr. Hendrik Scholz<br>Nicolas Webersinke | |

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| 4 | **Module coordinator** | Prof. Dr. Hendrik Scholz |
| 5 | **Contents** | • Darstellung und Bewertung von Aktien-, Zinssatz- & Bondoptionen<br>• Strukturierter Produkte im Fixed Income und Equity Bereich<br>• Kapitalstruktur und Optionspreistheorie<br>• Darstellung und Bewertung von Kreditderivaten |
| 6 | **Learning objectives and skills** | Die Studierenden<br>• erarbeiten sich ein tiefgehendes Wissen über Aktien-, Zinssatz- und Bondoptionen, können deren Einsatzmöglichkeiten beurteilen und ihren Wert bestimmen.<br>• wenden zentrale Kenntnisse der Optionspreistheorie an, um Bestandteile komplexer, strukturierter Fixed Income- und Equity-Produkte zu analysieren, diese zu bewerten und deren Wertbeitrag für Kunden einer Bank zu evaluieren.<br>• können unter Berücksichtigung von Kundenpräferenzen eigenständig innovative Finanzprodukte entwickeln.<br>• sind in der Lage die Positionen Eigen- und Fremdkapital von Unternehmen auf Basis der Optionspreistheorie zu bewerten.<br>• können Instrumente zum Kreditrisikotransfer erläutern und deren Einsatzmöglichkeiten kritisch hinterfragen. |
| 7 | **Prerequisites** | keine |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Hull, John C.: Options, futures and other derivatives<br><br>Weitergehende, forschungsbezogene Literatur wird im Rahmen der Veranstaltung bekannt gegeben |

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| 1 | **Module name**<br>53770 | **Financial and bank management** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Finanz- & Bankmanagement (MA) (2 SWS)<br>Übung: Finanz- & Bankmanagement Übung (1 SWS) | 5 ECTS<br>- |
| 3 | Lecturers | Prof. Dr. Hendrik Scholz<br>Niklas Kestler | |

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| 4 | **Module coordinator** | Prof. Dr. Hendrik Scholz |
| 5 | **Contents** | • Klassische Ansätze zum Management von Marktzinsrisiken<br>• Darstellung und Bewertung moderner Finanzinstrumente und Finanzprodukte (z.B. Optionen, Futures, Forwards und Swaps)<br>• "Value at Risk" zur Messung finanzieller Risiken<br>• Aufbau und Funktion von Finanzsystemen<br>• Steuerungssysteme für Finanzunternehmen |
| 6 | **Learning objectives and skills** | Die Studierenden<br>• ermitteln Zinsrisiken von Anleiheportfolios und beurteilen Instrumente zur Reduktion von Zinsrisiken und deren Einsatz aus Kundensicht.<br>• können diverse Fixed-Income Produkte wie Kupon-Anleihen, Floating Rates Notes und Zinsswaps bewerten und deren Chancen-Risiko-Profile beurteilen.<br>• bestimmen die Kennzahl "Value at Risk" für Portfolios und unter Anwendung verschiedene Konzepte der Volatilitätsschätzung.<br>• können den generellen Aufbau und die Funktion des Banken- und Finanzsystems erläutern<br>• beurteilen auf Basis der Marktzinsmethode die Geschäftspolitik einer Bank. |
| 7 | **Prerequisites** | Keine |
| 8 | **Integration in curriculum** | Semester: 1 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Hartmann-Wendels, T. / Pfingsten, A. / Weber, M.: Bankbetriebslehre, Berlin u.a.<br><br>Weitergehende, forschungsbezogene Literatur wird im Rahmen der Veranstaltung bekannt gegeben. |

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| 1 | **Module name**<br>52291 | **International finance** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: International Finance (2 SWS)<br>Übung: Übung zu International Finance (2 SWS) | 5 ECTS<br>- |
| 3 | Lecturers | Prof. Dr. Christian Merkl<br>Dr. Benjamin Lochner<br>Kristina Saveska | |

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| 4 | **Module coordinator** | Prof. Dr. Christian Merkl |
| 5 | **Contents** | This course covers a wide range of topics (e.g., exchange rates and exchange rate regimes, national accounts and capital flows, international financial system, international banking and central banking). Basic economic concepts will be provided as a background. Statistics and empirical results will be shown to understand the validity of these concepts. Recent real life examples/case studies will be used to analyze the implications for policy makers, international organisations and business. |
| 6 | **Learning objectives and skills** | Students<br>• understand and apply basic concepts of exchange rate determination and their validity.<br>• learn about driving forces of capital flows.<br>• analyze how international (central) banking and the international financial system work.<br>• apply their knowledge in a presentation (either in case study style or in a small quantitative project). |
| 7 | **Prerequisites** | Macroeconomics (Bachelor) |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Klausur (60 Minuten) |
| 11 | **Grading procedure** | Präsentation (20%)<br>Klausur (80%)<br>Written examination (60min) 80%, Presentation 20%; These two partial examinations are one uniform examination in which the individual partial examinations are inseparable. For the existence of the module, according to § 19 (1) sentences 2 and 4 of the MPOWiWi, as amended, all partial examinations must be passed in the same semester. Notwithstanding § 25 (1) sentences 2 and 3 of the MPOWIWI, it is not possible to repeat only one of the failed partial examinations because of the inseparable relation of the partial examinations to each other. Failure to receive one of the partial services requires the repetition of the entire examination |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |

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| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Presentation slides and relevant literature will be provided |

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| 1 | **Module name**<br>57130 | **International trade and labor** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Ma-Vorl: International Trade & Labor (0 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Christoph Moser | |

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| 4 | **Module coordinator** | Prof. Dr. Christoph Moser<br>Prof. Dr. Klaus Moser |
| 5 | **Contents** | This module deals with the consequences of globalization for the domestic labor market and discusses the winners and losers of trade liberalization. The module focuses on the impact of international economic integration on domestic wages, jobs and inequality, in particular in Germany and the United States. |
| 6 | **Learning objectives and skills** | Students are made familiar with the main relevant concepts of international trade and aquire specialized knowledge of the labor market effects of trade liberalization. Students learn about key theoretical predictions, their empirical evidence and the empirical strategies to assess their relevance. The module focuses on topics at the intersection between international trade and labor. |
| 7 | **Prerequisites** | Recommended prerequisites:<br><br>Basic knowledge of microeconomics (e.g., Varian, Hal (2014), Intermediate Microeconomics: A Modern Approach, 9th international edition) and econometrics (e.g., Wooldridge, Jeffrey (2013), Introductory Econometrics: A Modern Approach, 5th international edition).<br><br>Module compatibility:<br><br>Master Economics: Specialization in Macroeconomics and Finance<br><br>Master IBS: elective course (Wahlbereich): English-speaking<br><br>countries; Europe<br><br>Master Arbeitsmarkt und Personal: Wahlbereich<br><br>Master Sozialökonomik: freier Vertiefungsbereich |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |

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| | | Written examination: 60 min. (Klausur 60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%)<br>Written examination result 100% (Prüfungsergebnis 100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Krugman, P., M. Obstfeld and M. Melitz (2017/18), International Trade: Theory and Policy OR International Economics: Theory and Policy, 11th global edition. Further course materials will be announced in the course. |

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| 1 | **Module name**<br>54440 | **Issues in international political economy** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Ma-Vorl: Issues in International Political Economy (IPE) (2 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Christoph Moser | |

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| 4 | **Module coordinator** | Prof. Dr. Friedrich Michael Dimpel<br>Prof. Dr. Christoph Moser |
| 5 | **Contents** | This course deals with international trade policy. The focus will be on the political and economic determinants and consequences of trade liberalization as well as trade policies that increase trade barriers. The course will provide important insights into the global governance of international trade flows, the World Trade Organization and the role of the United States, China and the European Union. |
| 6 | **Learning objectives and skills** | Students gain an understanding of the importance and evolution of the international trading system and how it affects multinational corporations (MNCs). Students learn about different trade policy tools, their economic consequences and their political constraints, in particular in the United States, China and the European Union. Students learn to critically assess trade-related news in the media. |
| 7 | **Prerequisites** | Recommended prerequisites:<br>• Basic knowledge of microeconomics (e.g., Varian, Hal (2014), Intermediate Microeconomics: A Modern Approach, 9th international edition).<br><br>Module compatibility:<br>• Master IBS: core course (Pflichtbereich)<br>• Master IBS: mandatory elective for the area “English-speaking countries”. Students who select English-speaking countries as an area study cannot take this module as a core course module, but must take it as part of their area studies.<br>• Master Wirtschaftspädagogik, Studienrichtung II: elective course (Wahlbereich im Zweitfach Sozialkunde), core course (Pflichtbereich im Zweitfach Englisch)<br>• Erweiterungsprüfung Berufliche Schulen/Studienfach<br>• Wirtschaftspädagogik<br>• Master Sozialökonomik: elective course (Wahlbereich)<br>• Master Arbeitsmarkt und Personal: elective course (Wahlbereich)<br>• Master Economics: Specialization in Macroeconomics and Finance, and Public economics |
| 8 | **Integration in curriculum** | no Integration in curriculum available! |
| 9 | **Module compatibility** | Specialisation: Public Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur<br>Written examination 60 min. (Klausur 60 Min.) |
| 11 | **Grading procedure** | Klausur (100%)<br>Written examination result 100% (Prüfungsergebnis 100%) |

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| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Krugman, P., M. Obstfeld and M. Melitz (2017/18), International Trade: Theory and Policy OR International Economics: Theory and Policy, 11th global edition. Further, course materials will be announced in the course. |

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|---|---|---|---|
| 1 | **Module name**<br>54452 | **Issues in international trade** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Ma-Sem: Issues in International Trade (2 SWS)<br>Compulsory attendance | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Christoph Moser<br>Stefan Suttner | |

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| 4 | **Module coordinator** | Prof. Dr. Christoph Moser |
| 5 | **Contents** | This course will focus on major developments in the international trading system, on the multilateral, regional and bilateral level. Special emphasis will be given to developments in the WTO, the rule-making process and the completion of new multilateral commitments. In addition, the pursuit of regional and bilateral trade agreements will be monitored and its effects on businesses and trade flows will be examined. Finally, a thorough analysis of the trade policies pursued by developed and developing countries will be offered. |
| 6 | **Learning objectives and skills** | Students gain a deeper understanding of the contemporary developments of trade policies on the multilateral, regional and country level and how it affects business and market opportunities. Special emphasis will be on the United States and the European Union. |
| 7 | **Prerequisites** | Recommended prerequisites:<br><br>Basic knowledge of the concepts of international economics and international political economy.<br><br>Module compatibility:<br><br>Master IBS: elective course (Wahlbereich): English-speaking<br><br>countries<br><br>Master Economics: Specialization in Macroeconomics and Finance |
| 8 | **Integration in curriculum** | no Integration in curriculum available! |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich/mündlich<br>*Es handelt sich um eine einheitliche Prüfung, bei der die einzelnen Teilleistungen untrennbar miteinander verbunden sind. Für das Bestehen des Moduls müssen nach § 19 Abs. 1 Satz 4 MPOWIWI in der jeweils geltenden Fassung alle Teilleistungen in demselben Semester bestanden werden. Wegen des untrennbaren Bezugs der Teilleistungen* |

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| | | *aufeinander ist abweichend von § 25 Abs.1 Satz 2 MPOWIWI eine Wiederholung nur einer der nicht bestandenen Teilleistungen nicht möglich. Das Nichtbestehen einer der Teilleistungen erfordert die Wiederholung der gesamten Prüfung.* |
| 11 | **Grading procedure** | schriftlich/mündlich (100%)<br>30% presentation, 70% seminar paper<br><br>(30% Präsentation, 70% Seminararbeit) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | no Bibliography information available! |

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| 1 | **Module name**<br>53344 | **Labor markets: A macroeconomic perspective** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Labor Markets: A Macroeonomic Perspective (2 SWS) | 5 ECTS |
| 3 | Lecturers | PD Dr. Heiko Stüber | |

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| 4 | **Module coordinator** | Prof. Dr. Christian Merkl |
| 5 | **Contents** | • Stylized macroeconomic facts of the labor market<br>• The labor market and business cycle dynamics<br>• The importance of wage rigidities |
| 6 | **Learning objectives and skills** | Students learn<br><br>• to analyze macroeconomic stylized facts of the labor market<br>• to critically evaluate the ability of dynamic labor market models (e.g., search and matching) to replicate business cycle facts<br>• to evaluate macroeconomic (policy) implications. |
| 7 | **Prerequisites** | Macroeconomics: Business Cycles, Econometrics |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Seminararbeit<br>Präsentation |
| 11 | **Grading procedure** | Seminararbeit (90%)<br>Präsentation (10%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 20 h<br>Independent study: 130 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Pissarides, C. Equilibrium Unemployment. 2000, MIT Press, Cambridge. Chapters 1 & 9. Recent research articles |

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| 1 | **Module name**<br>56540 | **Life insurance** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Vorlesung Lebensversicherung (Life insurance) (2 SWS)<br>Übung: Übung Lebensversicherung (1 SWS) | 2,5 ECTS<br>2,5 ECTS |
| 3 | Lecturers | PD Dr. Alexander Bohnert<br>Prof. Dr. Nadine Gatzert | |

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| 4 | **Module coordinator** | Prof. Dr. Nadine Gatzert |
| 5 | **Contents** | • Einführung in den Lebensversicherungsmarkt<br>• Darstellung von klassischen und innovativen Lebensversicherungsprodukten (und den darin enthaltenen impliziten Optionen)<br>• Versicherungsmathematische Aspekte: Bestimmung von Prämien und Deckungsrückstellungen auf Basis der typischen aktuariellen Rechnungsgrundlagen (Zins, Sterbetafeln)<br>• Analyse und Bewertung von Fondsprodukten mit Garantien<br>• Absicherung von Garantien in Fondsprodukten mit Kapitalanlagestrategien (u.a. Constant Proportion Portfolio Insurance) |
| 6 | **Learning objectives and skills** | • Die Studierenden können aktuelle Entwicklungen im Lebensversicherungsmarkt beurteilen und hinterfragen diese.<br>• Die Studierenden können Prämien und Deckungsrückstellungen von klassischen Lebensversicherungsverträgen berechnen und kennen die zentralen Einflussgrößen.<br>• Die Studierenden können klassische und fondsgebundene Lebensversicherungsprodukte mit verschiedenen Garantien bewerten und verschiedene Methoden der Bewertung vergleichen und Modellannahmen kritisch hinterfragen.<br>• Die Studierenden können einschätzen, wie verschiedene Arten von Finanzgarantien abgesichert werden müssen und können hierfür auch Kapitalanlagestrategien anwenden.<br>• Die Studierenden können ihre theoretischen Kenntnisse im Rahmen einer Monte-Carlo Simulation in Excel umsetzen und auf praktische Fragestellungen anwenden. |
| 7 | **Prerequisites** | Keine |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten)<br>*Im Sommersemester besteht vorlesungsbegleitend die Möglichkeit einer freiwilligen Notenverbesserung, wobei eine Verbesserung um bis zu 0,3 Notenstufen erfolgen kann. Dazu können Studierende auf StudOn vier je ca. 10-minütige Online-Kurztests (Quizze) zur Aufbereitung des Vorlesungsstoffs bearbeiten. Die Notenverbesserung erfolgt, wenn die Quizze erfolgreich bearbeitet wurden sowie die Klausur mit der Note 4,0 oder besser bestanden wurde. Etwaige Quizergebnisse aus dem* |

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| | | *Sommersemester werden für eine Nachholprüfung im Wintersemester übernommen.* |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Die vorbereitende Literatur und auch die weitergehende, forschungsbezogene Literatur werden im Rahmen der Veranstaltung bekannt gegeben. |

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| 1 | **Module name**<br>52392 | **Macroeconomic stabilization in severe economic crises** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Christian Merkl |
| 5 | **Contents** | • Macroeconomic Stabilization under Severe Economic Crisis |
| 6 | **Learning objectives and skills** | Students<br>• use a microeconomic or macroeconomic dataset.<br>• solve and simulate dynamic macroeconomic models<br>• apply advanced econometric techniques to answer economic questions.<br>• write a seminar work that describes key empirical and/or simulated results. |
| 7 | **Prerequisites** | Macroeconomics: Business Cycles and Applied Econometrics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich |
| 11 | **Grading procedure** | schriftlich (100%) |
| 12 | **Module frequency** | Unregelmäßig |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | no Bibliography information available! |

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|---|---|---|---|
| 1 | **Module name**<br>53107 | **Microeconometrics and Machine Learning** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Microeconometrics and machine learning (2 SWS)<br>Übung: Microeconometrics and machine learning - Übung (2 SWS) | 2,5 ECTS<br>2,5 ECTS |
| 3 | Lecturers | Prof. Regina Therese Riphahn<br>Irakli Sauer | |

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| 4 | **Module coordinator** | Prof. Regina Therese Riphahn |
| 5 | **Contents** | Maximum Likelihood estimation, binary dependent variables, multinomial and ordered dependent variables, Tobit models, selection models, duration models, count data models, applications of machine learning in economics. Practical application of empirical methods using Stata. |
| 6 | **Learning objectives and skills** | Based on introductory econometrics modules students acquire specialized knowledge regarding maximum likelihood estimation and microeconometric problems, and methods of machine learning. Students learn how to apply these methods using the statistics software STATA. They discuss and evaluate the appropriateness of specific methods in the framework of practical applications and have the opportunity to voluntarily prepare written empirical homeworks. |
| 7 | **Prerequisites** | Basic knowledge in statistics and econometrics |
| 8 | **Integration in curriculum** | Semester: 2;4 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Cameron, C. und P. K. Trivedi, 2005, Microeconometrics. Methods and Applications, Cambridge Univ. Press.<br><br>Greene, William H., 2020, Econometric Analysis, 8. ed., Pearson<br><br>Hastie, T., R. Tibsharani, und J., 2009, The Elements of Statistical Learning: Data Mining, Inference and Prediction, Springer.<br><br>Wooldridge, J.M., 2010, Econometric Analysis of Cross Section and Panel Data, 2.A., MIT Press. |

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| 1 | **Module name**<br>53313 | **Multivariate time series analysis** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Multivariate Time Series Analysis (2 SWS)<br>Übung: Multivariate Time Series Analysis, Excercise Session (2 SWS) | 2,5 ECTS<br>2,5 ECTS |
| 3 | Lecturers | Monika Doll<br>Lena Müller | |

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| 4 | **Module coordinator** | Prof. Dr. Jonas Dovern |
| 5 | **Contents** | Brief repetition of concepts of univariate time series analysis; stationary vector autoregressive (VAR) processes: basics, estimation, lag order selection, specification testing, forecasting; structural VAR models: various methods for identifying macroeconomic shocks; non-stationary/ integrated processes: spurious correlation vs. cointegration, error correction models; multivariate GARCH models. |
| 6 | **Learning objectives and skills** | Ability to independently analyze multivariate stationary time series using vector autoregressive processes; ability to explain the problems of identifying structural macroeconomic shocks and ability to estimate and interpret SVAR models; ability to test for spurious correlations between integrated time series and ability to specify and estimate models for cointegrated time series; ability to explain and estimate basic multivariate GARCH models; skills for using existing functions in R for time series analysis and for developing proprietary functions for analyzing multivariate time series in R. |
| 7 | **Prerequisites** | Proficiency in univariate time series analysis and basic concepts of econometrics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Lütkepohl, H. (2005), New Introduction to Multiple Time Series Analysis, Springer. Kilian, L. and H. Lütkepohl (2017), Structural Vector Autoregressive Analysis (Themes in Modern Econometrics), Cambridge University Press, Cambridge. Tsay, R.S. (2005), Analysis of Financial Time Series, 2nd edition, Wiley. (alternatively 3rd edition from 2010).Verbeek, M. (2008), A Guide to Modern Econometrics,, 3rd edition, Wiley. |

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| 1 | **Module name**<br>53055 | **Panel and evaluation methods** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Panel- and Evaluation Methods (PEV)-Übung (2 SWS)<br>Tutorium: Panel- and Evaluation Methods-Tutorium (2 SWS)<br>Vorlesung: Panel- and Evaluation Methods (2 SWS)<br>Übung: Panel- and Evaluation Methods Softskills (2 SWS) | -<br>-<br>5 ECTS<br>- |
| 3 | Lecturers | Dr. Selina Gangl<br>Prof. Regina Therese Riphahn | |

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| 4 | **Module coordinator** | Prof. Regina Therese Riphahn |
| 5 | **Contents** | Endogeneity in the linear regression model; instrumental variables estimation; static and dynamic panel data models; matching; difference-in-differences estimation; regression discontinuity design; quantile regression; practical application of methods using statistics software STATA |
| 6 | **Learning objectives and skills** | Based on the introductory econometrics module Ökonometrie 1 students acquire specialized knowledge in panel und evaluation methods and apply it using the statistics software STATA. Students evaluate to what degree empirical patterns can be interpreted as causal and decide to what extent problems of endogeneity can be solved via panel data or exogeneous variation Students can produce own empirical analyses. |
| 7 | **Prerequisites** | Basic knowledge in statistics and econometrics |
| 8 | **Integration in curriculum** | Semester: 3;1 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%)<br>100 % written exam (a voluntarily submitted homework can account for 20 % of the final grade if it improves the grade. In the homework an empirical analysis is performed based on Stata. The final grade can be improved by up to 0.7 points. However, the exam must be passed. The homework only counts towards final grades in the semester in which they are produced, i.e. only in the winter semester.) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Wooldridge, J.M., 2010, Econometric Analysis of Cross Section and Panel Data, 2.A., MIT Press. Greene, William H., 2020, Econometric Analysis, 8. ed., Pearson, New Jersey<br><br>Cameron, C.A. and P.K. Trivedi, 2005, Microeconometrics. Methods and Applications, Cambridge University Press |

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| | | Angrist, J. and J.-S. Pischke, 2009, Mostly Harmless Econometrics, Princeton University Press, Princeton, and Oxford.<br><br>Verbeek, M., 2017, A Guide to Modern Econometrics, 5. A., Wiley. |

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| 1 | **Module name**<br>54611 | **Public economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Public Economics in Theory and Practice (L) (0 SWS) | 5 ECTS |
| 3 | Lecturers | Anne Maria Kesselring<br>Anne Maria Kesselring<br>Prof. Dr. Thiess Büttner | |

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| 4 | **Module coordinator** | Prof. Dr. Thiess Büttner<br>Nima Farhang-Damghani<br>Anne Maria Kesselring |
| 5 | **Contents** | The lecture provides an introduction in public economics at the intermediate level. The course first derives the basic theoretical foundations for an optimal design of public policy. In the second step, the course discusses specific aspects of public policy, such as taxation and redistribution, social security, tax evasion, debt finance, interjurisdictional competition and fiscal federalism. It supplements theory by exploring practical problems. |
| 6 | **Learning objectives and skills** | Students know how to characterize efficient public policies using microeconomic decision models. They can use this framework to study public policy in a rigorous and consistent general equilibrium context. Students are acquainted with important empirical approaches to evaluate public policies quantitatively. Moreover, they acquire knowledge about options, methods and limits to implement efficient public policy |
| 7 | **Prerequisites** | Basic microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Health Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten)<br>Written exam (90 minutes) |
| 11 | **Grading procedure** | Klausur (100%)<br>Written exam (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Hindriks, J., and Myles, G., (2006), Intermediate Public Economics, MIT Press, Cambridge Atkinson, A.B., Stiglitz, J. E., (1980), Lectures on Public Economics . MacGraw-Hill, New York Lecture notes are provided at the beginning of the course. |

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| 1 | **Module name**<br>53115 | **Topics in gender and family economics** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Sena Coskun Dalgic |
| 5 | **Contents** | Topics in gender and family Economics |
| 6 | **Learning objectives and skills** | Students<br>• become familiar with the fundamentals, cutting-edge theories and empirical evidence in gender and family economics<br>• develop critical view when approaching to the literature<br>• use a micro and/or macro dataset<br>• develop new models or alter the existing models to answer different questions<br>• write a seminar work and present it |
| 7 | **Prerequisites** | None |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>schriftlich |
| 11 | **Grading procedure** | Präsentation (50%)<br>schriftlich (50%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | M. Doepke and M. Tertilt. Families in Macroeconomics. Handbook of Macroeconomics, Volume 2. 2016. Martin Browning, Pierre-André Chiappori, and Yoram Weiss. The Economics of the Family. Cambridge University Press, 2014. Article list will be provided in the beginning of the semester. |

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| 1 | **Module name**<br>56470 | **Risk and insurance theory** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Übung Versicherungs- und Risikotheorie (1 SWS)<br>Vorlesung: Vorlesung Versicherungs- und Risikotheorie (Risk and insurance theory) (2 SWS) | 2,5 ECTS<br>2,5 ECTS |
| 3 | Lecturers | Prof. Dr. Nadine Gatzert | |

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| 4 | **Module coordinator** | Prof. Dr. Nadine Gatzert |
| 5 | **Contents** | Einführend: Entscheidung bei Sicherheit, Unsicherheit, Risiko; Risikomessung, Risikowahrnehmung, Risikobeeinflussung (Vorgehen und Methoden); Risikobewertung am Beispiel der Versicherungsnachfrage (individuell und aus Unternehmenssicht); Risikobewertung am Beispiel des Versicherungsangebots (Risikotheorie, Schadenprozessmodellierung, Insurance-CAPM, Optionspreis-Modell); Problematik der Informationsasymmetrien (Adverse Selektion, Moral Hazard); Enterprise Risk Management (Bedeutung und Rahmenwerke, Risikostrategie, Risikoidentifikation und -bewertung, Governance, Risikokultur); Emerging Risks. |
| 6 | **Learning objectives and skills** | Die Studierenden<br>• haben vertiefte Kenntnisse über die zentralen Konzepte der Risikobewertung sowie der Versicherungs- und Risikotheorie, können diese beurteilen und hinterfragen;<br>• können ihre theoretischen Kenntnisse auf konkrete Fragestellungen anwenden;<br>• erlernen den Umgang mit und die Bewertung von Risiken in Unternehmen;<br>• können die theoretischen Kenntnisse zur Risikomessung im Rahmen einer Monte-Carlo Simulation in Excel umsetzen;<br>• lernen interaktiv im Rahmen von Workshops in Gruppen aktuelle Fragestellungen im Kontext der Versicherungs- und Risikotheorie zu strukturieren, zu erarbeiten und zu präsentieren;<br>• entwickeln und vertiefen dabei ihre Kompetenzen in der Teamarbeit. |
| 7 | **Prerequisites** | Keine |
| 8 | **Integration in curriculum** | Semester: 1;3 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten)<br>*Im Wintersemester besteht vorlesungsbegleitend die Möglichkeit einer freiwilligen Notenverbesserung, wobei eine Verbesserung um bis zu 0,3 Notenstufen erfolgen kann. Dazu können Studierende auf StudOn vier je ca. 10-minütige Online-Kurztests (Quizze) zur Aufbereitung des Vorlesungsstoffs bearbeiten. Die Notenverbesserung erfolgt, wenn die Quizze erfolgreich bearbeitet wurden sowie die Klausur mit der Note* |

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| | | *4,0 oder besser bestanden wurde. Etwaige Quizergebnisse aus dem Wintersemester werden für eine Nachholprüfung im Sommersemester übernommen.* |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Die vorbereitende und weitergehende, forschungsbezogene Literatur wird im Rahmen der Veranstaltung bekannt gegeben. |

# Specialization: Public economics

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| 1 | **Module name**<br>53281 | **Behavioral economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Behavioral Economics (2 SWS) | - |
| 3 | Lecturers | Prof. Dr. Veronika Grimm<br>Yuval Ofek-Shanny | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The course provides a theoretical and empirical introduction into the area of Behavioral Economics. This relatively new area of economics research wants to identify important deviations from the predictions of classical economics models and to extend existing models to account for these findings. |
| 6 | **Learning objectives and skills** | In the course the method of experimental economics is introduced and its use for behavioral oriented research is learned. Students learn the skill of using empirical and experimental studies as complements to theory in the study of strategic interactions. |
| 7 | **Prerequisites** | Completed Bachelor degree in Economics or in a related discipline, Microeconomics I and II |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Camerer, Colin F. (2003), Behavioral Game Theory: Experiments on Strategic Interaction, Princeton Univ. Press. Journale articles, announcement on chair website |

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|---|---|---|---|
| 1 | **Module name**<br>57330 | **Development economics** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Development Economics Master Exercise (2 SWS)<br>Vorlesung: Development Economics (Master) Lecture (0 SWS) | -<br>- |
| 3 | Lecturers | Lea Mayer<br>David Hardt<br>Prof. Dr. Johannes Rincke | |

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| 4 | **Module coordinator** | Prof. Dr. Johannes Rincke |
| 5 | **Contents** | The lecture covers the principles of modern development economics and, using various examples from the current literature, highlights the core topics, the methodological challenges, and the key findings derived in this sub-discipline of economics. The lecture covers decisions of individuals and households and thus has a clear microeconomic focus. A core topic of the lecture is why poor individuals and households are often struggling to leave poverty and to advance to more adequate living conditions, and which policies can help to overcome poverty traps. In the exercise course, the focus is on advanced empirical methods and their application to problems of development. Students work with data sets and replicate core findings from the literature. |
| 6 | **Learning objectives and skills** | The module aims at providing students with a comprehensive set of advanced conceptual and methodological tools to analyse problems in development economics. Specifically, students<br><br>get an overview of modern development economics and<br><br>the history of thought in this sub-discipline<br><br>learn how to analyse specific problems in development<br><br>economics, based on the current journal literature<br><br>deal intensively with applied methods in modern development<br><br>economics, in particular with experimental methods and<br><br>advanced methods of data analysis<br><br>learn to understand, evaluate and replicate empirical studies in<br><br>development economics |
| 7 | **Prerequisites** | Completion of all compulsory courses in the MSE program, in particular Microeconomics, Applied Econometrics, and Mathematics for Economists |
| 8 | **Integration in curriculum** | Semester: 3 |

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| 9 | **Module compatibility** | Specialisation: Public Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation (60 Minuten)<br>Klausur (60 Minuten) |
| 11 | **Grading procedure** | Präsentation (50%)<br>Klausur (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Selection of journal articles, provided on StudOn |

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| 1 | **Module name**<br>56441 | **Economic internship** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar zum Praktikumsmodul im DMSE Master (2 SWS) | - |
| 3 | Lecturers | Prof. Dr. Thiess Büttner<br>Annalisa Tassi | |

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| 4 | **Module coordinator** | Prof. Dr. Veronika Grimm<br>Prof. Regina Therese Riphahn<br>Prof. Dr. Harald Tauchmann |
| 5 | **Contents** | Economic internship with research institutes, international organizations, research departments of firms in relation to the Master specialisation (Public, Labor, Macro & Finance, Health, or Energy) |
| 6 | **Learning objectives and skills** | Students obtain the chance to familiarize themselves with labor market opportunities for economists and learn how to apply economic concepts and methods in practice. Students also expand their command of important soft skills, including presentation techniques and communication skills. The participants exchange their practical experiences and insights and develop a critical reflection on economic practice and job market opportunities. |
| 7 | **Prerequisites** | Students should have completed all courses of the first semester. |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | |
| 11 | **Grading procedure** | |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 300 h<br>Independent study: 0 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Please note: The number of internships is limited. Interested students have to apply at the external institution with recommendation by the lecturer responsible for the respective specialisation. Students can in principle also be credited for other internships provided they are sufficiently associated with economic research and fit into one of the areas. An upfront written agreement with the respective lecturer is required. |

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| 1 | **Module name**<br>53295 | **Economics of innovation** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung mit Übung: Economics of Innovation (Lecture and Tutorial) (4 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Markus Nagler | |

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| 4 | **Module coordinator** | Prof. Dr. Markus Nagler |
| 5 | **Contents** | The lecture provides an introduction to economic issues of innovation and new ideas. The course first sets out general problems in the economics of innovation such as the public goods nature of ideas and the importance of innovation for economic prosperity. In the second part, the course discusses labor and personnel issues in innovation policy, for example the design of incentives for innovation. In the third part, the course analyses issues in intellectual property rights and public economics topics such as public funding of research or the role of universities. |
| 6 | **Learning objectives and skills** | Students know the key issues in the economics of innovation and the impacts of potential public policies to promote innovation. They are able to assess current research in the economics of innovation and are able to relate its results to fundamental policy questions in the area. Students are acquainted with important empirical approaches in the area. |
| 7 | **Prerequisites** | Basic microeconomics, basic econometrics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Public Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Bryan, Kevin and Heidi Williams (forthcoming): Markets for innovation: Market failures and public policies, Handbook of Industrial Organization<br><br>Bloom, Nicholas, John Van Reenen and Heidi Williams (2019): A Toolkit of Policies to Promote Innovation, Journal of Economic Perspectives 33(3): 163-184<br><br>Scotchmer, Suzanne. Innovation and incentives. MIT press, 2004. |

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| 1 | **Module name**<br>54440 | **Issues in international political economy** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Ma-Vorl: Issues in International Political Economy (IPE) (2 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Christoph Moser | |

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| 4 | **Module coordinator** | Prof. Dr. Friedrich Michael Dimpel<br>Prof. Dr. Christoph Moser |
| 5 | **Contents** | This course deals with international trade policy. The focus will be on the political and economic determinants and consequences of trade liberalization as well as trade policies that increase trade barriers. The course will provide important insights into the global governance of international trade flows, the World Trade Organization and the role of the United States, China and the European Union. |
| 6 | **Learning objectives and skills** | Students gain an understanding of the importance and evolution of the international trading system and how it affects multinational corporations (MNCs). Students learn about different trade policy tools, their economic consequences and their political constraints, in particular in the United States, China and the European Union. Students learn to critically assess trade-related news in the media. |
| 7 | **Prerequisites** | Recommended prerequisites:<br>• Basic knowledge of microeconomics (e.g., Varian, Hal (2014), Intermediate Microeconomics: A Modern Approach, 9th international edition).<br><br>Module compatibility:<br><br>• Master IBS: core course (Pflichtbereich)<br>• Master IBS: mandatory elective for the area “English-speaking countries”. Students who select English-speaking countries as an area study cannot take this module as a core course module, but must take it as part of their area studies.<br>• Master Wirtschaftspädagogik, Studienrichtung II: elective course (Wahlbereich im Zweitfach Sozialkunde), core course (Pflichtbereich im Zweitfach Englisch)<br>• Erweiterungsprüfung Berufliche Schulen/Studienfach<br>• Wirtschaftspädagogik<br>• Master Sozialökonomik: elective course (Wahlbereich)<br>• Master Arbeitsmarkt und Personal: elective course (Wahlbereich)<br>• Master Economics: Specialization in Macroeconomics and Finance, and Public economics |
| 8 | **Integration in curriculum** | no Integration in curriculum available! |
| 9 | **Module compatibility** | Specialisation: Public Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur<br>Written examination 60 min. (Klausur 60 Min.) |
| 11 | **Grading procedure** | Klausur (100%)<br>Written examination result 100% (Prüfungsergebnis 100%) |

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| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Krugman, P., M. Obstfeld and M. Melitz (2017/18), International Trade: Theory and Policy OR International Economics: Theory and Policy, 11th global edition. Further, course materials will be announced in the course. |

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| 1 | **Module name**<br>56911 | **Issues in political economy** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Ma-Sem: Issues in Political Economy (2 SWS)<br>Compulsory attendance | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Christoph Moser | |

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| 4 | **Module coordinator** | Prof. Dr. Christoph Moser |
| 5 | **Contents** | This course deals with current topics in political economy and how politics and economics interact in various fields in the United States and the European Union. The course provides an introduction into the political systems and discusses the interactions between profit-maximizing firms and US and European non-market agents like the government, regulatory institutions and the public. The topics covered include but are not limited to the impact of political connections, corruption, lobbying and the revolving door on the United States of America and the European Union. |
| 6 | **Learning objectives and skills** | Students gain a deeper understanding of how institutions, power and economic outcomes interact with each other. There will be a focus on the different actors such as governments, NGOs and private sector representatives. Students will also learn about empirical methods used in these fields. A special emphasis will be placed on the United States, the Europen Union and the transatlantic area. |
| 7 | **Prerequisites** | Recommended prerequisites:<br><br>Basic knowledge of economics, politics and econometrics.<br><br>Module compatibility:<br><br>Master IBS: elective course (Wahlbereich): English-speaking<br><br>countries; Europe<br><br>Master Economics: Specialization in Public Economics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Public Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich/mündlich<br>*Es handelt sich um eine einheitliche Prüfung, bei der die einzelnen Teilleistungen untrennbar miteinander verbunden sind. Für das Bestehen des Moduls müssen nach § 19 Abs. 1 Satz 4 MPOWIWI in der jeweils geltenden Fassung alle Teilleistungen in demselben Semester bestanden werden. Wegen des untrennbaren Bezugs der Teilleistungen aufeinander ist abweichend von § 25 Abs.1 Satz 2 MPOWIWI eine Wiederholung nur einer der nicht bestandenen Teilleistungen nicht möglich. Das Nichtbestehen einer der Teilleistungen erfordert die Wiederholung der gesamten Prüfung.* |

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| 11 | **Grading procedure** | schriftlich/mündlich (100%)<br>30% presentation, 70% seminar paper<br><br>(30% Präsentation, 70% Seminararbeit) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | no Bibliography information available! |

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|---|---|---|---|
| 1 | **Module name**<br>53083 | **Economics of social policy** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: MA S Ökonomie der Sozialpolitik (3 SWS) | 5 ECTS |
| 3 | Lecturers | Sebastian Ach<br>Prof. Dr. Matthias Wrede<br>Elisa Poletto | |

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| 4 | **Module coordinator** | Prof. Dr. Matthias Wrede |
| 5 | **Contents** | Ausgewählte ökonomische Analysen der Sozialpolitik unter Einschluss ethischer und ökonomischer Grundlagen sowie institutioneller Aspekte |
| 6 | **Learning objectives and skills** | • Studierende kennen ausgewählte Bereiche der Sozialpolitik und können diese beschreiben und international vergleichen.<br>• Studierende können ethische und ökonomische Grundlagen staatlicher Eingriffe in ausgewählten Bereichen sozialer Sicherung darstellen, interpretieren und diskutieren.<br>• Studierende können Wirkungen sozialpolitisch relevanter Größen theoretisch und empirisch verstehen, bewerten und hinterfragen.<br>• Studierende können sozialpolitische Maßnahmen unter Effizienz- und Gerechtigkeitsgesichtspunkten bewerten und hinterfragen.<br>• Studierende geben Ihren Kommilitonen im Rahmen ihrer Präsentationen strukturiertes Feedback.<br>• Studierende fördern die Fachkenntnisse der anderen Studierenden durch themenspezifische Diskussionsbeiträge.<br>• Studierende erfassen, bewerten und diskutieren ausgewählte aktuelle, meist englischsprachige Forschungsarbeiten in Ihrer Seminararbeit. |
| 7 | **Prerequisites** | Mikroökonomische und ökonometrische Kenntnisse |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Hausarbeit |
| 11 | **Grading procedure** | Präsentation (30%)<br>Hausarbeit (70%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Die Literatur wird während des Kurses bekannt gegeben. |

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| 1 | **Module name**<br>53055 | **Panel and evaluation methods** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Panel- and Evaluation Methods (PEV)-Übung (2 SWS)<br>Tutorium: Panel- and Evaluation Methods-Tutorium (2 SWS)<br>Vorlesung: Panel- and Evaluation Methods (2 SWS)<br>Übung: Panel- and Evaluation Methods Softskills (2 SWS) | -<br>-<br>5 ECTS<br>- |
| 3 | Lecturers | Dr. Selina Gangl<br>Prof. Regina Therese Riphahn | |

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| 4 | **Module coordinator** | Prof. Regina Therese Riphahn |
| 5 | **Contents** | Endogeneity in the linear regression model; instrumental variables estimation; static and dynamic panel data models; matching; difference-in-differences estimation; regression discontinuity design; quantile regression; practical application of methods using statistics software STATA |
| 6 | **Learning objectives and skills** | Based on the introductory econometrics module Ökonometrie 1 students acquire specialized knowledge in panel und evaluation methods and apply it using the statistics software STATA. Students evaluate to what degree empirical patterns can be interpreted as causal and decide to what extent problems of endogeneity can be solved via panel data or exogeneous variation Students can produce own empirical analyses. |
| 7 | **Prerequisites** | Basic knowledge in statistics and econometrics |
| 8 | **Integration in curriculum** | Semester: 3;1 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%)<br>100 % written exam (a voluntarily submitted homework can account for 20 % of the final grade if it improves the grade. In the homework an empirical analysis is performed based on Stata. The final grade can be improved by up to 0.7 points. However, the exam must be passed. The homework only counts towards final grades in the semester in which they are produced, i.e. only in the winter semester.) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Wooldridge, J.M., 2010, Econometric Analysis of Cross Section and Panel Data, 2.A., MIT Press. Greene, William H., 2020, Econometric Analysis, 8. ed., Pearson, New Jersey<br><br>Cameron, C.A. and P.K. Trivedi, 2005, Microeconometrics. Methods and Applications, Cambridge University Press |

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| | | Angrist, J. and J.-S. Pischke, 2009, Mostly Harmless Econometrics, Princeton University Press, Princeton, and Oxford.<br><br>Verbeek, M., 2017, A Guide to Modern Econometrics, 5. A., Wiley. |

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| 1 | **Module name**<br>54611 | **Public economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Public Economics in Theory and Practice (L) (0 SWS) | 5 ECTS |
| 3 | Lecturers | Anne Maria Kesselring<br>Anne Maria Kesselring<br>Prof. Dr. Thiess Büttner | |

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| 4 | **Module coordinator** | Prof. Dr. Thiess Büttner<br>Nima Farhang-Damghani<br>Anne Maria Kesselring |
| 5 | **Contents** | The lecture provides an introduction in public economics at the intermediate level. The course first derives the basic theoretical foundations for an optimal design of public policy. In the second step, the course discusses specific aspects of public policy, such as taxation and redistribution, social security, tax evasion, debt finance, interjurisdictional competition and fiscal federalism. It supplements theory by exploring practical problems. |
| 6 | **Learning objectives and skills** | Students know how to characterize efficient public policies using microeconomic decision models. They can use this framework to study public policy in a rigorous and consistent general equilibrium context. Students are acquainted with important empirical approaches to evaluate public policies quantitatively. Moreover, they acquire knowledge about options, methods and limits to implement efficient public policy |
| 7 | **Prerequisites** | Basic microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Health Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten)<br>Written exam (90 minutes) |
| 11 | **Grading procedure** | Klausur (100%)<br>Written exam (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Hindriks, J., and Myles, G., (2006), Intermediate Public Economics, MIT Press, Cambridge Atkinson, A.B., Stiglitz, J. E., (1980), Lectures on Public Economics . MacGraw-Hill, New York Lecture notes are provided at the beginning of the course. |

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| 1 | **Module name**<br>52930 | **Seminar: Behavioral economics 1** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Behavioral Economics 1 (3 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Veronika Grimm<br>Xiaoyu Zhou | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The seminar sheds light on various issues in market and institution design focusing on selected applications. Market and institution design applies methods of game theory and (behavioral) economics to develop effective market rules. In this seminar, the focus will lie on market rules of various markets such as labor-markets or markets in the sector of health or public economics. In different market environments, phenomena like trust, social preferences, or bounded rationality are important. Understanding these aspects is of key importance for specifying the details of a particular market environment. In the seminar, we will analyse the peculiarities of selected markets and their implications for the effective organization of those markets from a theoretical and/or behavioural perspective. |
| 6 | **Learning objectives and skills** | Students<br>• Analyze the peculiarities of markets and their operating mode within the frame of complex theoretic and behavioral models,<br>• Discuss the validity of those models based on experimental or empirical studies,<br>• Evaluate, based on the literature, different market and institution designs,<br>• Autonomously analyze complex questions and develop solution concepts<br>• Are able to write a relevant theoretic or empirical scientific essay,<br>• Develop their presentation skills. |
| 7 | **Prerequisites** | Solid knowledge of microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Seminararbeit<br>mündlich<br>Präsentation |
| 11 | **Grading procedure** | Seminararbeit (50%)<br>mündlich (20%)<br>Präsentation (30%) |
| 12 | **Module frequency** | in jedem Semester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |

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| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Changing recent scientific literature |

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| 1 | **Module name**<br>52940 | **Seminar: Behavioral economics 2** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Behavioral Economics 2 (3 SWS) | 5 ECTS |
| 3 | Lecturers | Xiaoyu Zhou<br>Prof. Dr. Veronika Grimm | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The seminar deals with theories and methods from behavioural and experimental economics. Although behavioral and experimental economics are relatively recent fields of research, many insights have been gained from applying the methods of the field to key economic questions. Relevant topics include, but are not limited to, nudging (in the sector of health, labor, public and energy economics), norm compliance (mainly public and labor economics), social preferences (mainly health and labor economics) or uncertainty preferences (energy economics). Depending on the topic of the seminar, questions of experimental design, conducting studies and analysis of behavioural data can be dealt with. |
| 6 | **Learning objectives and skills** | Students<br>• Gain fundamental understanding of the methods of behavioral and experimental economics,<br>• Learn to autonomously apply those methods,<br>• Conceptualize own research ideas,<br>• Analyze the peculiarities of complex economic situations,<br>• Develop their presentation skills. |
| 7 | **Prerequisites** | Solid knowledge of microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>mündlich<br>Seminararbeit |
| 11 | **Grading procedure** | Präsentation (30%)<br>mündlich (20%)<br>Seminararbeit (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Camerer, Löwenstein and Rabin (2003), Advances in Behavioral Economics, Princeton University Press. Changing recent scientific literature |

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| 1 | **Module name**<br>52945 | **Seminar Experimental Economics** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Experimental Economics (0 SWS) | 5 ECTS |
| 3 | Lecturers | Celina Högn<br>Katharina Adler | |

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| 4 | **Module coordinator** | Prof. Dr. Johannes Rincke |
| 5 | **Contents** | Topics in Experimental Economics |
| 6 | **Learning objectives and skills** | Students<br>• study selected parts of the academic literature on experimental economics and learn how to deal with this literature<br>• learn how to identify relevant contributions in large bodies of economic literature<br>• learn about up-to-date methods in experimental economics<br>• learn how to read economic papers and to evaluate and assess contributions, including methodological innovations<br>• learn how to delineate conclusions from the academic literature in terms of policy implications<br>• learn how to structure and write academic theses in economics<br>• expand their skills in terms of presentation techniques and participation in academic debates |
| 7 | **Prerequisites** | All techniques and methods that are part of the curriculum in the first semester of the study program MSE |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Public Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Diskussionsbeitrag<br>Präsentation<br>Seminararbeit |
| 11 | **Grading procedure** | Diskussionsbeitrag (20%)<br>Präsentation (30%)<br>Seminararbeit (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Will be provided |

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|---|---|---|---|
| 1 | **Module name**<br>52950 | **Seminar: Public economics 1** | **5 ECTS** |
| 2 | Courses / lectures | Masterseminar: Seminar Public Economics 1 (3 SWS) | 5 ECTS |
| 3 | Lecturers | Sebastian Ach<br>Prof. Dr. Matthias Wrede<br>Elisa Poletto<br>Prof. Dr. Thiess Büttner | |

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| 4 | **Module coordinator** | Prof. Dr. Thiess Büttner<br>Prof. Dr. Sarah Necker<br>Prof. Dr. Matthias Wrede |
| 5 | **Contents** | Topics in Public Economics |
| 6 | **Learning objectives and skills** | Students<br>• study selected parts of the academic literature in public economics (mostly from scientific journals) and learn how to deal with this literature<br>• learn how to identify relevant contributions in large bodies of economic literature<br>• learn about current approaches and methods in public economics<br>• learn how to read economic papers and to evaluate and assess contributions, regarding both theory and empiry<br>• learn how to draw conclusions from the academic literature in terms of policy implications and critically analyse these findings<br>• learn how to structure and write an academic thesis in economics<br><br>expand their skillset in presenting research and presentation techniques and actively participate in academic discussion |
| 7 | **Prerequisites** | All techniques and methods that are part of the curriculum in the first semester |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich/mündlich |
| 11 | **Grading procedure** | schriftlich/mündlich (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Will be provided together with the topic announcements. |

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|---|---|---|---|
| 1 | **Module name**<br>52960 | **Seminar: Public economics 2** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Public Economics (3 SWS) | - |
| 3 | Lecturers | William Dean<br>Prof. Dr. Thiess Büttner<br>Annalisa Tassi<br>Dr. Boryana Madzharova | |

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| 4 | **Module coordinator** | Prof. Dr. Thiess Büttner<br>Prof. Dr. Sarah Necker<br>Prof. Dr. Matthias Wrede |
| 5 | **Contents** | Topics in Public Economics |
| 6 | **Learning objectives and skills** | Students<br>• study selected parts of the academic literature in public economics (mostly from scientific journals) and learn how to deal with this literature<br>• learn how to identify relevant contributions in large bodies of economic literature<br>• learn about current approaches and methods in public economics<br>• learn how to read economic papers and to evaluate and assess contributions, regarding both theory and empiry<br>• learn how to draw conclusions from the academic literature in terms of policy implications and critically analyse these findings<br>• learn how to structure and write an academic thesis in economics<br>• expand their skillset in presenting research and presentation techniques and actively participate in academic discussion |
| 7 | **Prerequisites** | All techniques and methods that are part of the curriculum in the first semester |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich/mündlich |
| 11 | **Grading procedure** | schriftlich/mündlich (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Will be provided together with the topic announcements. |

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|---|---|---|---|
| 1 | **Module name**<br>55960 | **Spatial economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: MA V Spatial Economics (2 SWS)<br>Übung: MA Üb Spatial Economics (2 SWS) | -<br>2,5 ECTS |
| 3 | Lecturers | Prof. Dr. Matthias Wrede<br>Luisa Schneider | |

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| 4 | **Module coordinator** | Prof. Dr. Matthias Wrede |
| 5 | **Contents** | Urban Economics, Trade, Mobility, and Agglomeration, Spatial Concentration, Regional Policy |
| 6 | **Learning objectives and skills** | At the end of this course,<br>• Students are able to describe and to internationally compare the regional patterns of major economic activities in terms of stylized facts.<br>• Students are able to present, interpret, and discuss selected theories in regional and urban economics.<br>• Students are able to apply and assess selected empirical methods in spatial economics.<br>• Students are able to assess empirical tests of selected hypotheses from theories in regional and urban economics to evaluate and critically examine their informative value.<br>• Students are able to discuss and evaluate regional political implications of selected economic theories in regional and urban economics.<br>• Students will assess, evaluate and discuss selected recent research papers in English. |
| 7 | **Prerequisites** | Microeconomics, Econometrics I |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Klausur (60 Minuten) |
| 11 | **Grading procedure** | Präsentation (20%)<br>Klausur (80%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Brakman, S., H. Garretsen und C. van Marrewijk (2020). An Introduction to Geographical and Urban Economics. Cambridge University Press. Cambridge, UK, 3. Ed. |

# Specialization: Energy markets

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|---|---|---|---|
| 1 | **Module name**<br>53281 | **Behavioral economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Behavioral Economics (2 SWS) | - |
| 3 | Lecturers | Prof. Dr. Veronika Grimm<br>Yuval Ofek-Shanny | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The course provides a theoretical and empirical introduction into the area of Behavioral Economics. This relatively new area of economics research wants to identify important deviations from the predictions of classical economics models and to extend existing models to account for these findings. |
| 6 | **Learning objectives and skills** | In the course the method of experimental economics is introduced and its use for behavioral oriented research is learned. Students learn the skill of using empirical and experimental studies as complements to theory in the study of strategic interactions. |
| 7 | **Prerequisites** | Completed Bachelor degree in Economics or in a related discipline, Microeconomics I and II |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Camerer, Colin F. (2003), Behavioral Game Theory: Experiments on Strategic Interaction, Princeton Univ. Press. Journale articles, announcement on chair website |

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|---|---|---|---|
| 1 | **Module name**<br>52972 | **Linear and combinatorial optimization** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Alexander Martin |
| 5 | **Contents** | The main focus of this lecture is on the theory and solution of combinatorial optimization problems. We will address typical problems in graph theory like the Shortest Path Problem, the Spanning Tree or the Max-Flow Min-Cut Theorem. This course also covers basic algorithmic concepts such as Sorting, Greedy algorithm, Depth-first search/Breadth-first search and heuristics. |
| 6 | **Learning objectives and skills** | Students will<br>• autonomously recognize and analyze problems in combinatorial optimization,<br>• discuss basic algorithmic concepts and apply them systematically,<br>• classify methods of this field of study,<br>• gather and assess relevant information and set it in context. |
| 7 | **Prerequisites** | Linear Algebra |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Lecture notes Schrijver: Combinatorial Optimization, Springer 2003<br>Korte/Vygen: Combinatorial Optimization, Springer 2005 |

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|---|---|---|---|
| 1 | **Module name**<br>53286 | **Economics of climate change (ECC)** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Economics of Climate Change (ECC) Exercise (2 SWS)<br>Vorlesung: Economics of Climate Change (ECC) Lecture (2 SWS) | -<br>5 ECTS |
| 3 | Lecturers | Dr. Jonas Egerer<br>Prof. Dr. Veronika Grimm | |

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| 4 | **Module coordinator** | Dr. Jonas Egerer<br>Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | This course focuses on the interactions between society, the economy and climate change: one of the greatest challenges of our time. The course will discuss the origin of environmental challenges, technological options for their solution and policies to promote the transformation to a climate neutral economy and society. The following issues will be covered:<br>• Welfare economics and the environment<br>• Externalities and origins of the sustainability problem<br>• Climate change and the greenhouse gas effect<br>• Global climate scenarios<br>• Economics of low-carbon technologies<br>• Global and regional low carbon scenarios<br>• Measures of climate resilience<br>• Pollution control: Targets and policy instruments<br>• International Cooperation: Kyoto Protocol and Paris Agreement<br>• Applications of Climate Policy: EU-ETS and national CO2-tax<br>• Case studies for the energy, heat and mobility sector |
| 6 | **Learning objectives and skills** | Students who participate in this course will become familiar with the physical science basis of climate change, economic concepts for the allocation of public goods, scenarios for low-carbon energy systems from an technological and an economic perspective, and policy instruments to reduce greenhouse gas emissions.<br>Students who successfully participate in this module can:<br>• Explain the physical basics of climate change<br>• Understand economic concepts for public goods<br>• Compare different low-carbon technologies<br>• Describe pathways towards sustainable energy systems<br>• Develop an understanding of climate resilience<br>• Discuss different policy instruments<br>• Understand the EU-ETS and national carbon taxes<br>• Develop sector specific scenarios in case studies |
| 7 | **Prerequisites** | To succeed in this course, students will need to apply acquired knowledge from e.g. economics and mathematics. |

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| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Energy Markets Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich<br>Klausur (60 Minuten) |
| 11 | **Grading procedure** | schriftlich (50%)<br>Klausur (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Natural Resource and Environmental Economics. Roger Perman et al. Addison Wesley. |

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| 1 | **Module name**<br>53285 | **Empirical environmental economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Empirical Environmental Economics (2 SWS) | 3 ECTS |
| 3 | Lecturers | Prof. Dr. Mario Liebensteiner | |

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| 4 | **Module coordinator** | Prof. Dr. Mario Liebensteiner |
| 5 | **Contents** | This module provides an introduction to focal issues of environmental economics with a particular focus on empirical investigations. The module sets out to make students familiar with state-of-the-art econometric research methods in environmental economics. Key issues will be carbon emissions from the energy and transportation sectors, carbon pricing, integration and subsidization of renewable energies, and the effectiveness of different climate policies. |
| 6 | **Learning objectives and skills** | • Students get to know fundamental problems of environmental economics (e.g. problems of air pollution from burning fossil fuels, integration of renewable energy sources, and effective policy making)<br>• Students get to know recent econometric approach |
| 7 | **Prerequisites** | Basic microeconomics<br><br>Basic econometrics (at least multivariate OLS regressions) |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Energy Markets Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Klausur (90 Minuten) |
| 11 | **Grading procedure** | Präsentation (20%)<br>Klausur (80%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 60 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Journal articles and other relevant reading materials: will be distributed to course participants via StudOn Wooldridge, J.M. 2012 Introductory Econometrics: A Modern Approach. South-Western Cengage Learning. |

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|---|---|---|---|
| 1 | **Module name**<br>52971 | **Linear and combinatorial optimization** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Alexander Martin |
| 5 | **Contents** | The main focus of this lecture is on the theory and solution of linear optimization problems. We will address geometric aspects of linear programming, duality, model creation and sensitivity analysis. This course also covers the Simplex Method for solving linear programs. |
| 6 | **Learning objectives and skills** | Students will<br>• autonomously recognize and analyze problems in linear optimization,<br>• discuss basic algorithmic concepts and apply them systematically,<br>• classify methods of this field of study,<br>• gather and assess relevant information and set it in context. |
| 7 | **Prerequisites** | Linear Algebra |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Lecture notes Schrijver: Combinatorial Optimization, Springer 2003<br>Chvátal: Linear Programming, W.H. Freeman & Co, 1983 |

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|---|---|---|---|
| 1 | **Module name**<br>53180 | **Mathematical optimization for communications and signal processing** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Mathematical Optimization for Communications & Signal Processing (2 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Frauke Liers-Bergmann<br>Florian Rösel<br>Martina Kuchlbauer | |

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| 4 | **Module coordinator** | Prof. Dr. Frauke Liers-Bergmann |
| 5 | **Contents** | The focus of this module is on methods for modeling and solving optimization problems as they occur in the field communication and signal processing. Starting from practical applications, different classes of optimization problems are introduced that include linear, mixed-integer linear, continuous non-linear as well as mixed-integer non-linear optimization problems. Advantages and disadvantages of different modeling techniques will be outlined and different reformulations will be presented in order to achieve efficient solution approaches. Students will learn how to present optimization results properly as well as how to interpret and evaluate these results for practical applications in communications and signal processing. |
| 6 | **Learning objectives and skills** | The students<br>• have an overview over mathematical optimization in practice<br>• apply mathematical optimization modeling and solution techniques<br>• decide which solution approaches are suitable for which class of models<br>• know available software and how to use it |
| 7 | **Prerequisites** | A bachelor course in Mathematics for Engineers. Recommended are 3-4 courses in Mathematics for Engineers. |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Energy Markets Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | no Bibliography information available! |

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|---|---|---|---|
| 1 | **Module name**<br>52980 | **Methods and applications of mathematical optimization** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Frauke Liers-Bergmann |
| 5 | **Contents** | The focus of this module is on methods for modelling and solving optimization problems as they occur in the field of industry and economics. Advantages and disadvantages of different modelling techniques will be outlined and different reformulations will be presented in order to achieve efficient solution approaches. Students will learn how to present optimization results properly as well as how to interpret and evaluate these results for practical applications. This module covers topics such as optimization of transport networks (gas, water, energy), mathematical modelling and optimization techniques for market mechanisms in the energy sector and dealing with uncertain data. |
| 6 | **Learning objectives and skills** | The students<br>• will gain an overview over applications of mathematical optimization<br>• learn mathematical optimization modeling and solution techniques<br>• learn to decide which solution approaches are suitable for which class of models |
| 7 | **Prerequisites** | Linear and Combinatorial Optimization |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Lecture Notes Recent research literature |

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|---|---|---|---|
| 1 | **Module name**<br>52592 | **Quantitative methods in energy market modelling** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung mit Übung: MA Quantitative Methods in Energy Market Modelling (3 SWS) | - |
| 3 | Lecturers | Prof. Dr. Karl Gregor Zöttl<br>Beate Bäumler | |

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| 4 | **Module coordinator** | Prof. Dr. Karl Gregor Zöttl |
| 5 | **Contents** | It is the purpose of the course to understand and quantitatively analyse the economic interaction of the players and institutions in liberalized energy markets.<br><br>Liberalized electricity markets can be segmented in a regulated part (the networks) and the non-regulated parts (generation and retail) where private companies interact in a market environment. The interaction of the different agents is analysed with computational equilibrium frameworks based the concepts applied in industrial organization. Next to the fundamental understanding of the relevant market interaction, the models allow for a quantitative analysis of proposals for the design of energy markets. The participants thus develop the tools for an autonomous assessment of currently discussed policies in liberalized electricity markets (e.g. changed support schemes for renewables, changed network tariff systems, impact of capacity markets).<br><br>The course aims at students in the field of economics /business as well as students in the fields of engineering and mathematics. An integral part of the course id formed by homework assignments conducted in groups. The ability to cooperate also beyond the classical limits of each discipline is an important qualification for the students careers, which should be stimulated in the context of this course. |
| 6 | **Learning objectives and skills** | The students:<br><br>• develop a clear picture of the relevant market participants in liberalized electricity markets and understand their incentives and objectives<br>• learn fundamental concepts and models which allow to analyze the interaction at those markets<br>• get to know important publically available data sources which allow for a quantitative analysis of the market situations considered<br>• know the current challenges when designing those markets and can quantitatively analyze the solutions proposed in the current policy debate. |
| 7 | **Prerequisites** | The students should be familiar with the mathematical methods acquired during their Bachelor degree.<br><br>Institutional knowledge of electricity markets is not required. |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |

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| 10 | **Method of examination** | Klausur<br>schriftlich |
| 11 | **Grading procedure** | Klausur (80%)<br>schriftlich (20%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Daniel Kirschen and Goran Strbac: Power System Economics, Wiley 2004. Steven Stoft: Power System Economics, Wiley 2002. Wolfgang Ströbele, Wolfgang Pfaffenberger, Michael Heuterkes: Energiewirtschaft, Oldenbourg 2010. |

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|---|---|---|---|
| 1 | **Module name**<br>52940 | **Seminar: Behavioral economics 2** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Behavioral Economics 2 (3 SWS) | 5 ECTS |
| 3 | Lecturers | Xiaoyu Zhou<br>Prof. Dr. Veronika Grimm | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The seminar deals with theories and methods from behavioural and experimental economics. Although behavioral and experimental economics are relatively recent fields of research, many insights have been gained from applying the methods of the field to key economic questions. Relevant topics include, but are not limited to, nudging (in the sector of health, labor, public and energy economics), norm compliance (mainly public and labor economics), social preferences (mainly health and labor economics) or uncertainty preferences (energy economics). Depending on the topic of the seminar, questions of experimental design, conducting studies and analysis of behavioural data can be dealt with. |
| 6 | **Learning objectives and skills** | Students<br>• Gain fundamental understanding of the methods of behavioral and experimental economics,<br>• Learn to autonomously apply those methods,<br>• Conceptualize own research ideas,<br>• Analyze the peculiarities of complex economic situations,<br>• Develop their presentation skills. |
| 7 | **Prerequisites** | Solid knowledge of microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>mündlich<br>Seminararbeit |
| 11 | **Grading procedure** | Präsentation (30%)<br>mündlich (20%)<br>Seminararbeit (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Camerer, Löwenstein and Rabin (2003), Advances in Behavioral Economics, Princeton University Press. Changing recent scientific literature |

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|---|---|---|---|
| 1 | **Module name**<br>52990 | **Seminar energy markets** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Energy Markets (4 SWS)<br>Seminar: Seminar Energy Markets (4 SWS)<br>Seminar: Seminar Energy Markets (4 SWS) | -<br>-<br>- |
| 3 | Lecturers | Prof. Dr. Karl Gregor Zöttl<br>Prof. Dr. Veronika Grimm | |

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| 4 | **Module coordinator** | Beate Bäumler<br>Prof. Dr. Veronika Grimm<br>Prof. Dr. Karl Gregor Zöttl |
| 5 | **Contents** | It is the purpose of the seminar to deepen the understanding of the economic interaction of the players and institutions in liberalized energy markets.<br><br>The participants learn and develop the tools for an autonomous economic assessment of currently discussed policies in liberalized electricity markets (e.g. changed support schemes for renewables, changed network tariff systems, impact of capacity markets).<br><br>In cooperation with experts from the industry, students are also confronted with the practitioners perspective which requires a more detailed application of the economic concepts employed.<br><br>The course aims at students in the field of economics /business as well as students in the fields of engineering and mathematics. In the final workshop, all Students present and mutually discuss their results together with practitioners from the industry. The ability to communicate also beyond the classical limits of each discipline is an important qualification for the students careers, which should be stimulated in the context of this seminar. |
| 6 | **Learning objectives and skills** | The students<br>• learn fundamental concepts and models which allow to analyze the economic interaction at energy markets,<br>• Learn to autonomously apply those methods,<br>• Conceptualize coherent analysis of current policy discussion of how to design energy markets,<br>• In close exchange with a practitioner from industry, learn to apply in meaningful way the conceptual analysis and discussions to real world problems.<br>• Develop their presentation skills. |
| 7 | **Prerequisites** | The students should be familiar with the mathematical methods acquired during their Bachelor degree.<br><br>Institutional knowledge of energy markets is helpful but not required. |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation |

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| | | mündlich<br>Seminararbeit |
| 11 | **Grading procedure** | Präsentation (30%)<br>mündlich (20%)<br>Seminararbeit (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Daniel Kirschen and Goran Strbac: Power System Economics, Wiley 2004. Steven Stoft: Power System Economics, Wiley 2002. Wolfgang Ströbele, Wolfgang Pfaffenberger, Michael Heuterkes: Energiewirtschaft, Oldenbourg 2010. |

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|---|---|---|---|
| 1 | **Module name**<br>54340 | **Seminar optimiziation in energy markets** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Frauke Liers-Bergmann |
| 5 | **Contents** | Die aktuell angebotenen Themen werden von den Dozenten rechtzeitig bekannt gegeben. |
| 6 | **Learning objectives and skills** | Die Studierenden<br>• Erarbeiten sich vertiefende Fachkompetenzen im Bereich der Optimierung von Energiemärkten;<br>• Analysieren Fragestellungen und Probleme im Bereich der Optimierung von Energiemärkten und lösen diese mit wissenschaftlichen Methoden;<br>• Verwenden relevante Präsentations- und Kommunikationstechniken und präsentieren die mathematischen Sachverhalte in mündlicher und schriftlicher Form;<br>• Tauschen sich untereinander und mit dem Dozenten über Informationen, Ideen, Probleme und Lösungen auf wissenschaftlichem Niveau aus. |
| 7 | **Prerequisites** | lineare und kombinatorische Optimierung |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Energy Markets Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>schriftlich |
| 11 | **Grading procedure** | Präsentation (75%)<br>schriftlich (25%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | no Bibliography information available! |

# Specialization: Health economics

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|---|---|---|---|
| 1 | **Module name**<br>52162 | **Applied empirical health economics** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Blockseminar Angewandte Empirische Gesundheitsökonomie / Seminar Applied Empirical Health Economics (3 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Harald Tauchmann<br>Irina Simankova | |

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| 4 | **Module coordinator** | Prof. Dr. Harald Tauchmann |
| 5 | **Contents** | The project seminar aims on introducing students to empirical research in the field of health economics. For this, two options are available. The first is to replicate and possibly extend an empirical analysis found in a research paper that is selected by the lecturer. The second is to conduct an independent empirical analysis based on one chapter of the textbook Jones, A. et al. (2013): Applied Health Economics. Each chapter of the book covers a topic of empirical health economics such as inequality in health, with a focus on specific methods (generalized Lorenz curve, probit regression for ordered categorical data, interval regression etc.) that are well suited for analyzing the specific research question. In particular, using these methods using the statistical software Stata® und using them for applied empirical work is key for the seminar. Each student individually works on an empirical project. Support and advise how to do this is provided on the individual student level. In order to get (more) familiar with stata, students may participate in a Stata-crash course prior to working on their projects. Students write a seminar thesis in which they describe and communicate their research and give a presentation of their thesis in a seminar. |
| 6 | **Learning objectives and skills** | Students<br>• become familiar with specific methods which are relevant in empirical health economics in health and learn to apply them to specific research questions<br>• deepen their methodological competences by using them in applied work<br>• acquire competences in developing and empirically addressing research questions in health economics<br>• learn to present and to discuss results of empirical research |
| 7 | **Prerequisites** | • Profound knowledge in micro econometrics<br>• Basic knowledge in the statistical software Stata ® (the course starts with an elective Stata® course, which is intended to allow students who do not know Stata® to successfully participating in the seminar) |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Seminararbeit<br>Präsentation |
| 11 | **Grading procedure** | Seminararbeit (65%)<br>Präsentation (35%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h |

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| | | Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Jones A., Rice, N. Bago dUva, T. & Balia, S. (2013): Applied Health Economics, 2nd ed., Routledge. |

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|---|---|---|---|
| 1 | **Module name**<br>52791 | **Applied methods in health services research** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | |
| 5 | **Contents** | no content description available! |
| 6 | **Learning objectives and skills** | no learning objectives and skills description available! |
| 7 | **Prerequisites** | None |
| 8 | **Integration in curriculum** | Semester: 0 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Seminararbeit |
| 11 | **Grading procedure** | Präsentation (50%)<br>Seminararbeit (50%) |
| 12 | **Module frequency** | no Module frequency information available! |
| 13 | **Workload in clock hours** | Contact hours: ?? h (keine Angaben zum Arbeitsaufwand in Präsenzzeit hinterlegt)<br>Independent study: ?? h (keine Angaben zum Arbeitsaufwand im Eigenstudium hinterlegt) |
| 14 | **Module duration** | ?? Semester (keine Angaben zur Dauer des Moduls hinterlegt) |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | no Bibliography information available! |

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|---|---|---|---|
| 1 | **Module name**<br>53281 | **Behavioral economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Behavioral Economics (2 SWS) | - |
| 3 | Lecturers | Prof. Dr. Veronika Grimm<br>Yuval Ofek-Shanny | |

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|---|---|---|
| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The course provides a theoretical and empirical introduction into the area of Behavioral Economics. This relatively new area of economics research wants to identify important deviations from the predictions of classical economics models and to extend existing models to account for these findings. |
| 6 | **Learning objectives and skills** | In the course the method of experimental economics is introduced and its use for behavioral oriented research is learned. Students learn the skill of using empirical and experimental studies as complements to theory in the study of strategic interactions. |
| 7 | **Prerequisites** | Completed Bachelor degree in Economics or in a related discipline, Microeconomics I and II |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Camerer, Colin F. (2003), Behavioral Game Theory: Experiments on Strategic Interaction, Princeton Univ. Press. Journale articles, announcement on chair website |

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|---|---|---|---|
| 1 | **Module name**<br>54821 | **Evaluation methods in health economics I** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Gesundheitsökonomische Evaluationen I (3 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Oliver Schöffski | |

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| 4 | **Module coordinator** | Prof. Dr. Oliver Schöffski |
| 5 | **Contents** | Bei allen öffentlichen Großprojekten sind Kosten-Nutzen-Analysen zwingend vorgeschrieben. Die Methodik wurde im Gesundheitswesen weiterentwickelt, wo auch intangible Effekte (z.B. Lebensqualität) berücksichtigt werden müssen. In der Veranstaltung werden die unterschiedlichen Studienformen, die Grundprinzipien, das Design von gesundheitsökonomischen Studien und insbesondere das QALY- und das Effizienzgrenzenkonzept behandelt. |
| 6 | **Learning objectives and skills** | Die Studierenden<br>• ermessen den Unterschied zwischen Effektivität und Effizienz im Gesundheitswesen<br>• diskutieren verschiedene Möglichkeiten der Berechnung von Kosten und Nutzen medizinischer Maßnahmen und setzen Kosten und Nutzen verschiedener medizinischer Maßnahmen zueinander in Beziehung<br>• beurteilen aktuelle Diskussionen zu dieser Thematik<br>• vergleichen die verschiedenen Grundformen und -prinzipien gesundheitsökonomischer Evaluationen sowie die damit verbundenen Konzepte<br>• schätzen das QALY-Konzept im Hinblick auf seine Relevanz ein<br>• skizzieren das Design einer gesundheitsökonomischen Studie |
| 7 | **Prerequisites** | Keine |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Health Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur mit MultipleChoice (60 Minuten) |
| 11 | **Grading procedure** | Klausur mit MultipleChoice (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Schöffski / Graf von der Schulenburg (Hrsg.): Gesundheitsökonomische Evaluationen, 3. oder 4. Aufl., Berlin u. a., 2007, 2008 oder 2012. |

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|---|---|---|---|
| 1 | **Module name**<br>52850 | **Health economic evaluations II** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Gesundheitsökonomische Evaluationen II (3 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Oliver Schöffski | |

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| 4 | **Module coordinator** | Prof. Dr. Oliver Schöffski |
| 5 | **Contents** | Die Thematik wird in dieser Veranstaltung aufbauend auf der Grundlagenveranstaltung im 1. Semester weiter vertieft. Insbesondere werden hier die Methoden der Lebensqualitätsmessung behandelt und kritisch diskutiert. Weiterhin werden Modellierungen in Form von Entscheidungsbäumen und Markov-Modellen theoretisch und praktisch durchgeführt. Fallbeispiele runden diese Veranstaltung ab. |
| 6 | **Learning objectives and skills** | Die Studierenden<br>• verstehen die Problematik und die Relevanz der Messung von Lebensqualitätseffekten<br>• können entsprechende Lebensqualitätsmessungen eigenständig durchführen<br>• sind in der Lage verschiedene Modellierungsansätze beurteilen zu können<br>• können einfache Modellierungen selbst konzipieren, durchführen und die Ergebnisse interpretieren. |
| 7 | **Prerequisites** | Die Pflichtveranstaltung Gesundheitsökonomische Evaluationen I sollte vor diesem Modul belegt worden sein. |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Health Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur mit MultipleChoice (60 Minuten) |
| 11 | **Grading procedure** | Klausur mit MultipleChoice (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Schöffski / Graf von der Schulenburg (Hrsg.): Gesundheitsökonomische Evaluationen, 3. oder 4. Aufl., Berlin u. a., 2007, 2008 oder 2012. |

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| 1 | **Module name**<br>53083 | **Economics of social policy** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: MA S Ökonomie der Sozialpolitik (3 SWS) | 5 ECTS |
| 3 | Lecturers | Sebastian Ach<br>Prof. Dr. Matthias Wrede<br>Elisa Poletto | |

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| 4 | **Module coordinator** | Prof. Dr. Matthias Wrede |
| 5 | **Contents** | Ausgewählte ökonomische Analysen der Sozialpolitik unter Einschluss ethischer und ökonomischer Grundlagen sowie institutioneller Aspekte |
| 6 | **Learning objectives and skills** | • Studierende kennen ausgewählte Bereiche der Sozialpolitik und können diese beschreiben und international vergleichen.<br>• Studierende können ethische und ökonomische Grundlagen staatlicher Eingriffe in ausgewählten Bereichen sozialer Sicherung darstellen, interpretieren und diskutieren.<br>• Studierende können Wirkungen sozialpolitisch relevanter Größen theoretisch und empirisch verstehen, bewerten und hinterfragen.<br>• Studierende können sozialpolitische Maßnahmen unter Effizienz- und Gerechtigkeitsgesichtspunkten bewerten und hinterfragen.<br>• Studierende geben Ihren Kommilitonen im Rahmen ihrer Präsentationen strukturiertes Feedback.<br>• Studierende fördern die Fachkenntnisse der anderen Studierenden durch themenspezifische Diskussionsbeiträge.<br>• Studierende erfassen, bewerten und diskutieren ausgewählte aktuelle, meist englischsprachige Forschungsarbeiten in Ihrer Seminararbeit. |
| 7 | **Prerequisites** | Mikroökonomische und ökonometrische Kenntnisse |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Hausarbeit |
| 11 | **Grading procedure** | Präsentation (30%)<br>Hausarbeit (70%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Die Literatur wird während des Kurses bekannt gegeben. |

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| 1 | **Module name**<br>53055 | **Panel and evaluation methods** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Panel- and Evaluation Methods (PEV)-Übung (2 SWS)<br>Tutorium: Panel- and Evaluation Methods-Tutorium (2 SWS)<br>Vorlesung: Panel- and Evaluation Methods (2 SWS)<br>Übung: Panel- and Evaluation Methods Softskills (2 SWS) | -<br>-<br>5 ECTS<br>- |
| 3 | Lecturers | Dr. Selina Gangl<br>Prof. Regina Therese Riphahn | |

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| 4 | **Module coordinator** | Prof. Regina Therese Riphahn |
| 5 | **Contents** | Endogeneity in the linear regression model; instrumental variables estimation; static and dynamic panel data models; matching; difference-in-differences estimation; regression discontinuity design; quantile regression; practical application of methods using statistics software STATA |
| 6 | **Learning objectives and skills** | Based on the introductory econometrics module Ökonometrie 1 students acquire specialized knowledge in panel und evaluation methods and apply it using the statistics software STATA. Students evaluate to what degree empirical patterns can be interpreted as causal and decide to what extent problems of endogeneity can be solved via panel data or exogeneous variation Students can produce own empirical analyses. |
| 7 | **Prerequisites** | Basic knowledge in statistics and econometrics |
| 8 | **Integration in curriculum** | Semester: 3;1 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%)<br>100 % written exam (a voluntarily submitted homework can account for 20 % of the final grade if it improves the grade. In the homework an empirical analysis is performed based on Stata. The final grade can be improved by up to 0.7 points. However, the exam must be passed. The homework only counts towards final grades in the semester in which they are produced, i.e. only in the winter semester.) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Wooldridge, J.M., 2010, Econometric Analysis of Cross Section and Panel Data, 2.A., MIT Press. Greene, William H., 2020, Econometric Analysis, 8. ed., Pearson, New Jersey<br><br>Cameron, C.A. and P.K. Trivedi, 2005, Microeconometrics. Methods and Applications, Cambridge University Press |

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| | | Angrist, J. and J.-S. Pischke, 2009, Mostly Harmless Econometrics, Princeton University Press, Princeton, and Oxford.<br><br>Verbeek, M., 2017, A Guide to Modern Econometrics, 5. A., Wiley. |

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| 1 | **Module name**<br>54611 | **Public economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Public Economics in Theory and Practice (L) (0 SWS) | 5 ECTS |
| 3 | Lecturers | Anne Maria Kesselring<br>Anne Maria Kesselring<br>Prof. Dr. Thiess Büttner | |

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| 4 | **Module coordinator** | Prof. Dr. Thiess Büttner<br>Nima Farhang-Damghani<br>Anne Maria Kesselring |
| 5 | **Contents** | The lecture provides an introduction in public economics at the intermediate level. The course first derives the basic theoretical foundations for an optimal design of public policy. In the second step, the course discusses specific aspects of public policy, such as taxation and redistribution, social security, tax evasion, debt finance, interjurisdictional competition and fiscal federalism. It supplements theory by exploring practical problems. |
| 6 | **Learning objectives and skills** | Students know how to characterize efficient public policies using microeconomic decision models. They can use this framework to study public policy in a rigorous and consistent general equilibrium context. Students are acquainted with important empirical approaches to evaluate public policies quantitatively. Moreover, they acquire knowledge about options, methods and limits to implement efficient public policy |
| 7 | **Prerequisites** | Basic microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Health Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten)<br>Written exam (90 minutes) |
| 11 | **Grading procedure** | Klausur (100%)<br>Written exam (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Hindriks, J., and Myles, G., (2006), Intermediate Public Economics, MIT Press, Cambridge Atkinson, A.B., Stiglitz, J. E., (1980), Lectures on Public Economics . MacGraw-Hill, New York Lecture notes are provided at the beginning of the course. |

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| 1 | **Module name**<br>52930 | **Seminar: Behavioral economics 1** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Behavioral Economics 1 (3 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Veronika Grimm<br>Xiaoyu Zhou | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The seminar sheds light on various issues in market and institution design focusing on selected applications. Market and institution design applies methods of game theory and (behavioral) economics to develop effective market rules. In this seminar, the focus will lie on market rules of various markets such as labor-markets or markets in the sector of health or public economics. In different market environments, phenomena like trust, social preferences, or bounded rationality are important. Understanding these aspects is of key importance for specifying the details of a particular market environment. In the seminar, we will analyse the peculiarities of selected markets and their implications for the effective organization of those markets from a theoretical and/or behavioural perspective. |
| 6 | **Learning objectives and skills** | Students<br>• Analyze the peculiarities of markets and their operating mode within the frame of complex theoretic and behavioral models,<br>• Discuss the validity of those models based on experimental or empirical studies,<br>• Evaluate, based on the literature, different market and institution designs,<br>• Autonomously analyze complex questions and develop solution concepts<br>• Are able to write a relevant theoretic or empirical scientific essay,<br>• Develop their presentation skills. |
| 7 | **Prerequisites** | Solid knowledge of microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Seminararbeit<br>mündlich<br>Präsentation |
| 11 | **Grading procedure** | Seminararbeit (50%)<br>mündlich (20%)<br>Präsentation (30%) |
| 12 | **Module frequency** | in jedem Semester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |

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| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Changing recent scientific literature |

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|---|---|---|---|
| 1 | **Module name**<br>52940 | **Seminar: Behavioral economics 2** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Behavioral Economics 2 (3 SWS) | 5 ECTS |
| 3 | Lecturers | Xiaoyu Zhou<br>Prof. Dr. Veronika Grimm | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The seminar deals with theories and methods from behavioural and experimental economics. Although behavioral and experimental economics are relatively recent fields of research, many insights have been gained from applying the methods of the field to key economic questions. Relevant topics include, but are not limited to, nudging (in the sector of health, labor, public and energy economics), norm compliance (mainly public and labor economics), social preferences (mainly health and labor economics) or uncertainty preferences (energy economics). Depending on the topic of the seminar, questions of experimental design, conducting studies and analysis of behavioural data can be dealt with. |
| 6 | **Learning objectives and skills** | Students<br>• Gain fundamental understanding of the methods of behavioral and experimental economics,<br>• Learn to autonomously apply those methods,<br>• Conceptualize own research ideas,<br>• Analyze the peculiarities of complex economic situations,<br>• Develop their presentation skills. |
| 7 | **Prerequisites** | Solid knowledge of microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>mündlich<br>Seminararbeit |
| 11 | **Grading procedure** | Präsentation (30%)<br>mündlich (20%)<br>Seminararbeit (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Camerer, Löwenstein and Rabin (2003), Advances in Behavioral Economics, Princeton University Press. Changing recent scientific literature |

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|---|---|---|---|
| 1 | **Module name**<br>56792 | **The economics of health insurance** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Ü: The Economics of Health Insurance (1 SWS)<br>Vorlesung: VL: The Economics of Health Insurance (2 SWS) | 2,5 ECTS<br>- |
| 3 | Lecturers | Franz Josef Zorzi<br>Prof. Dr. Harald Tauchmann | |

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| 4 | **Module coordinator** | Prof. Dr. Harald Tauchmann |
| 5 | **Contents** | The course covers the economics of health care taking a microeconomic perspective. The course focusses on the market for health insurance and its imperfections that originate from the specific characteristics of health as a commodity and result in market failure and hence undesirable market outcomes such as adverse selection, moral hazard, and risk selection. Based on the theoretical analysis implications for the question of how to design a health (insurance) system are derived. |
| 6 | **Learning objectives and skills** | The students<br>• learn to analyze the market for health insurance<br>• acquire knowledge about the institutions of the German health insurance system and how to assess them from a theoretical perspective<br>• test the theoretical predictions using empirical analyses |
| 7 | **Prerequisites** | Solid skills in microeconomics, basic skills in econometrics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Zweifel, P., Breyer, F., Kifmann, M. (2009): Health Economics, Springer 2nd ed. |

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| 1 | **Module name**<br>52153 | **The supply of medical services** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Ü: Supply of Medical Services (1 SWS)<br>Vorlesung: VL: Supply of Medical Services (2 SWS) | 2,5 ECTS<br>- |
| 3 | Lecturers | Irina Simankova<br>Prof. Dr. Harald Tauchmann | |

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| 4 | **Module coordinator** | Prof. Dr. Harald Tauchmann |
| 5 | **Contents** | In this course the market for medical services and in particular the supply of services from physicians and hospitals is analyzed. The focus is on behavioral incentives and how they are shaped by the characteristics of health as a special good as well as by institutional settings. Topics to be covered are supplier induced demand, quality-quantity-relationship in hospitals and optimal reimbursement schemes. The course will also cover individual health behavior. Throughout the course microeconomic models will be used. |
| 6 | **Learning objectives and skills** | Students<br>• understand the behavior of phsysicians from a microeconomic perspective<br>• can evaluate governmental regulations in health care markets<br>• can discuss reforms in the health care sector |
| 7 | **Prerequisites** | Solid knowledge of microeconomics and econometrics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Zweifel, P., Breyer, F., Kifmann, M. (2009): Health Economics, Springer, 2. Aufl. |

# Specialisation: Labor Economics

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|---|---|---|---|
| 1 | **Module name**<br>53281 | **Behavioral economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Behavioral Economics (2 SWS) | - |
| 3 | Lecturers | Prof. Dr. Veronika Grimm<br>Yuval Ofek-Shanny | |

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|---|---|---|
| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The course provides a theoretical and empirical introduction into the area of Behavioral Economics. This relatively new area of economics research wants to identify important deviations from the predictions of classical economics models and to extend existing models to account for these findings. |
| 6 | **Learning objectives and skills** | In the course the method of experimental economics is introduced and its use for behavioral oriented research is learned. Students learn the skill of using empirical and experimental studies as complements to theory in the study of strategic interactions. |
| 7 | **Prerequisites** | Completed Bachelor degree in Economics or in a related discipline, Microeconomics I and II |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Camerer, Colin F. (2003), Behavioral Game Theory: Experiments on Strategic Interaction, Princeton Univ. Press. Journale articles, announcement on chair website |

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|---|---|---|---|
| 1 | **Module name**<br>53370 | **Empirical labor market research** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Empirische Arbeitsmarktforschung (3 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Claus Schnabel<br>Dr. Bianca Willert | |

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| 4 | **Module coordinator** | Prof. Dr. Claus Schnabel |
| 5 | **Contents** | Mittels vorgegebener Datensätze werden ökonometrische Analysemethoden auf aktuelle Fragestellungen der Arbeitsmarktökonomik angewendet und diese eigenständig empirisch untersucht. |
| 6 | **Learning objectives and skills** | Die Studierenden lernen, Arbeitsmarktstudien kompetent zu interpretieren, zu bewerten und zu hinterfragen. Sie verstehen quantitative Methoden differenziert einzusetzen, Hypothesen zu bilden und diese empirisch zu überprüfen. Durch eigenes Arbeiten am PC werden sie in die Lage versetzt, selbständig Forschungsdesigns zu entwickeln, ökonometrische Analysen durchzuführen und deren Ergebnisse aufzubereiten. Zudem verstehen sie es, Erkenntnisse aus fremden oder eigenen empirischen Arbeiten prägnant darzustellen, kritisch zu bewerten und der (Fach-) Öffentlichkeit zu vermitteln. |
| 7 | **Prerequisites** | Grundkenntnisse in Arbeitsmarktökonomik und Ökonometrie |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Praktische Prüfung/Test<br>Hausarbeit |
| 11 | **Grading procedure** | Praktische Prüfung/Test (20%)<br>Hausarbeit (80%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Wechselnde aktuelle Forschungsliteratur |

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|---|---|---|---|
| 1 | **Module name**<br>57130 | **International trade and labor** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Ma-Vorl: International Trade & Labor (0 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Christoph Moser | |

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| 4 | **Module coordinator** | Prof. Dr. Christoph Moser<br>Prof. Dr. Klaus Moser |
| 5 | **Contents** | This module deals with the consequences of globalization for the domestic labor market and discusses the winners and losers of trade liberalization. The module focuses on the impact of international economic integration on domestic wages, jobs and inequality, in particular in Germany and the United States. |
| 6 | **Learning objectives and skills** | Students are made familiar with the main relevant concepts of international trade and aquire specialized knowledge of the labor market effects of trade liberalization. Students learn about key theoretical predictions, their empirical evidence and the empirical strategies to assess their relevance. The module focuses on topics at the intersection between international trade and labor. |
| 7 | **Prerequisites** | Recommended prerequisites:<br><br>Basic knowledge of microeconomics (e.g., Varian, Hal (2014), Intermediate Microeconomics: A Modern Approach, 9th international edition) and econometrics (e.g., Wooldridge, Jeffrey (2013), Introductory Econometrics: A Modern Approach, 5th international edition).<br><br>Module compatibility:<br><br>Master Economics: Specialization in Macroeconomics and Finance<br><br>Master IBS: elective course (Wahlbereich): English-speaking<br><br>countries; Europe<br><br>Master Arbeitsmarkt und Personal: Wahlbereich<br><br>Master Sozialökonomik: freier Vertiefungsbereich |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |

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| | | Written examination: 60 min. (Klausur 60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%)<br>Written examination result 100% (Prüfungsergebnis 100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Krugman, P., M. Obstfeld and M. Melitz (2017/18), International Trade: Theory and Policy OR International Economics: Theory and Policy, 11th global edition. Further course materials will be announced in the course. |

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| 1 | **Module name**<br>52900 | **Labor and personnel economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Labor and Personnel Economics (2 SWS)<br>Übung: Übung Labor and Personnel Economics (2 SWS) | 3 ECTS<br>2 ECTS |
| 3 | Lecturers | Prof. Dr. Claus Schnabel | |

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| 4 | **Module coordinator** | Prof. Dr. Claus Schnabel |
| 5 | **Contents** | • Labor supply<br>• Human capital<br>• Labor demand<br>• Search and matching<br>• Mobility and migration<br>• Wages<br>• Employment relationships and work incentives<br>• Unemployment |
| 6 | **Learning objectives and skills** | The course imparts the major methods and insights of the analysis of labor markets and employment relationships. Students<br>• learn the major determinants of labor supply and demand-<br>• understand the importance of human capital and work incentives-<br>• analyze the functioning of labor markets and the main reasons for unemployment-<br>• critically reflect labor market theories- are able to interpret and scrutinize empirical studies-<br>• evaluate labor market policy and firms compensation policy. |
| 7 | **Prerequisites** | Basic knowledge of microeconomics and empirical research methods/ econometrics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 40 h<br>Independent study: 110 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Cahuc, P./Carcillo, S./Zylberberg, A.: Labor Economics, 2nd ed., Cambridge, Mass. 2014 Garibaldi, P.: Personnel Economics in Imperfect Labour Markets, Oxford 2006 |

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|---|---|---|---|
| 1 | **Module name**<br>52910 | **Labor market policy** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Labor Market Policy (2 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Gesine Stephan | |

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| 4 | **Module coordinator** | Prof. Dr. Gesine Stephan |
| 5 | **Contents** | The module analyzes main topics in labor market policy, with a focus on evaluation studies of labor market institutions and active and passive labor market programs |
| 6 | **Learning objectives and skills** | Students<br>• acquire specialized knowledge on policy debates, theoretical backgrounds, evaluation techniques, and empirical evidence for core labor market policies.<br>• assess theoretical approaches, applied methods, and empirical results of recent research papers.<br>• clearly present and scrutinize complex facts and results.<br>• discuss presentations of fellow students and provide constructive feedback. |
| 7 | **Prerequisites** | Solid knowledge in microeconomics and econometrics |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Diskussionsbeitrag<br>Seminararbeit |
| 11 | **Grading procedure** | Präsentation (0%)<br>Diskussionsbeitrag (0%)<br>Seminararbeit (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Boeri, T., van Ours. J. (2013). The Economics of Imperfect Labor Markets, 2nd edition. Princeton: Princeton University Press. Varying recent literature |

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|---|---|---|---|
| 1 | **Module name**<br>53344 | **Labor markets: A macroeconomic perspective** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Labor Markets: A Macroeonomic Perspective (2 SWS) | 5 ECTS |
| 3 | Lecturers | PD Dr. Heiko Stüber | |

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| 4 | **Module coordinator** | Prof. Dr. Christian Merkl |
| 5 | **Contents** | • Stylized macroeconomic facts of the labor market<br>• The labor market and business cycle dynamics<br>• The importance of wage rigidities |
| 6 | **Learning objectives and skills** | Students learn<br><br>• to analyze macroeconomic stylized facts of the labor market<br>• to critically evaluate the ability of dynamic labor market models (e.g., search and matching) to replicate business cycle facts<br>• to evaluate macroeconomic (policy) implications. |
| 7 | **Prerequisites** | Macroeconomics: Business Cycles, Econometrics |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Seminararbeit<br>Präsentation |
| 11 | **Grading procedure** | Seminararbeit (90%)<br>Präsentation (10%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 20 h<br>Independent study: 130 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Pissarides, C. Equilibrium Unemployment. 2000, MIT Press, Cambridge. Chapters 1 & 9. Recent research articles |

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| 1 | **Module name**<br>57131 | **Labor Markets in the Knowledge Economy** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung mit Übung: Labor Markets in the Knowledge Economy (4 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Markus Nagler | |

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| 4 | **Module coordinator** | Prof. Dr. Markus Nagler |
| 5 | **Contents** | The course analyzes topics in labor economics and their connection to technological change and the knowledge economy. We will mostly discuss topics in labor economics such as labor supply and migration which are seen through a technology and knowledge economy perspective. The course is mainly based on empirical research papers: labor economics is a front-runner in the use of econometrics and data. |
| 6 | **Learning objectives and skills** | Students know the key issues in the intersection of labor and innovation economics. They are able to assess current research in the area and are able to relate its results to fundamental policy questions. Students are acquainted with important empirical approaches in labor economics. |
| 7 | **Prerequisites** | Basic microeconomics, basic econometrics |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Labour Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Angrist, Joshua and Jörn-Steffen Pischke (2008). Mostly Harmless Econometrics, Princeton University Press.<br><br>Autor, David H. Why are there still so many jobs? The history and future of workplace automation. The Journal of Economic Perspectives 29.3 (2015): 3-30. |

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| 1 | **Module name**<br>52390 | **Literature seminar on current issues of labor economics** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Lutz Bellmann |
| 5 | **Contents** | Auswertung, Interpretation und Diskussion bestehender Studien zu aktuellen Arbeitsmarktthemen (wie z.B. Fragen der Entlohnung, der Qualifikation und Bildung, der Arbeitsbeziehungen und der Arbeitsmarktpolitik). Der Schwerpunkt liegt dabei auf mikroökonometrischen Studien. |
| 6 | **Learning objectives and skills** | Die Studierenden lernen anhand aktueller empirischer Studien aus der Literatur, Arbeitsmarktstudien kompetent zu interpretieren, zu bewerten und zu hinterfragen. Sie verstehen quantitative Methoden differenziert einzusetzen, Hypothesen zu bilden und diese empirisch zu überprüfen. Zudem verstehen sie es, Erkenntnisse aus fremden empirischen Arbeiten prägnant darzustellen, kritisch zu bewerten und der (Fach-) Öffentlichkeit zu vermitteln. Sie erschließen dabei eigenständig Informationen, erstellen Präsentationen und geben Kommiliton(inn)en wertschätzendes Feedback zu deren Präsentationen. |
| 7 | **Prerequisites** | Kenntnisse in Arbeitsmarktökonomie und Ökonometrie |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Hausarbeit |
| 11 | **Grading procedure** | Präsentation (20%)<br>Hausarbeit (80%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Wechselnde aktuelle Forschungsliteratur |

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| 1 | **Module name**<br>52393 | **Machine Learning: Applications in Economic Research** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Johannes Rincke |
| 5 | **Contents** | Methods in machine learning and applications in economics |
| 6 | **Learning objectives and skills** | Students will<br>• learn to program in Python (in particular, Pandas) and to use tools like SQL and Google BigQuery<br>• familiarize themselves with different machine learning topics relevant for economic research, including natural language processing and machine learning methods for count data, model regularization, random forests and causal forests, as well as deep learning<br>• apply the methods and techniques described above using examples from recent academic papers relating to different areas of economic research |
| 7 | **Prerequisites** | All techniques and methods that are part of the curriculum in the first semester of the study program MSE |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Labour Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Fallstudie(n)<br>schriftlich |
| 11 | **Grading procedure** | Fallstudie(n) (50%)<br>schriftlich (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Will be provided |

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|---|---|---|---|
| 1 | **Module name**<br>53107 | **Microeconometrics and Machine Learning** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Microeconometrics and machine learning (2 SWS)<br>Übung: Microeconometrics and machine learning - Übung (2 SWS) | 2,5 ECTS<br>2,5 ECTS |
| 3 | Lecturers | Prof. Regina Therese Riphahn<br>Irakli Sauer | |

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| 4 | **Module coordinator** | Prof. Regina Therese Riphahn |
| 5 | **Contents** | Maximum Likelihood estimation, binary dependent variables, multinomial and ordered dependent variables, Tobit models, selection models, duration models, count data models, applications of machine learning in economics. Practical application of empirical methods using Stata. |
| 6 | **Learning objectives and skills** | Based on introductory econometrics modules students acquire specialized knowledge regarding maximum likelihood estimation and microeconometric problems, and methods of machine learning. Students learn how to apply these methods using the statistics software STATA. They discuss and evaluate the appropriateness of specific methods in the framework of practical applications and have the opportunity to voluntarily prepare written empirical homeworks. |
| 7 | **Prerequisites** | Basic knowledge in statistics and econometrics |
| 8 | **Integration in curriculum** | Semester: 2;4 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Cameron, C. und P. K. Trivedi, 2005, Microeconometrics. Methods and Applications, Cambridge Univ. Press.<br><br>Greene, William H., 2020, Econometric Analysis, 8. ed., Pearson<br><br>Hastie, T., R. Tibsharani, und J., 2009, The Elements of Statistical Learning: Data Mining, Inference and Prediction, Springer.<br><br>Wooldridge, J.M., 2010, Econometric Analysis of Cross Section and Panel Data, 2.A., MIT Press. |

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| 1 | **Module name**<br>53083 | **Economics of social policy** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: MA S Ökonomie der Sozialpolitik (3 SWS) | 5 ECTS |
| 3 | Lecturers | Sebastian Ach<br>Prof. Dr. Matthias Wrede<br>Elisa Poletto | |

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| 4 | **Module coordinator** | Prof. Dr. Matthias Wrede |
| 5 | **Contents** | Ausgewählte ökonomische Analysen der Sozialpolitik unter Einschluss ethischer und ökonomischer Grundlagen sowie institutioneller Aspekte |
| 6 | **Learning objectives and skills** | • Studierende kennen ausgewählte Bereiche der Sozialpolitik und können diese beschreiben und international vergleichen.<br>• Studierende können ethische und ökonomische Grundlagen staatlicher Eingriffe in ausgewählten Bereichen sozialer Sicherung darstellen, interpretieren und diskutieren.<br>• Studierende können Wirkungen sozialpolitisch relevanter Größen theoretisch und empirisch verstehen, bewerten und hinterfragen.<br>• Studierende können sozialpolitische Maßnahmen unter Effizienz- und Gerechtigkeitsgesichtspunkten bewerten und hinterfragen.<br>• Studierende geben Ihren Kommilitonen im Rahmen ihrer Präsentationen strukturiertes Feedback.<br>• Studierende fördern die Fachkenntnisse der anderen Studierenden durch themenspezifische Diskussionsbeiträge.<br>• Studierende erfassen, bewerten und diskutieren ausgewählte aktuelle, meist englischsprachige Forschungsarbeiten in Ihrer Seminararbeit. |
| 7 | **Prerequisites** | Mikroökonomische und ökonometrische Kenntnisse |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Hausarbeit |
| 11 | **Grading procedure** | Präsentation (30%)<br>Hausarbeit (70%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Die Literatur wird während des Kurses bekannt gegeben. |

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| 1 | **Module name**<br>53055 | **Panel and evaluation methods** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Panel- and Evaluation Methods (PEV)-Übung (2 SWS)<br>Tutorium: Panel- and Evaluation Methods-Tutorium (2 SWS)<br>Vorlesung: Panel- and Evaluation Methods (2 SWS)<br>Übung: Panel- and Evaluation Methods Softskills (2 SWS) | -<br>-<br>5 ECTS<br>- |
| 3 | Lecturers | Dr. Selina Gangl<br>Prof. Regina Therese Riphahn | |

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| 4 | **Module coordinator** | Prof. Regina Therese Riphahn |
| 5 | **Contents** | Endogeneity in the linear regression model; instrumental variables estimation; static and dynamic panel data models; matching; difference-in-differences estimation; regression discontinuity design; quantile regression; practical application of methods using statistics software STATA |
| 6 | **Learning objectives and skills** | Based on the introductory econometrics module Ökonometrie 1 students acquire specialized knowledge in panel und evaluation methods and apply it using the statistics software STATA. Students evaluate to what degree empirical patterns can be interpreted as causal and decide to what extent problems of endogeneity can be solved via panel data or exogeneous variation Students can produce own empirical analyses. |
| 7 | **Prerequisites** | Basic knowledge in statistics and econometrics |
| 8 | **Integration in curriculum** | Semester: 3;1 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%)<br>100 % written exam (a voluntarily submitted homework can account for 20 % of the final grade if it improves the grade. In the homework an empirical analysis is performed based on Stata. The final grade can be improved by up to 0.7 points. However, the exam must be passed. The homework only counts towards final grades in the semester in which they are produced, i.e. only in the winter semester.) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Wooldridge, J.M., 2010, Econometric Analysis of Cross Section and Panel Data, 2.A., MIT Press. Greene, William H., 2020, Econometric Analysis, 8. ed., Pearson, New Jersey<br><br>Cameron, C.A. and P.K. Trivedi, 2005, Microeconometrics. Methods and Applications, Cambridge University Press |

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|---|---|---|
| | | Angrist, J. and J.-S. Pischke, 2009, Mostly Harmless Econometrics, Princeton University Press, Princeton, and Oxford.<br><br>Verbeek, M., 2017, A Guide to Modern Econometrics, 5. A., Wiley. |

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| 1 | **Module name**<br>53071 | **Personnel economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Personnel Economics (2 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Regina Therese Riphahn | |

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| 4 | **Module coordinator** | Prof. Regina Therese Riphahn |
| 5 | **Contents** | The module addresses key topics of modern personnel economics research, such as hiring, contract design, motivation, training, teamwork, and group incentives. |
| 6 | **Learning objectives and skills** | Students acquire specialized knowledge of personnel economics theories and research questions. By preparing short thesis papers and a seminar paper, students learn to evaluate and critically discuss methodological choices and substantive conclusions drawn in recent empirical research papers. Students assess theoretical approaches, applied empirical methods and results of recent research papers. Students present and scrutinize complex facts and results. They discuss the theoretical background, empirical method, and empirical evidence on personnel economics research contributions, discuss presentations of fellow students and provide constructive feedback.<br><br>Compulsory attendance is required for discussion and feedback processes. |
| 7 | **Prerequisites** | Basic knowledge of microeconomics and econometrics |
| 8 | **Integration in curriculum** | Semester: 2;4 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich<br>Seminararbeit<br>Seminar paper, thesis papers |
| 11 | **Grading procedure** | schriftlich (40%)<br>Seminararbeit (60%)<br>Seminar paper (group work) (60 %), thesis papers (40 %) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Garibaldi, Pietro (2006), Personnel Economics in Imperfect Labour Markets, Oxford Univ. Press. Neilson, William S. (2007), Personnel Economics, Pearson Educ. Inc.<br><br>Lazear, Edward P. (1998), Personnel Economics, MIT Press.<br><br>Selected research papers. |

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| 1 | **Module name**<br>54611 | **Public economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Public Economics in Theory and Practice (L) (0 SWS) | 5 ECTS |
| 3 | Lecturers | Anne Maria Kesselring<br>Anne Maria Kesselring<br>Prof. Dr. Thiess Büttner | |

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| 4 | **Module coordinator** | Prof. Dr. Thiess Büttner<br>Nima Farhang-Damghani<br>Anne Maria Kesselring |
| 5 | **Contents** | The lecture provides an introduction in public economics at the intermediate level. The course first derives the basic theoretical foundations for an optimal design of public policy. In the second step, the course discusses specific aspects of public policy, such as taxation and redistribution, social security, tax evasion, debt finance, interjurisdictional competition and fiscal federalism. It supplements theory by exploring practical problems. |
| 6 | **Learning objectives and skills** | Students know how to characterize efficient public policies using microeconomic decision models. They can use this framework to study public policy in a rigorous and consistent general equilibrium context. Students are acquainted with important empirical approaches to evaluate public policies quantitatively. Moreover, they acquire knowledge about options, methods and limits to implement efficient public policy |
| 7 | **Prerequisites** | Basic microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Health Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten)<br>Written exam (90 minutes) |
| 11 | **Grading procedure** | Klausur (100%)<br>Written exam (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Hindriks, J., and Myles, G., (2006), Intermediate Public Economics, MIT Press, Cambridge Atkinson, A.B., Stiglitz, J. E., (1980), Lectures on Public Economics . MacGraw-Hill, New York Lecture notes are provided at the beginning of the course. |

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| 1 | **Module name**<br>52930 | **Seminar: Behavioral economics 1** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Behavioral Economics 1 (3 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Veronika Grimm<br>Xiaoyu Zhou | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The seminar sheds light on various issues in market and institution design focusing on selected applications. Market and institution design applies methods of game theory and (behavioral) economics to develop effective market rules. In this seminar, the focus will lie on market rules of various markets such as labor-markets or markets in the sector of health or public economics. In different market environments, phenomena like trust, social preferences, or bounded rationality are important. Understanding these aspects is of key importance for specifying the details of a particular market environment. In the seminar, we will analyse the peculiarities of selected markets and their implications for the effective organization of those markets from a theoretical and/or behavioural perspective. |
| 6 | **Learning objectives and skills** | Students<br>• Analyze the peculiarities of markets and their operating mode within the frame of complex theoretic and behavioral models,<br>• Discuss the validity of those models based on experimental or empirical studies,<br>• Evaluate, based on the literature, different market and institution designs,<br>• Autonomously analyze complex questions and develop solution concepts<br>• Are able to write a relevant theoretic or empirical scientific essay,<br>• Develop their presentation skills. |
| 7 | **Prerequisites** | Solid knowledge of microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Seminararbeit<br>mündlich<br>Präsentation |
| 11 | **Grading procedure** | Seminararbeit (50%)<br>mündlich (20%)<br>Präsentation (30%) |
| 12 | **Module frequency** | in jedem Semester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |

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| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Changing recent scientific literature |

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| 1 | **Module name**<br>52940 | **Seminar: Behavioral economics 2** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Behavioral Economics 2 (3 SWS) | 5 ECTS |
| 3 | Lecturers | Xiaoyu Zhou<br>Prof. Dr. Veronika Grimm | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The seminar deals with theories and methods from behavioural and experimental economics. Although behavioral and experimental economics are relatively recent fields of research, many insights have been gained from applying the methods of the field to key economic questions. Relevant topics include, but are not limited to, nudging (in the sector of health, labor, public and energy economics), norm compliance (mainly public and labor economics), social preferences (mainly health and labor economics) or uncertainty preferences (energy economics). Depending on the topic of the seminar, questions of experimental design, conducting studies and analysis of behavioural data can be dealt with. |
| 6 | **Learning objectives and skills** | Students<br>• Gain fundamental understanding of the methods of behavioral and experimental economics,<br>• Learn to autonomously apply those methods,<br>• Conceptualize own research ideas,<br>• Analyze the peculiarities of complex economic situations,<br>• Develop their presentation skills. |
| 7 | **Prerequisites** | Solid knowledge of microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>mündlich<br>Seminararbeit |
| 11 | **Grading procedure** | Präsentation (30%)<br>mündlich (20%)<br>Seminararbeit (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Camerer, Löwenstein and Rabin (2003), Advances in Behavioral Economics, Princeton University Press. Changing recent scientific literature |

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|---|---|---|---|
| 1 | **Module name**<br>52391 | **Seminar economics of human capital** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Markus Nagler<br>Prof. Dr. Johannes Rincke |
| 5 | **Contents** | Topics in the Economics of Human Capital |
| 6 | **Learning objectives and skills** | Students<br>• study selected parts of the academic literature on the economics of human capital and learn how to deal with this literature<br>• learn how to identify relevant contributions in large bodies of economic literature<br>• learn about up-to-date methods (theory and empirics) in the economics of human capital<br>• learn how to read economic papers and to evaluate and assess contributions, both in terms of theory and empirical methods<br>• learn how to delineate conclusions from the academic literature in terms of policy implications and recommendations<br>• learn how to structure and write academic theses in economics<br>• expand their skills in terms of presentation techniques and participation in academic discussion |
| 7 | **Prerequisites** | All techniques and methods that are part of the curriculum in the first semester of the study program MSE |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Labour Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich/mündlich |
| 11 | **Grading procedure** | schriftlich/mündlich (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Will be provided |

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|---|---|---|---|
| 1 | **Module name**<br>57176 | **Semiparametric methods in econometrics and applications** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung mit Übung: Semiparametric Methods in Econometrics and Applications (2 SWS) (  SWS) | - |
| 3 | Lecturers | Prof. Bernd Fitzenberger<br>Leonie Wicht | |

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| 4 | **Module coordinator** | Prof. Bernd Fitzenberger |
| 5 | **Contents** | This course presents nonparametric and semiparametric regression techniques which are part of the tool set of modern microeconometric methods and applications. The course covers saturated OLS regression, kernel density estimation, nonparametric regression, partially linear models, semiparametric selection models, inverse probability weighting, penalized regression models as well as parametric and nonparametric quantile regression as basic tools. These methods are used for cross-section data and longitudinal data. Students will familiarize themselves with applying the methods based on selected applications in economic research papers. |
| 6 | **Learning objectives and skills** | Students<br>• learn how to learn to think of regression as modelling conditional expectations and features of conditional distribution<br>• learn how that there is a bias and variance trade-off between choosing a flexible regression specification and obtaining precise estimates in light of the curse-of-dimensionality<br>• learn that flexible regression methods require the choice of tuning parameters and how to use statistical approaches to choose the tuning parameters<br>• learn how semiparametric methods are applied in real world econometric studies |
| 7 | **Prerequisites** | Master level Einführung in die Ökonometrie (Introduction into econometrics) (mandatory) and a further course (recommended) in microeconometrics such as Panel and Evaluation Methods or Mikroökonometrie und Maschinelles Lernen. |
| 8 | **Integration in curriculum** | Semester: 1 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Pagan, A. and A. Ullah (1999): Nonparametric Econometrics, Cambridge University Press.  Wooldridge, J. M. (2010): Econometric Analysis of Cross Section and Panel Data. 2nd edition, Cambridge, MA: MIT Press. |

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| 1 | **Module name**<br>55960 | **Spatial economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: MA V Spatial Economics (2 SWS)<br>Übung: MA Üb Spatial Economics (2 SWS) | -<br>2,5 ECTS |
| 3 | Lecturers | Prof. Dr. Matthias Wrede<br>Luisa Schneider | |

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| 4 | **Module coordinator** | Prof. Dr. Matthias Wrede |
| 5 | **Contents** | Urban Economics, Trade, Mobility, and Agglomeration, Spatial Concentration, Regional Policy |
| 6 | **Learning objectives and skills** | At the end of this course,<br>• Students are able to describe and to internationally compare the regional patterns of major economic activities in terms of stylized facts.<br>• Students are able to present, interpret, and discuss selected theories in regional and urban economics.<br>• Students are able to apply and assess selected empirical methods in spatial economics.<br>• Students are able to assess empirical tests of selected hypotheses from theories in regional and urban economics to evaluate and critically examine their informative value.<br>• Students are able to discuss and evaluate regional political implications of selected economic theories in regional and urban economics.<br>• Students will assess, evaluate and discuss selected recent research papers in English. |
| 7 | **Prerequisites** | Microeconomics, Econometrics I |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Klausur (60 Minuten) |
| 11 | **Grading procedure** | Präsentation (20%)<br>Klausur (80%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Brakman, S., H. Garretsen und C. van Marrewijk (2020). An Introduction to Geographical and Urban Economics. Cambridge University Press. Cambridge, UK, 3. Ed. |

# Specialisation: Macroeconomics and Finance

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|---|---|---|---|
| 1 | **Module name**<br>55675 | **Applying statistical methods for risk management in financial institutions** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung mit Übung: Anwendung statistischer Methoden im Risikomanagement von Finanzinstituten (4 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Matthias Fischer | |

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| 4 | **Module coordinator** | Prof. Dr. Matthias Fischer<br>Prof. Dr. Thomas Fischer |
| 5 | **Contents** | Statistische Grundlagen (z.B. Ergebnisse der Extremwertstatistik, Schätzung von Verteilungsparameter); Ausgewählte Modelle zur Messung von Kreditrisiken, Marktrisiken, Operationelle Risiken |
| 6 | **Learning objectives and skills** | Einschätzen der o.g. Verfahren und Kompetenz in deren Anwendung mittels statistischer Programmpakete (insb. R)<br><br>Analytische Bewertung und Analyse der Ergebnisse |
| 7 | **Prerequisites** | Einführende Veranstaltungen der Statistik in einschlägigen BA-Studiengängen |
| 8 | **Integration in curriculum** | no Integration in curriculum available! |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | mündlich (30 Minuten) |
| 11 | **Grading procedure** | mündlich (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Quantitative Risk Management  Concepts, Techniques and Tools - Revised Edition Alexander J. McNeil, Rüdiger Frey & Paul Embrechts (2015); Introduction to Credit Risk Modeling, Second Edition (Chapman & Hall/CRC Financial Mathematics) Christian Bluhm, Ludger Overbeck, Christoph Wagner 2008 |

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| 1 | **Module name**<br>56530 | **Asset liability management (insurance)** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Übung Asset Liability Management (Versicherungen) (1 SWS)<br>Vorlesung: Vorlesung Asset Liability Management (Versicherungen) (Asset liability management (insurance)) (2 SWS) | 2,5 ECTS<br>2,5 ECTS |
| 3 | Lecturers | Prof. Dr. Nadine Gatzert | |

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| 4 | **Module coordinator** | Prof. Dr. Nadine Gatzert |
| 5 | **Contents** | • Einführung: Rahmenbedingungen im Finanzdienstleistungssektor; strategische Zielgrößen von Versicherungsunternehmen (Konzepte und Messung von Kennzahlen)<br>• Asset Management: grundsätzliche Überlegungen; Risikostreuung in Theorie und Praxis; rechtliche Rahmenbedingungen; Chancen und Risiken von Investitionen in Infrastruktur und erneuerbare Energien unter Solvency II; strategische Aspekte der Kapitalanlagepolitik; Performancemessung; Berücksichtigung von Nachhaltigkeitsaspekten in der Kapitalanlage<br>• Liability Management: Ausgleich im Kollektiv; Chain Ladder Verfahren; Rückversicherungsformen; Alternativer Risikotransfer (u.a. Insurance Linked Securities, Cat Bonds)<br>• Asset Liability Management für Versicherungen: Immunisierungsansätze (Cashflow und Duration Matching); Optimierungsstrategien; Szenarioanalysen und Dynamische Finanzanalyse; wissenschaftliche Forschungsarbeiten im Kontext des ALM<br>• Cyber-Risiken im Kontext des ALM, Versicherbarkeit und Management von Cyber-Risiken<br>• Umsetzung von Szenarioanalysen mit Monte-Carlo Simulation im Rahmen einer Excel-basierten ALM Case Study |
| 6 | **Learning objectives and skills** | Die Studierenden<br>• erlernen die grundlegenden und vertiefenden Konzepte des Asset Liability Managements eines Versicherungsunternehmens;<br>• können Modellannahmen hinterfragen;<br>• können die theoretischen Konzepte auf konkrete Fragestellungen anwenden;<br>• können Monte-Carlo Simulation in Excel einsetzen, dabei ihre theoretischen Kenntnisse anwenden und eigenständig im Rahmen einer ALM-Simulationsstudie mit Szenarioanalysen umsetzen;<br>• lernen interaktiv im Rahmen von Workshops in Gruppen aktuelle Fragestellungen im Kontext des ALMs zu strukturieren, zu erarbeiten und zu präsentieren; |

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| | | • entwickeln und vertiefen dabei ihre Kompetenzen in der Teamarbeit |
| 7 | **Prerequisites** | Keine. |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten)<br>*Im Sommersemester besteht vorlesungsbegleitend die Möglichkeit einer freiwilligen Notenverbesserung, wobei eine Verbesserung um bis zu 0,3 Notenstufen erfolgen kann. Dazu können Studierende auf StudOn vier je ca. 10-minütige Online-Kurztests (Quizze) zur Aufbereitung des Vorlesungsstoffs bearbeiten. Die Notenverbesserung erfolgt, wenn die Quizze erfolgreich bearbeitet wurden sowie die Klausur mit der Note 4,0 oder besser bestanden wurde. Etwaige Quizergebnisse aus dem Sommersemester werden für eine Nachholprüfung im Wintersemester übernommen.* |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Die vorbereitende Literatur und auch die weitergehende, forschungsbezogene Literatur werden im Rahmen der Veranstaltung bekannt gegeben. |

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| 1 | **Module name**<br>52560 | **Banking supervision: Bank rating, stress testing, financial stability** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Banking Supervision (2 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Christian Merkl | |

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| 4 | **Module coordinator** | Prof. Dr. Christian Merkl |
| 5 | **Contents** | This course covers a wide range of topics in banking supervision (e.g., bank rating models and risk assessment in banking supervision; different concepts of stress testing credit, market, and liquidity risk; development and analysis of bank stability indicators; bank resolution; financial stability and macroprudential oversight in the EU). Basic analytical concepts will be provided as a background; the last EBA/SSM Stress Test will be used to analyze the implications of such an exercise for banks, policy makers, and international organizations. A case study based on the econometrics software Stata will be used to develop empirical bank rating and stress testing tools. |
| 6 | **Learning objectives and skills** | Students<br>• learn about banking structure, regulation, bank bailouts, and corporate governance in banking.<br>• understand and apply different concepts of bank rating and stress testing; develop tools using the econometrics software Stata.<br>• analyze competition and efficiency in banking markets and understand the concept of financial stability. |
| 7 | **Prerequisites** | Macroeconomics (Bachelor) |
| 8 | **Integration in curriculum** | Semester: 1 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%)<br>The grade can be improved up to 0.7 units with a voluntary project work. |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Presentation slides and relevant literature will be provided. |

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| 1 | **Module name**<br>57340 | **Bayesian econometrics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung mit Übung: Bayesian Econometrics (Lecture/ Excercise Session) (4 SWS) | 5 ECTS |
| 3 | Lecturers | Hector Perico Ortiz<br>Prof. Dr. Jonas Dovern | |

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| 4 | **Module coordinator** | Prof. Dr. Jonas Dovern |
| 5 | **Contents** | Basics of Bayesian statistics; Bayesian estimation of linear regression models with various priors; Bayesian estimation of models for limited dependent variables; Bayesian VAR models; forecasting with Bayesian models; Bayesian estimation of macroeconomic DSGE models; posterior simulation techniques (Monte Carlo integration, importance sampling, Gibbs sampler, Metropolis-Hastings algorithm); implementation of methods in R |
| 6 | **Learning objectives and skills** | Ability to explain the differences between Bayesian and frequentist econometrics; ability to derive posterior parameter distributions for different priors for a range of empirical models; ability to investigate how sensitive results are with respect to prior choices; ability to interpret results of Bayesian analyses in academic research papers; skills to implement Bayesian estimations of the covered models in R |
| 7 | **Prerequisites** | Basic knowledge in statistics<br><br>Courses: Applied econometrics and Mathematics for economists |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | mündlich (20 Minuten) |
| 11 | **Grading procedure** | mündlich (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Koop, G. (2003), Bayesian Econometrics, Wiley, West Sussex. Del Negro, M. and F. Schorfheide (2011), Bayesian Macroeconomics, in: Geweke, J., G. Koop, and H. van Dijk (eds.), The Oxford Handbook of Bayesian Econometrics, p.293389, Oxford University Press, Oxford. Kilian, L. and H. Lütkepohl (2017), Structural Vector Autoregressive Analysis, Cambrige University Press, Cambridge. |

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| 1 | **Module name**<br>57400 | **European topics in economics** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Christian Merkl |
| 5 | **Contents** | • European topics in economics |
| 6 | **Learning objectives and skills** | Students<br>• use a microeconomic or macroeconomic dataset.<br>• apply advanced econometric techniques to answer economic questions related to the European Union.<br>• write a seminar work that describes key empirical results.<br>• present their results in Brussels. |
| 7 | **Prerequisites** | Macroeconomics: Business Cycles and Applied Econometrics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Seminarleistung |
| 11 | **Grading procedure** | Seminarleistung (100%) |
| 12 | **Module frequency** | Unregelmäßig |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | no Bibliography information available! |

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|---|---|---|---|
| 1 | **Module name**<br>55676 | **Applying extreme value analysis in financial and insurance markets** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Extremwertstatistik mit Anwendungen in Finanz- und Versicherungsmärkten (0 SWS) | 5 ECTS |
| 3 | Lecturers | Johannes Stübinger | |

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| 4 | **Module coordinator** | Prof. Dr. Matthias Fischer |
| 5 | **Contents** | Begriffe und Wiederholungen; Univariate Extremwerttheorie (GEV als Modell für Maxima, GPD als Modell für Überschreitungen, Tail Index Schätzung); Bivariate Extremwerttheorie (Copula, Tailabhängigkeits-Koeffizienten (TDC)); Extremwerttheorie stationäre Zeitreihen (Grenzwertsätze, Extremwertindex) |
| 6 | **Learning objectives and skills** | Einschätzen der o.g. Verfahren und Kompetenz in deren Anwendung mittels statistischer Programmpakete (insb. R)<br><br>Analytische Bewertung und Analyse der Ergebnisse |
| 7 | **Prerequisites** | Einführende Veranstaltungen der Statistik in einschlägigen BA-Studiengängen |
| 8 | **Integration in curriculum** | no Integration in curriculum available! |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | mündlich (30 Minuten) |
| 11 | **Grading procedure** | mündlich (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Embrechts/ Klüppelberg/ Mikosch: Modelling Extremal Events for Insurance and Finance. Springer, Berlin, 2001 Embrechts/ Frey/ McNeil: Quantitative Risk Management. Princeton, 2005 |

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|---|---|---|---|
| 1 | **Module name**<br>56270 | **Financial engineering and structured finance** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Financial Engineering und Structured Finance (VL) (2 SWS)<br>Übung: Financial Engineering und Structured Finance (ÜB) (1 SWS) | 5 ECTS<br>- |
| 3 | Lecturers | Prof. Dr. Hendrik Scholz<br>Nicolas Webersinke | |

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| 4 | **Module coordinator** | Prof. Dr. Hendrik Scholz |
| 5 | **Contents** | • Darstellung und Bewertung von Aktien-, Zinssatz- & Bondoptionen<br>• Strukturierter Produkte im Fixed Income und Equity Bereich<br>• Kapitalstruktur und Optionspreistheorie<br>• Darstellung und Bewertung von Kreditderivaten |
| 6 | **Learning objectives and skills** | Die Studierenden<br>• erarbeiten sich ein tiefgehendes Wissen über Aktien-, Zinssatz- und Bondoptionen, können deren Einsatzmöglichkeiten beurteilen und ihren Wert bestimmen.<br>• wenden zentrale Kenntnisse der Optionspreistheorie an, um Bestandteile komplexer, strukturierter Fixed Income- und Equity-Produkte zu analysieren, diese zu bewerten und deren Wertbeitrag für Kunden einer Bank zu evaluieren.<br>• können unter Berücksichtigung von Kundenpräferenzen eigenständig innovative Finanzprodukte entwickeln.<br>• sind in der Lage die Positionen Eigen- und Fremdkapital von Unternehmen auf Basis der Optionspreistheorie zu bewerten.<br>• können Instrumente zum Kreditrisikotransfer erläutern und deren Einsatzmöglichkeiten kritisch hinterfragen. |
| 7 | **Prerequisites** | keine |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Hull, John C.: Options, futures and other derivatives<br><br>Weitergehende, forschungsbezogene Literatur wird im Rahmen der Veranstaltung bekannt gegeben |

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| 1 | **Module name**<br>53770 | **Financial and bank management** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Finanz- & Bankmanagement (MA) (2 SWS)<br>Übung: Finanz- & Bankmanagement Übung (1 SWS) | 5 ECTS<br>- |
| 3 | Lecturers | Prof. Dr. Hendrik Scholz<br>Niklas Kestler | |

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| 4 | **Module coordinator** | Prof. Dr. Hendrik Scholz |
| 5 | **Contents** | • Klassische Ansätze zum Management von Marktzinsrisiken<br>• Darstellung und Bewertung moderner Finanzinstrumente und Finanzprodukte (z.B. Optionen, Futures, Forwards und Swaps)<br>• "Value at Risk" zur Messung finanzieller Risiken<br>• Aufbau und Funktion von Finanzsystemen<br>• Steuerungssysteme für Finanzunternehmen |
| 6 | **Learning objectives and skills** | Die Studierenden<br>• ermitteln Zinsrisiken von Anleiheportfolios und beurteilen Instrumente zur Reduktion von Zinsrisiken und deren Einsatz aus Kundensicht.<br>• können diverse Fixed-Income Produkte wie Kupon-Anleihen, Floating Rates Notes und Zinsswaps bewerten und deren Chancen-Risiko-Profile beurteilen.<br>• bestimmen die Kennzahl "Value at Risk" für Portfolios und unter Anwendung verschiedene Konzepte der Volatilitätsschätzung.<br>• können den generellen Aufbau und die Funktion des Banken- und Finanzsystems erläutern<br>• beurteilen auf Basis der Marktzinsmethode die Geschäftspolitik einer Bank. |
| 7 | **Prerequisites** | Keine |
| 8 | **Integration in curriculum** | Semester: 1 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Hartmann-Wendels, T. / Pfingsten, A. / Weber, M.: Bankbetriebslehre, Berlin u.a.<br><br>Weitergehende, forschungsbezogene Literatur wird im Rahmen der Veranstaltung bekannt gegeben. |

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| 1 | **Module name**<br>55291 | **Global retail logistics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Global Retail Logistics (4 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr.-Ing. Eva Maria Hartmann<br>Christopher Münch<br>Katrin Rupprecht | |

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| 4 | **Module coordinator** | Evi Hartmann |
| 5 | **Contents** | This e-learning course offers specific insights on the logistic processes in the global retail industry. Upon completion of the course, the students should understand the peculiarities of logistics for fast moving consumer goods.Every module consists of an interactive lecture and script. Additional material and exercises enhance the presented topics further. As the entire lecture, the readings, the additional material and the exam is in English, proficiency in German is not necessary.<br><br>The course is supposed to provide the students with the following content concerning the global retail industry:<br><br>• Module 1: Overview<br>• Module 2: Characteristics & basics<br>• Module 3: Trends & challenges<br>• Module 4: Point of sale & E-Commerce<br>• Module 5: Interfaces<br>• Module 6: Load units & transport logistics<br>• Module 7: Cross docking<br>• Module 8: Warehousing & distribution<br>• Module 9: Food supply chain<br>• Module 10: Sustainability in retail logistics |
| 6 | **Learning objectives and skills** | The following learning objectives are anticipated:<br><br>• You will be able to define the topic of retail logistics and describe its specific requirements.<br>• You will be able to report the retail industry specific peculiarities relating to the usage of logistics processes.<br>• You will be able to use the relevant methods of planning, controlling and monitoring of logistics processes in the retail industry.<br>• You will be able to analyse various retail-specific characteristics in the use of logistics processes and assess their application in a practical context.<br>• You will be able to apply the most important principles of global retail logistics, to manage logistic processes while solving the questions of supply, distribution, transport and storage of goods.<br>• You will be able to work creatively, generate new ideas, and solve problems regarding retail logistics in an international context, international interaction and cooperation, while accepting social and ethical responsibility. |

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| | | • You will be able to manage, organise and discipline yourself, and plan your time independently.<br>• You will be able to demonstrate the ability to engage in critical thinking by analysing complex situations thus concluding and selecting viable solutions to solve problems. |
| 7 | **Prerequisites** | English language proficiency (C1)Produktions- und Supply Chain Management<br><br>Registration via vhb (www.vhb.org) is necessary in order to gain access to the StudOn e-learning platform. |
| 8 | **Integration in curriculum** | no Integration in curriculum available! |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur mit MultipleChoice (60 Minuten) |
| 11 | **Grading procedure** | Klausur mit MultipleChoice (100%) |
| 12 | **Module frequency** | in jedem Semester |
| 13 | **Workload in clock hours** | Contact hours: 1 h<br>Independent study: 149 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Will be announced during the course |

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|---|---|---|---|
| 1 | **Module name**<br>52291 | **International finance** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: International Finance (2 SWS)<br>Übung: Übung zu International Finance (2 SWS) | 5 ECTS<br>- |
| 3 | Lecturers | Prof. Dr. Christian Merkl<br>Dr. Benjamin Lochner<br>Kristina Saveska | |

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| 4 | **Module coordinator** | Prof. Dr. Christian Merkl |
| 5 | **Contents** | This course covers a wide range of topics (e.g., exchange rates and exchange rate regimes, national accounts and capital flows, international financial system, international banking and central banking). Basic economic concepts will be provided as a background. Statistics and empirical results will be shown to understand the validity of these concepts. Recent real life examples/case studies will be used to analyze the implications for policy makers, international organisations and business. |
| 6 | **Learning objectives and skills** | Students<br>• understand and apply basic concepts of exchange rate determination and their validity.<br>• learn about driving forces of capital flows.<br>• analyze how international (central) banking and the international financial system work.<br>• apply their knowledge in a presentation (either in case study style or in a small quantitative project). |
| 7 | **Prerequisites** | Macroeconomics (Bachelor) |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Klausur (60 Minuten) |
| 11 | **Grading procedure** | Präsentation (20%)<br>Klausur (80%)<br>Written examination (60min) 80%, Presentation 20%; These two partial examinations are one uniform examination in which the individual partial examinations are inseparable. For the existence of the module, according to § 19 (1) sentences 2 and 4 of the MPOWiWi, as amended, all partial examinations must be passed in the same semester. Notwithstanding § 25 (1) sentences 2 and 3 of the MPOWIWI, it is not possible to repeat only one of the failed partial examinations because of the inseparable relation of the partial examinations to each other. Failure to receive one of the partial services requires the repetition of the entire examination |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |

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| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Presentation slides and relevant literature will be provided |

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| 1 | **Module name**<br>57130 | **International trade and labor** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Ma-Vorl: International Trade & Labor (0 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Christoph Moser | |

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| 4 | **Module coordinator** | Prof. Dr. Christoph Moser<br>Prof. Dr. Klaus Moser |
| 5 | **Contents** | This module deals with the consequences of globalization for the domestic labor market and discusses the winners and losers of trade liberalization. The module focuses on the impact of international economic integration on domestic wages, jobs and inequality, in particular in Germany and the United States. |
| 6 | **Learning objectives and skills** | Students are made familiar with the main relevant concepts of international trade and aquire specialized knowledge of the labor market effects of trade liberalization. Students learn about key theoretical predictions, their empirical evidence and the empirical strategies to assess their relevance. The module focuses on topics at the intersection between international trade and labor. |
| 7 | **Prerequisites** | Recommended prerequisites:<br><br>Basic knowledge of microeconomics (e.g., Varian, Hal (2014), Intermediate Microeconomics: A Modern Approach, 9th international edition) and econometrics (e.g., Wooldridge, Jeffrey (2013), Introductory Econometrics: A Modern Approach, 5th international edition).<br><br>Module compatibility:<br><br>Master Economics: Specialization in Macroeconomics and Finance<br><br>Master IBS: elective course (Wahlbereich): English-speaking<br><br>countries; Europe<br><br>Master Arbeitsmarkt und Personal: Wahlbereich<br><br>Master Sozialökonomik: freier Vertiefungsbereich |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |

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| | | Written examination: 60 min. (Klausur 60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%)<br>Written examination result 100% (Prüfungsergebnis 100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Krugman, P., M. Obstfeld and M. Melitz (2017/18), International Trade: Theory and Policy OR International Economics: Theory and Policy, 11th global edition. Further course materials will be announced in the course. |

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| 1 | **Module name**<br>54440 | **Issues in international political economy** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Ma-Vorl: Issues in International Political Economy (IPE) (2 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Christoph Moser | |

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|---|---|---|
| 4 | **Module coordinator** | Prof. Dr. Friedrich Michael Dimpel<br>Prof. Dr. Christoph Moser |
| 5 | **Contents** | This course deals with international trade policy. The focus will be on the political and economic determinants and consequences of trade liberalization as well as trade policies that increase trade barriers. The course will provide important insights into the global governance of international trade flows, the World Trade Organization and the role of the United States, China and the European Union. |
| 6 | **Learning objectives and skills** | Students gain an understanding of the importance and evolution of the international trading system and how it affects multinational corporations (MNCs). Students learn about different trade policy tools, their economic consequences and their political constraints, in particular in the United States, China and the European Union. Students learn to critically assess trade-related news in the media. |
| 7 | **Prerequisites** | Recommended prerequisites:<br>• Basic knowledge of microeconomics (e.g., Varian, Hal (2014), Intermediate Microeconomics: A Modern Approach, 9th international edition).<br><br>Module compatibility:<br><br>• Master IBS: core course (Pflichtbereich)<br>• Master IBS: mandatory elective for the area “English-speaking countries”. Students who select English-speaking countries as an area study cannot take this module as a core course module, but must take it as part of their area studies.<br>• Master Wirtschaftspädagogik, Studienrichtung II: elective course (Wahlbereich im Zweitfach Sozialkunde), core course (Pflichtbereich im Zweitfach Englisch)<br>• Erweiterungsprüfung Berufliche Schulen/Studienfach<br>• Wirtschaftspädagogik<br>• Master Sozialökonomik: elective course (Wahlbereich)<br>• Master Arbeitsmarkt und Personal: elective course (Wahlbereich)<br>• Master Economics: Specialization in Macroeconomics and Finance, and Public economics |
| 8 | **Integration in curriculum** | no Integration in curriculum available! |
| 9 | **Module compatibility** | Specialisation: Public Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur<br>Written examination 60 min. (Klausur 60 Min.) |
| 11 | **Grading procedure** | Klausur (100%)<br>Written examination result 100% (Prüfungsergebnis 100%) |

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| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Krugman, P., M. Obstfeld and M. Melitz (2017/18), International Trade: Theory and Policy OR International Economics: Theory and Policy, 11th global edition. Further, course materials will be announced in the course. |

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|---|---|---|---|
| 1 | **Module name**<br>54452 | **Issues in international trade** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Ma-Sem: Issues in International Trade (2 SWS)<br>Compulsory attendance | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Christoph Moser<br>Stefan Suttner | |

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| 4 | **Module coordinator** | Prof. Dr. Christoph Moser |
| 5 | **Contents** | This course will focus on major developments in the international trading system, on the multilateral, regional and bilateral level. Special emphasis will be given to developments in the WTO, the rule-making process and the completion of new multilateral commitments. In addition, the pursuit of regional and bilateral trade agreements will be monitored and its effects on businesses and trade flows will be examined. Finally, a thorough analysis of the trade policies pursued by developed and developing countries will be offered. |
| 6 | **Learning objectives and skills** | Students gain a deeper understanding of the contemporary developments of trade policies on the multilateral, regional and country level and how it affects business and market opportunities. Special emphasis will be on the United States and the European Union. |
| 7 | **Prerequisites** | Recommended prerequisites:<br><br>Basic knowledge of the concepts of international economics and international political economy.<br><br>Module compatibility:<br><br>Master IBS: elective course (Wahlbereich): English-speaking<br><br>countries<br><br>Master Economics: Specialization in Macroeconomics and Finance |
| 8 | **Integration in curriculum** | no Integration in curriculum available! |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich/mündlich<br>*Es handelt sich um eine einheitliche Prüfung, bei der die einzelnen Teilleistungen untrennbar miteinander verbunden sind. Für das Bestehen des Moduls müssen nach § 19 Abs. 1 Satz 4 MPOWIWI in der jeweils geltenden Fassung alle Teilleistungen in demselben Semester bestanden werden. Wegen des untrennbaren Bezugs der Teilleistungen* |

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| | | *aufeinander ist abweichend von § 25 Abs.1 Satz 2 MPOWIWI eine Wiederholung nur einer der nicht bestandenen Teilleistungen nicht möglich. Das Nichtbestehen einer der Teilleistungen erfordert die Wiederholung der gesamten Prüfung.* |
| 11 | **Grading procedure** | schriftlich/mündlich (100%)<br>30% presentation, 70% seminar paper<br><br>(30% Präsentation, 70% Seminararbeit) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | no Bibliography information available! |

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|---|---|---|---|
| 1 | **Module name**<br>53344 | **Labor markets: A macroeconomic perspective** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Labor Markets: A Macroeonomic Perspective (2 SWS) | 5 ECTS |
| 3 | Lecturers | PD Dr. Heiko Stüber | |

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| 4 | **Module coordinator** | Prof. Dr. Christian Merkl |
| 5 | **Contents** | • Stylized macroeconomic facts of the labor market<br>• The labor market and business cycle dynamics<br>• The importance of wage rigidities |
| 6 | **Learning objectives and skills** | Students learn<br><br>• to analyze macroeconomic stylized facts of the labor market<br>• to critically evaluate the ability of dynamic labor market models (e.g., search and matching) to replicate business cycle facts<br>• to evaluate macroeconomic (policy) implications. |
| 7 | **Prerequisites** | Macroeconomics: Business Cycles, Econometrics |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Seminararbeit<br>Präsentation |
| 11 | **Grading procedure** | Seminararbeit (90%)<br>Präsentation (10%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 20 h<br>Independent study: 130 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Pissarides, C. Equilibrium Unemployment. 2000, MIT Press, Cambridge. Chapters 1 & 9. Recent research articles |

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| 1 | **Module name**<br>56540 | **Life insurance** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Vorlesung Lebensversicherung (Life insurance) (2 SWS)<br>Übung: Übung Lebensversicherung (1 SWS) | 2,5 ECTS<br>2,5 ECTS |
| 3 | Lecturers | PD Dr. Alexander Bohnert<br>Prof. Dr. Nadine Gatzert | |

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| 4 | **Module coordinator** | Prof. Dr. Nadine Gatzert |
| 5 | **Contents** | • Einführung in den Lebensversicherungsmarkt<br>• Darstellung von klassischen und innovativen Lebensversicherungsprodukten (und den darin enthaltenen impliziten Optionen)<br>• Versicherungsmathematische Aspekte: Bestimmung von Prämien und Deckungsrückstellungen auf Basis der typischen aktuariellen Rechnungsgrundlagen (Zins, Sterbetafeln)<br>• Analyse und Bewertung von Fondsprodukten mit Garantien<br>• Absicherung von Garantien in Fondsprodukten mit Kapitalanlagestrategien (u.a. Constant Proportion Portfolio Insurance) |
| 6 | **Learning objectives and skills** | • Die Studierenden können aktuelle Entwicklungen im Lebensversicherungsmarkt beurteilen und hinterfragen diese.<br>• Die Studierenden können Prämien und Deckungsrückstellungen von klassischen Lebensversicherungsverträgen berechnen und kennen die zentralen Einflussgrößen.<br>• Die Studierenden können klassische und fondsgebundene Lebensversicherungsprodukte mit verschiedenen Garantien bewerten und verschiedene Methoden der Bewertung vergleichen und Modellannahmen kritisch hinterfragen.<br>• Die Studierenden können einschätzen, wie verschiedene Arten von Finanzgarantien abgesichert werden müssen und können hierfür auch Kapitalanlagestrategien anwenden.<br>• Die Studierenden können ihre theoretischen Kenntnisse im Rahmen einer Monte-Carlo Simulation in Excel umsetzen und auf praktische Fragestellungen anwenden. |
| 7 | **Prerequisites** | Keine |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten)<br>*Im Sommersemester besteht vorlesungsbegleitend die Möglichkeit einer freiwilligen Notenverbesserung, wobei eine Verbesserung um bis zu 0,3 Notenstufen erfolgen kann. Dazu können Studierende auf StudOn vier je ca. 10-minütige Online-Kurztests (Quizze) zur Aufbereitung des Vorlesungsstoffs bearbeiten. Die Notenverbesserung erfolgt, wenn die Quizze erfolgreich bearbeitet wurden sowie die Klausur mit der Note 4,0 oder besser bestanden wurde. Etwaige Quizergebnisse aus dem* |

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| | | *Sommersemester werden für eine Nachholprüfung im Wintersemester übernommen.* |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Die vorbereitende Literatur und auch die weitergehende, forschungsbezogene Literatur werden im Rahmen der Veranstaltung bekannt gegeben. |

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| 1 | **Module name**<br>52392 | **Macroeconomic stabilization in severe economic crises** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Christian Merkl |
| 5 | **Contents** | • Macroeconomic Stabilization under Severe Economic Crisis |
| 6 | **Learning objectives and skills** | Students<br>• use a microeconomic or macroeconomic dataset.<br>• solve and simulate dynamic macroeconomic models<br>• apply advanced econometric techniques to answer economic questions.<br>• write a seminar work that describes key empirical and/or simulated results. |
| 7 | **Prerequisites** | Macroeconomics: Business Cycles and Applied Econometrics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich |
| 11 | **Grading procedure** | schriftlich (100%) |
| 12 | **Module frequency** | Unregelmäßig |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | no Bibliography information available! |

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|---|---|---|---|
| 1 | **Module name**<br>53107 | **Microeconometrics and Machine Learning** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Microeconometrics and machine learning (2 SWS)<br>Übung: Microeconometrics and machine learning - Übung (2 SWS) | 2,5 ECTS<br>2,5 ECTS |
| 3 | Lecturers | Prof. Regina Therese Riphahn<br>Irakli Sauer | |

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| 4 | **Module coordinator** | Prof. Regina Therese Riphahn |
| 5 | **Contents** | Maximum Likelihood estimation, binary dependent variables, multinomial and ordered dependent variables, Tobit models, selection models, duration models, count data models, applications of machine learning in economics. Practical application of empirical methods using Stata. |
| 6 | **Learning objectives and skills** | Based on introductory econometrics modules students acquire specialized knowledge regarding maximum likelihood estimation and microeconometric problems, and methods of machine learning. Students learn how to apply these methods using the statistics software STATA. They discuss and evaluate the appropriateness of specific methods in the framework of practical applications and have the opportunity to voluntarily prepare written empirical homeworks. |
| 7 | **Prerequisites** | Basic knowledge in statistics and econometrics |
| 8 | **Integration in curriculum** | Semester: 2;4 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Cameron, C. und P. K. Trivedi, 2005, Microeconometrics. Methods and Applications, Cambridge Univ. Press.<br><br>Greene, William H., 2020, Econometric Analysis, 8. ed., Pearson<br><br>Hastie, T., R. Tibsharani, und J., 2009, The Elements of Statistical Learning: Data Mining, Inference and Prediction, Springer.<br><br>Wooldridge, J.M., 2010, Econometric Analysis of Cross Section and Panel Data, 2.A., MIT Press. |

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| 1 | **Module name**<br>53313 | **Multivariate time series analysis** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Multivariate Time Series Analysis (2 SWS)<br>Übung: Multivariate Time Series Analysis, Excercise Session (2 SWS) | 2,5 ECTS<br>2,5 ECTS |
| 3 | Lecturers | Monika Doll<br>Lena Müller | |

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| 4 | **Module coordinator** | Prof. Dr. Jonas Dovern |
| 5 | **Contents** | Brief repetition of concepts of univariate time series analysis; stationary vector autoregressive (VAR) processes: basics, estimation, lag order selection, specification testing, forecasting; structural VAR models: various methods for identifying macroeconomic shocks; non-stationary/ integrated processes: spurious correlation vs. cointegration, error correction models; multivariate GARCH models. |
| 6 | **Learning objectives and skills** | Ability to independently analyze multivariate stationary time series using vector autoregressive processes; ability to explain the problems of identifying structural macroeconomic shocks and ability to estimate and interpret SVAR models; ability to test for spurious correlations between integrated time series and ability to specify and estimate models for cointegrated time series; ability to explain and estimate basic multivariate GARCH models; skills for using existing functions in R for time series analysis and for developing proprietary functions for analyzing multivariate time series in R. |
| 7 | **Prerequisites** | Proficiency in univariate time series analysis and basic concepts of econometrics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Lütkepohl, H. (2005), New Introduction to Multiple Time Series Analysis, Springer. Kilian, L. and H. Lütkepohl (2017), Structural Vector Autoregressive Analysis (Themes in Modern Econometrics), Cambridge University Press, Cambridge. Tsay, R.S. (2005), Analysis of Financial Time Series, 2nd edition, Wiley. (alternatively 3rd edition from 2010).Verbeek, M. (2008), A Guide to Modern Econometrics,, 3rd edition, Wiley. |

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| 1 | **Module name**<br>53055 | **Panel and evaluation methods** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Panel- and Evaluation Methods (PEV)-Übung (2 SWS)<br>Tutorium: Panel- and Evaluation Methods-Tutorium (2 SWS)<br>Vorlesung: Panel- and Evaluation Methods (2 SWS)<br>Übung: Panel- and Evaluation Methods Softskills (2 SWS) | -<br>-<br>5 ECTS<br>- |
| 3 | Lecturers | Dr. Selina Gangl<br>Prof. Regina Therese Riphahn | |

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| 4 | **Module coordinator** | Prof. Regina Therese Riphahn |
| 5 | **Contents** | Endogeneity in the linear regression model; instrumental variables estimation; static and dynamic panel data models; matching; difference-in-differences estimation; regression discontinuity design; quantile regression; practical application of methods using statistics software STATA |
| 6 | **Learning objectives and skills** | Based on the introductory econometrics module Ökonometrie 1 students acquire specialized knowledge in panel und evaluation methods and apply it using the statistics software STATA. Students evaluate to what degree empirical patterns can be interpreted as causal and decide to what extent problems of endogeneity can be solved via panel data or exogeneous variation Students can produce own empirical analyses. |
| 7 | **Prerequisites** | Basic knowledge in statistics and econometrics |
| 8 | **Integration in curriculum** | Semester: 3;1 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%)<br>100 % written exam (a voluntarily submitted homework can account for 20 % of the final grade if it improves the grade. In the homework an empirical analysis is performed based on Stata. The final grade can be improved by up to 0.7 points. However, the exam must be passed. The homework only counts towards final grades in the semester in which they are produced, i.e. only in the winter semester.) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Wooldridge, J.M., 2010, Econometric Analysis of Cross Section and Panel Data, 2.A., MIT Press. Greene, William H., 2020, Econometric Analysis, 8. ed., Pearson, New Jersey<br><br>Cameron, C.A. and P.K. Trivedi, 2005, Microeconometrics. Methods and Applications, Cambridge University Press |

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| | | Angrist, J. and J.-S. Pischke, 2009, Mostly Harmless Econometrics, Princeton University Press, Princeton, and Oxford.<br><br>Verbeek, M., 2017, A Guide to Modern Econometrics, 5. A., Wiley. |

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| 1 | **Module name**<br>54611 | **Public economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Public Economics in Theory and Practice (L) (0 SWS) | 5 ECTS |
| 3 | Lecturers | Anne Maria Kesselring<br>Anne Maria Kesselring<br>Prof. Dr. Thiess Büttner | |

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| 4 | **Module coordinator** | Prof. Dr. Thiess Büttner<br>Nima Farhang-Damghani<br>Anne Maria Kesselring |
| 5 | **Contents** | The lecture provides an introduction in public economics at the intermediate level. The course first derives the basic theoretical foundations for an optimal design of public policy. In the second step, the course discusses specific aspects of public policy, such as taxation and redistribution, social security, tax evasion, debt finance, interjurisdictional competition and fiscal federalism. It supplements theory by exploring practical problems. |
| 6 | **Learning objectives and skills** | Students know how to characterize efficient public policies using microeconomic decision models. They can use this framework to study public policy in a rigorous and consistent general equilibrium context. Students are acquainted with important empirical approaches to evaluate public policies quantitatively. Moreover, they acquire knowledge about options, methods and limits to implement efficient public policy |
| 7 | **Prerequisites** | Basic microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Health Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten)<br>Written exam (90 minutes) |
| 11 | **Grading procedure** | Klausur (100%)<br>Written exam (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Hindriks, J., and Myles, G., (2006), Intermediate Public Economics, MIT Press, Cambridge Atkinson, A.B., Stiglitz, J. E., (1980), Lectures on Public Economics . MacGraw-Hill, New York Lecture notes are provided at the beginning of the course. |

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| 1 | **Module name**<br>56470 | **Risk and insurance theory** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Übung Versicherungs- und Risikotheorie (1 SWS)<br>Vorlesung: Vorlesung Versicherungs- und Risikotheorie (Risk and insurance theory) (2 SWS) | 2,5 ECTS<br>2,5 ECTS |
| 3 | Lecturers | Prof. Dr. Nadine Gatzert | |

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| 4 | **Module coordinator** | Prof. Dr. Nadine Gatzert |
| 5 | **Contents** | Einführend: Entscheidung bei Sicherheit, Unsicherheit, Risiko; Risikomessung, Risikowahrnehmung, Risikobeeinflussung (Vorgehen und Methoden); Risikobewertung am Beispiel der Versicherungsnachfrage (individuell und aus Unternehmenssicht); Risikobewertung am Beispiel des Versicherungsangebots (Risikotheorie, Schadenprozessmodellierung, Insurance-CAPM, Optionspreis-Modell); Problematik der Informationsasymmetrien (Adverse Selektion, Moral Hazard); Enterprise Risk Management (Bedeutung und Rahmenwerke, Risikostrategie, Risikoidentifikation und -bewertung, Governance, Risikokultur); Emerging Risks. |
| 6 | **Learning objectives and skills** | Die Studierenden<br>• haben vertiefte Kenntnisse über die zentralen Konzepte der Risikobewertung sowie der Versicherungs- und Risikotheorie, können diese beurteilen und hinterfragen;<br>• können ihre theoretischen Kenntnisse auf konkrete Fragestellungen anwenden;<br>• erlernen den Umgang mit und die Bewertung von Risiken in Unternehmen;<br>• können die theoretischen Kenntnisse zur Risikomessung im Rahmen einer Monte-Carlo Simulation in Excel umsetzen;<br>• lernen interaktiv im Rahmen von Workshops in Gruppen aktuelle Fragestellungen im Kontext der Versicherungs- und Risikotheorie zu strukturieren, zu erarbeiten und zu präsentieren;<br>• entwickeln und vertiefen dabei ihre Kompetenzen in der Teamarbeit. |
| 7 | **Prerequisites** | Keine |
| 8 | **Integration in curriculum** | Semester: 1;3 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten)<br>*Im Wintersemester besteht vorlesungsbegleitend die Möglichkeit einer freiwilligen Notenverbesserung, wobei eine Verbesserung um bis zu 0,3 Notenstufen erfolgen kann. Dazu können Studierende auf StudOn vier je ca. 10-minütige Online-Kurztests (Quizze) zur Aufbereitung des Vorlesungsstoffs bearbeiten. Die Notenverbesserung erfolgt, wenn die Quizze erfolgreich bearbeitet wurden sowie die Klausur mit der Note* |

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| | | *4,0 oder besser bestanden wurde. Etwaige Quizergebnisse aus dem Wintersemester werden für eine Nachholprüfung im Sommersemester übernommen.* |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Die vorbereitende und weitergehende, forschungsbezogene Literatur wird im Rahmen der Veranstaltung bekannt gegeben. |

# Specialisation: Public Economics

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|---|---|---|---|
| 1 | **Module name**<br>53281 | **Behavioral economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Behavioral Economics (2 SWS) | - |
| 3 | Lecturers | Prof. Dr. Veronika Grimm<br>Yuval Ofek-Shanny | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The course provides a theoretical and empirical introduction into the area of Behavioral Economics. This relatively new area of economics research wants to identify important deviations from the predictions of classical economics models and to extend existing models to account for these findings. |
| 6 | **Learning objectives and skills** | In the course the method of experimental economics is introduced and its use for behavioral oriented research is learned. Students learn the skill of using empirical and experimental studies as complements to theory in the study of strategic interactions. |
| 7 | **Prerequisites** | Completed Bachelor degree in Economics or in a related discipline, Microeconomics I and II |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Camerer, Colin F. (2003), Behavioral Game Theory: Experiments on Strategic Interaction, Princeton Univ. Press. Journale articles, announcement on chair website |

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|---|---|---|---|
| 1 | **Module name**<br>57330 | **Development economics** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Development Economics Master Exercise (2 SWS)<br>Vorlesung: Development Economics (Master) Lecture (0 SWS) | -<br>- |
| 3 | Lecturers | Lea Mayer<br>David Hardt<br>Prof. Dr. Johannes Rincke | |

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| 4 | **Module coordinator** | Prof. Dr. Johannes Rincke |
| 5 | **Contents** | The lecture covers the principles of modern development economics and, using various examples from the current literature, highlights the core topics, the methodological challenges, and the key findings derived in this sub-discipline of economics. The lecture covers decisions of individuals and households and thus has a clear microeconomic focus. A core topic of the lecture is why poor individuals and households are often struggling to leave poverty and to advance to more adequate living conditions, and which policies can help to overcome poverty traps. In the exercise course, the focus is on advanced empirical methods and their application to problems of development. Students work with data sets and replicate core findings from the literature. |
| 6 | **Learning objectives and skills** | The module aims at providing students with a comprehensive set of advanced conceptual and methodological tools to analyse problems in development economics. Specifically, students<br><br>get an overview of modern development economics and<br><br>the history of thought in this sub-discipline<br><br>learn how to analyse specific problems in development<br><br>economics, based on the current journal literature<br><br>deal intensively with applied methods in modern development<br><br>economics, in particular with experimental methods and<br><br>advanced methods of data analysis<br><br>learn to understand, evaluate and replicate empirical studies in<br><br>development economics |
| 7 | **Prerequisites** | Completion of all compulsory courses in the MSE program, in particular Microeconomics, Applied Econometrics, and Mathematics for Economists |
| 8 | **Integration in curriculum** | Semester: 3 |

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| 9 | **Module compatibility** | Specialisation: Public Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation (60 Minuten)<br>Klausur (60 Minuten) |
| 11 | **Grading procedure** | Präsentation (50%)<br>Klausur (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Selection of journal articles, provided on StudOn |

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|---|---|---|---|
| 1 | **Module name**<br>53295 | **Economics of innovation** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung mit Übung: Economics of Innovation (Lecture and Tutorial) (4 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Markus Nagler | |

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| 4 | **Module coordinator** | Prof. Dr. Markus Nagler |
| 5 | **Contents** | The lecture provides an introduction to economic issues of innovation and new ideas. The course first sets out general problems in the economics of innovation such as the public goods nature of ideas and the importance of innovation for economic prosperity. In the second part, the course discusses labor and personnel issues in innovation policy, for example the design of incentives for innovation. In the third part, the course analyses issues in intellectual property rights and public economics topics such as public funding of research or the role of universities. |
| 6 | **Learning objectives and skills** | Students know the key issues in the economics of innovation and the impacts of potential public policies to promote innovation. They are able to assess current research in the economics of innovation and are able to relate its results to fundamental policy questions in the area. Students are acquainted with important empirical approaches in the area. |
| 7 | **Prerequisites** | Basic microeconomics, basic econometrics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Public Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Bryan, Kevin and Heidi Williams (forthcoming): Markets for innovation: Market failures and public policies, Handbook of Industrial Organization<br><br>Bloom, Nicholas, John Van Reenen and Heidi Williams (2019): A Toolkit of Policies to Promote Innovation, Journal of Economic Perspectives 33(3): 163-184<br><br>Scotchmer, Suzanne. Innovation and incentives. MIT press, 2004. |

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| 1 | **Module name**<br>54440 | **Issues in international political economy** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Ma-Vorl: Issues in International Political Economy (IPE) (2 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Christoph Moser | |

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| 4 | **Module coordinator** | Prof. Dr. Friedrich Michael Dimpel<br>Prof. Dr. Christoph Moser |
| 5 | **Contents** | This course deals with international trade policy. The focus will be on the political and economic determinants and consequences of trade liberalization as well as trade policies that increase trade barriers. The course will provide important insights into the global governance of international trade flows, the World Trade Organization and the role of the United States, China and the European Union. |
| 6 | **Learning objectives and skills** | Students gain an understanding of the importance and evolution of the international trading system and how it affects multinational corporations (MNCs). Students learn about different trade policy tools, their economic consequences and their political constraints, in particular in the United States, China and the European Union. Students learn to critically assess trade-related news in the media. |
| 7 | **Prerequisites** | Recommended prerequisites:<br>• Basic knowledge of microeconomics (e.g., Varian, Hal (2014), Intermediate Microeconomics: A Modern Approach, 9th international edition).<br><br>Module compatibility:<br>• Master IBS: core course (Pflichtbereich)<br>• Master IBS: mandatory elective for the area “English-speaking countries”. Students who select English-speaking countries as an area study cannot take this module as a core course module, but must take it as part of their area studies.<br>• Master Wirtschaftspädagogik, Studienrichtung II: elective course (Wahlbereich im Zweitfach Sozialkunde), core course (Pflichtbereich im Zweitfach Englisch)<br>• Erweiterungsprüfung Berufliche Schulen/Studienfach<br>• Wirtschaftspädagogik<br>• Master Sozialökonomik: elective course (Wahlbereich)<br>• Master Arbeitsmarkt und Personal: elective course (Wahlbereich)<br>• Master Economics: Specialization in Macroeconomics and Finance, and Public economics |
| 8 | **Integration in curriculum** | no Integration in curriculum available! |
| 9 | **Module compatibility** | Specialisation: Public Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur<br>Written examination 60 min. (Klausur 60 Min.) |
| 11 | **Grading procedure** | Klausur (100%)<br>Written examination result 100% (Prüfungsergebnis 100%) |

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| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Krugman, P., M. Obstfeld and M. Melitz (2017/18), International Trade: Theory and Policy OR International Economics: Theory and Policy, 11th global edition. Further, course materials will be announced in the course. |

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| 1 | **Module name**<br>56911 | **Issues in political economy** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Ma-Sem: Issues in Political Economy (2 SWS)<br>Compulsory attendance | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Christoph Moser | |

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| 4 | **Module coordinator** | Prof. Dr. Christoph Moser |
| 5 | **Contents** | This course deals with current topics in political economy and how politics and economics interact in various fields in the United States and the European Union. The course provides an introduction into the political systems and discusses the interactions between profit-maximizing firms and US and European non-market agents like the government, regulatory institutions and the public. The topics covered include but are not limited to the impact of political connections, corruption, lobbying and the revolving door on the United States of America and the European Union. |
| 6 | **Learning objectives and skills** | Students gain a deeper understanding of how institutions, power and economic outcomes interact with each other. There will be a focus on the different actors such as governments, NGOs and private sector representatives. Students will also learn about empirical methods used in these fields. A special emphasis will be placed on the United States, the Europen Union and the transatlantic area. |
| 7 | **Prerequisites** | Recommended prerequisites:<br><br>Basic knowledge of economics, politics and econometrics.<br><br>Module compatibility:<br><br>Master IBS: elective course (Wahlbereich): English-speaking<br><br>countries; Europe<br><br>Master Economics: Specialization in Public Economics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Public Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich/mündlich<br>*Es handelt sich um eine einheitliche Prüfung, bei der die einzelnen Teilleistungen untrennbar miteinander verbunden sind. Für das Bestehen des Moduls müssen nach § 19 Abs. 1 Satz 4 MPOWIWI in der jeweils geltenden Fassung alle Teilleistungen in demselben Semester bestanden werden. Wegen des untrennbaren Bezugs der Teilleistungen aufeinander ist abweichend von § 25 Abs.1 Satz 2 MPOWIWI eine Wiederholung nur einer der nicht bestandenen Teilleistungen nicht möglich. Das Nichtbestehen einer der Teilleistungen erfordert die Wiederholung der gesamten Prüfung.* |

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| 11 | **Grading procedure** | schriftlich/mündlich (100%)<br>30% presentation, 70% seminar paper<br><br>(30% Präsentation, 70% Seminararbeit) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | no Bibliography information available! |

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|---|---|---|---|
| 1 | **Module name**<br>53083 | **Economics of social policy** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: MA S Ökonomie der Sozialpolitik (3 SWS) | 5 ECTS |
| 3 | Lecturers | Sebastian Ach<br>Prof. Dr. Matthias Wrede<br>Elisa Poletto | |

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| 4 | **Module coordinator** | Prof. Dr. Matthias Wrede |
| 5 | **Contents** | Ausgewählte ökonomische Analysen der Sozialpolitik unter Einschluss ethischer und ökonomischer Grundlagen sowie institutioneller Aspekte |
| 6 | **Learning objectives and skills** | • Studierende kennen ausgewählte Bereiche der Sozialpolitik und können diese beschreiben und international vergleichen.<br>• Studierende können ethische und ökonomische Grundlagen staatlicher Eingriffe in ausgewählten Bereichen sozialer Sicherung darstellen, interpretieren und diskutieren.<br>• Studierende können Wirkungen sozialpolitisch relevanter Größen theoretisch und empirisch verstehen, bewerten und hinterfragen.<br>• Studierende können sozialpolitische Maßnahmen unter Effizienz- und Gerechtigkeitsgesichtspunkten bewerten und hinterfragen.<br>• Studierende geben Ihren Kommilitonen im Rahmen ihrer Präsentationen strukturiertes Feedback.<br>• Studierende fördern die Fachkenntnisse der anderen Studierenden durch themenspezifische Diskussionsbeiträge.<br>• Studierende erfassen, bewerten und diskutieren ausgewählte aktuelle, meist englischsprachige Forschungsarbeiten in Ihrer Seminararbeit. |
| 7 | **Prerequisites** | Mikroökonomische und ökonometrische Kenntnisse |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Hausarbeit |
| 11 | **Grading procedure** | Präsentation (30%)<br>Hausarbeit (70%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Die Literatur wird während des Kurses bekannt gegeben. |

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| 1 | **Module name**<br>53055 | **Panel and evaluation methods** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Panel- and Evaluation Methods (PEV)-Übung (2 SWS)<br>Tutorium: Panel- and Evaluation Methods-Tutorium (2 SWS)<br>Vorlesung: Panel- and Evaluation Methods (2 SWS)<br>Übung: Panel- and Evaluation Methods Softskills (2 SWS) | -<br>-<br>5 ECTS<br>- |
| 3 | Lecturers | Dr. Selina Gangl<br>Prof. Regina Therese Riphahn | |

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| 4 | **Module coordinator** | Prof. Regina Therese Riphahn |
| 5 | **Contents** | Endogeneity in the linear regression model; instrumental variables estimation; static and dynamic panel data models; matching; difference-in-differences estimation; regression discontinuity design; quantile regression; practical application of methods using statistics software STATA |
| 6 | **Learning objectives and skills** | Based on the introductory econometrics module Ökonometrie 1 students acquire specialized knowledge in panel und evaluation methods and apply it using the statistics software STATA. Students evaluate to what degree empirical patterns can be interpreted as causal and decide to what extent problems of endogeneity can be solved via panel data or exogeneous variation Students can produce own empirical analyses. |
| 7 | **Prerequisites** | Basic knowledge in statistics and econometrics |
| 8 | **Integration in curriculum** | Semester: 3;1 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%)<br>100 % written exam (a voluntarily submitted homework can account for 20 % of the final grade if it improves the grade. In the homework an empirical analysis is performed based on Stata. The final grade can be improved by up to 0.7 points. However, the exam must be passed. The homework only counts towards final grades in the semester in which they are produced, i.e. only in the winter semester.) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Wooldridge, J.M., 2010, Econometric Analysis of Cross Section and Panel Data, 2.A., MIT Press. Greene, William H., 2020, Econometric Analysis, 8. ed., Pearson, New Jersey<br><br>Cameron, C.A. and P.K. Trivedi, 2005, Microeconometrics. Methods and Applications, Cambridge University Press |

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| | | Angrist, J. and J.-S. Pischke, 2009, Mostly Harmless Econometrics, Princeton University Press, Princeton, and Oxford.<br><br>Verbeek, M., 2017, A Guide to Modern Econometrics, 5. A., Wiley. |

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| 1 | **Module name**<br>54611 | **Public economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Public Economics in Theory and Practice (L) (0 SWS) | 5 ECTS |
| 3 | Lecturers | Anne Maria Kesselring<br>Anne Maria Kesselring<br>Prof. Dr. Thiess Büttner | |

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| 4 | **Module coordinator** | Prof. Dr. Thiess Büttner<br>Nima Farhang-Damghani<br>Anne Maria Kesselring |
| 5 | **Contents** | The lecture provides an introduction in public economics at the intermediate level. The course first derives the basic theoretical foundations for an optimal design of public policy. In the second step, the course discusses specific aspects of public policy, such as taxation and redistribution, social security, tax evasion, debt finance, interjurisdictional competition and fiscal federalism. It supplements theory by exploring practical problems. |
| 6 | **Learning objectives and skills** | Students know how to characterize efficient public policies using microeconomic decision models. They can use this framework to study public policy in a rigorous and consistent general equilibrium context. Students are acquainted with important empirical approaches to evaluate public policies quantitatively. Moreover, they acquire knowledge about options, methods and limits to implement efficient public policy |
| 7 | **Prerequisites** | Basic microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Health Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten)<br>Written exam (90 minutes) |
| 11 | **Grading procedure** | Klausur (100%)<br>Written exam (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Hindriks, J., and Myles, G., (2006), Intermediate Public Economics, MIT Press, Cambridge Atkinson, A.B., Stiglitz, J. E., (1980), Lectures on Public Economics . MacGraw-Hill, New York Lecture notes are provided at the beginning of the course. |

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| 1 | **Module name**<br>52930 | **Seminar: Behavioral economics 1** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Behavioral Economics 1 (3 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Veronika Grimm<br>Xiaoyu Zhou | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The seminar sheds light on various issues in market and institution design focusing on selected applications. Market and institution design applies methods of game theory and (behavioral) economics to develop effective market rules. In this seminar, the focus will lie on market rules of various markets such as labor-markets or markets in the sector of health or public economics. In different market environments, phenomena like trust, social preferences, or bounded rationality are important. Understanding these aspects is of key importance for specifying the details of a particular market environment. In the seminar, we will analyse the peculiarities of selected markets and their implications for the effective organization of those markets from a theoretical and/or behavioural perspective. |
| 6 | **Learning objectives and skills** | Students<br>• Analyze the peculiarities of markets and their operating mode within the frame of complex theoretic and behavioral models,<br>• Discuss the validity of those models based on experimental or empirical studies,<br>• Evaluate, based on the literature, different market and institution designs,<br>• Autonomously analyze complex questions and develop solution concepts<br>• Are able to write a relevant theoretic or empirical scientific essay,<br>• Develop their presentation skills. |
| 7 | **Prerequisites** | Solid knowledge of microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Seminararbeit<br>mündlich<br>Präsentation |
| 11 | **Grading procedure** | Seminararbeit (50%)<br>mündlich (20%)<br>Präsentation (30%) |
| 12 | **Module frequency** | in jedem Semester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |

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| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Changing recent scientific literature |

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| 1 | **Module name**<br>52940 | **Seminar: Behavioral economics 2** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Behavioral Economics 2 (3 SWS) | 5 ECTS |
| 3 | Lecturers | Xiaoyu Zhou<br>Prof. Dr. Veronika Grimm | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The seminar deals with theories and methods from behavioural and experimental economics. Although behavioral and experimental economics are relatively recent fields of research, many insights have been gained from applying the methods of the field to key economic questions. Relevant topics include, but are not limited to, nudging (in the sector of health, labor, public and energy economics), norm compliance (mainly public and labor economics), social preferences (mainly health and labor economics) or uncertainty preferences (energy economics). Depending on the topic of the seminar, questions of experimental design, conducting studies and analysis of behavioural data can be dealt with. |
| 6 | **Learning objectives and skills** | Students<br>• Gain fundamental understanding of the methods of behavioral and experimental economics,<br>• Learn to autonomously apply those methods,<br>• Conceptualize own research ideas,<br>• Analyze the peculiarities of complex economic situations,<br>• Develop their presentation skills. |
| 7 | **Prerequisites** | Solid knowledge of microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>mündlich<br>Seminararbeit |
| 11 | **Grading procedure** | Präsentation (30%)<br>mündlich (20%)<br>Seminararbeit (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Camerer, Löwenstein and Rabin (2003), Advances in Behavioral Economics, Princeton University Press. Changing recent scientific literature |

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| 1 | **Module name**<br>52391 | **Seminar economics of human capital** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Markus Nagler<br>Prof. Dr. Johannes Rincke |
| 5 | **Contents** | Topics in the Economics of Human Capital |
| 6 | **Learning objectives and skills** | Students<br>• study selected parts of the academic literature on the economics of human capital and learn how to deal with this literature<br>• learn how to identify relevant contributions in large bodies of economic literature<br>• learn about up-to-date methods (theory and empirics) in the economics of human capital<br>• learn how to read economic papers and to evaluate and assess contributions, both in terms of theory and empirical methods<br>• learn how to delineate conclusions from the academic literature in terms of policy implications and recommendations<br>• learn how to structure and write academic theses in economics<br>• expand their skills in terms of presentation techniques and participation in academic discussion |
| 7 | **Prerequisites** | All techniques and methods that are part of the curriculum in the first semester of the study program MSE |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Labour Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich/mündlich |
| 11 | **Grading procedure** | schriftlich/mündlich (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Will be provided |

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|---|---|---|---|
| 1 | **Module name**<br>52945 | **Seminar Experimental Economics** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Experimental Economics (0 SWS) | 5 ECTS |
| 3 | Lecturers | Celina Högn<br>Katharina Adler | |

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| 4 | **Module coordinator** | Prof. Dr. Johannes Rincke |
| 5 | **Contents** | Topics in Experimental Economics |
| 6 | **Learning objectives and skills** | Students<br>• study selected parts of the academic literature on experimental economics and learn how to deal with this literature<br>• learn how to identify relevant contributions in large bodies of economic literature<br>• learn about up-to-date methods in experimental economics<br>• learn how to read economic papers and to evaluate and assess contributions, including methodological innovations<br>• learn how to delineate conclusions from the academic literature in terms of policy implications<br>• learn how to structure and write academic theses in economics<br>• expand their skills in terms of presentation techniques and participation in academic debates |
| 7 | **Prerequisites** | All techniques and methods that are part of the curriculum in the first semester of the study program MSE |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Public Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Diskussionsbeitrag<br>Präsentation<br>Seminararbeit |
| 11 | **Grading procedure** | Diskussionsbeitrag (20%)<br>Präsentation (30%)<br>Seminararbeit (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Will be provided |

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|---|---|---|---|
| 1 | **Module name**<br>52950 | **Seminar: Public economics 1** | **5 ECTS** |
| 2 | Courses / lectures | Masterseminar: Seminar Public Economics 1 (3 SWS) | 5 ECTS |
| 3 | Lecturers | Sebastian Ach<br>Prof. Dr. Matthias Wrede<br>Elisa Poletto<br>Prof. Dr. Thiess Büttner | |

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| 4 | **Module coordinator** | Prof. Dr. Thiess Büttner<br>Prof. Dr. Sarah Necker<br>Prof. Dr. Matthias Wrede |
| 5 | **Contents** | Topics in Public Economics |
| 6 | **Learning objectives and skills** | Students<br>• study selected parts of the academic literature in public economics (mostly from scientific journals) and learn how to deal with this literature<br>• learn how to identify relevant contributions in large bodies of economic literature<br>• learn about current approaches and methods in public economics<br>• learn how to read economic papers and to evaluate and assess contributions, regarding both theory and empiry<br>• learn how to draw conclusions from the academic literature in terms of policy implications and critically analyse these findings<br>• learn how to structure and write an academic thesis in economics<br><br>expand their skillset in presenting research and presentation techniques and actively participate in academic discussion |
| 7 | **Prerequisites** | All techniques and methods that are part of the curriculum in the first semester |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich/mündlich |
| 11 | **Grading procedure** | schriftlich/mündlich (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Will be provided together with the topic announcements. |

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|---|---|---|---|
| 1 | **Module name**<br>52960 | **Seminar: Public economics 2** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Public Economics (3 SWS) | - |
| 3 | Lecturers | William Dean<br>Prof. Dr. Thiess Büttner<br>Annalisa Tassi<br>Dr. Boryana Madzharova | |

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| 4 | **Module coordinator** | Prof. Dr. Thiess Büttner<br>Prof. Dr. Sarah Necker<br>Prof. Dr. Matthias Wrede |
| 5 | **Contents** | Topics in Public Economics |
| 6 | **Learning objectives and skills** | Students<br>• study selected parts of the academic literature in public economics (mostly from scientific journals) and learn how to deal with this literature<br>• learn how to identify relevant contributions in large bodies of economic literature<br>• learn about current approaches and methods in public economics<br>• learn how to read economic papers and to evaluate and assess contributions, regarding both theory and empiry<br>• learn how to draw conclusions from the academic literature in terms of policy implications and critically analyse these findings<br>• learn how to structure and write an academic thesis in economics<br>• expand their skillset in presenting research and presentation techniques and actively participate in academic discussion |
| 7 | **Prerequisites** | All techniques and methods that are part of the curriculum in the first semester |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich/mündlich |
| 11 | **Grading procedure** | schriftlich/mündlich (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Will be provided together with the topic announcements. |

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| 1 | **Module name**<br>55960 | **Spatial economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: MA V Spatial Economics (2 SWS)<br>Übung: MA Üb Spatial Economics (2 SWS) | -<br>2,5 ECTS |
| 3 | Lecturers | Prof. Dr. Matthias Wrede<br>Luisa Schneider | |

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| 4 | **Module coordinator** | Prof. Dr. Matthias Wrede |
| 5 | **Contents** | Urban Economics, Trade, Mobility, and Agglomeration, Spatial Concentration, Regional Policy |
| 6 | **Learning objectives and skills** | At the end of this course,<br>• Students are able to describe and to internationally compare the regional patterns of major economic activities in terms of stylized facts.<br>• Students are able to present, interpret, and discuss selected theories in regional and urban economics.<br>• Students are able to apply and assess selected empirical methods in spatial economics.<br>• Students are able to assess empirical tests of selected hypotheses from theories in regional and urban economics to evaluate and critically examine their informative value.<br>• Students are able to discuss and evaluate regional political implications of selected economic theories in regional and urban economics.<br>• Students will assess, evaluate and discuss selected recent research papers in English. |
| 7 | **Prerequisites** | Microeconomics, Econometrics I |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Klausur (60 Minuten) |
| 11 | **Grading procedure** | Präsentation (20%)<br>Klausur (80%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Brakman, S., H. Garretsen und C. van Marrewijk (2020). An Introduction to Geographical and Urban Economics. Cambridge University Press. Cambridge, UK, 3. Ed. |

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|---|---|---|---|
| 1 | **Module name**<br>53115 | **Topics in gender and family economics** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Sena Coskun Dalgic |
| 5 | **Contents** | Topics in gender and family Economics |
| 6 | **Learning objectives and skills** | Students<br>• become familiar with the fundamentals, cutting-edge theories and empirical evidence in gender and family economics<br>• develop critical view when approaching to the literature<br>• use a micro and/or macro dataset<br>• develop new models or alter the existing models to answer different questions<br>• write a seminar work and present it |
| 7 | **Prerequisites** | None |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Macroeconomics and Finance Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>schriftlich |
| 11 | **Grading procedure** | Präsentation (50%)<br>schriftlich (50%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | M. Doepke and M. Tertilt. Families in Macroeconomics. Handbook of Macroeconomics, Volume 2. 2016. Martin Browning, Pierre-André Chiappori, and Yoram Weiss. The Economics of the Family. Cambridge University Press, 2014. Article list will be provided in the beginning of the semester. |

# Specialisation: Energy Markets

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|---|---|---|---|
| 1 | **Module name**<br>53281 | **Behavioral economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Behavioral Economics (2 SWS) | - |
| 3 | Lecturers | Prof. Dr. Veronika Grimm<br>Yuval Ofek-Shanny | |

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|---|---|---|
| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The course provides a theoretical and empirical introduction into the area of Behavioral Economics. This relatively new area of economics research wants to identify important deviations from the predictions of classical economics models and to extend existing models to account for these findings. |
| 6 | **Learning objectives and skills** | In the course the method of experimental economics is introduced and its use for behavioral oriented research is learned. Students learn the skill of using empirical and experimental studies as complements to theory in the study of strategic interactions. |
| 7 | **Prerequisites** | Completed Bachelor degree in Economics or in a related discipline, Microeconomics I and II |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Camerer, Colin F. (2003), Behavioral Game Theory: Experiments on Strategic Interaction, Princeton Univ. Press. Journale articles, announcement on chair website |

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|---|---|---|---|
| 1 | **Module name**<br>52972 | **Linear and combinatorial optimization** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Alexander Martin |
| 5 | **Contents** | The main focus of this lecture is on the theory and solution of combinatorial optimization problems. We will address typical problems in graph theory like the Shortest Path Problem, the Spanning Tree or the Max-Flow Min-Cut Theorem. This course also covers basic algorithmic concepts such as Sorting, Greedy algorithm, Depth-first search/Breadth-first search and heuristics. |
| 6 | **Learning objectives and skills** | Students will<br>• autonomously recognize and analyze problems in combinatorial optimization,<br>• discuss basic algorithmic concepts and apply them systematically,<br>• classify methods of this field of study,<br>• gather and assess relevant information and set it in context. |
| 7 | **Prerequisites** | Linear Algebra |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Lecture notes Schrijver: Combinatorial Optimization, Springer 2003<br>Korte/Vygen: Combinatorial Optimization, Springer 2005 |

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|---|---|---|---|
| 1 | **Module name**<br>53286 | **Economics of climate change (ECC)** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Economics of Climate Change (ECC) Exercise (2 SWS)<br>Vorlesung: Economics of Climate Change (ECC) Lecture (2 SWS) | -<br>5 ECTS |
| 3 | Lecturers | Dr. Jonas Egerer<br>Prof. Dr. Veronika Grimm | |

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| 4 | **Module coordinator** | Dr. Jonas Egerer<br>Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | This course focuses on the interactions between society, the economy and climate change: one of the greatest challenges of our time. The course will discuss the origin of environmental challenges, technological options for their solution and policies to promote the transformation to a climate neutral economy and society. The following issues will be covered:<br>• Welfare economics and the environment<br>• Externalities and origins of the sustainability problem<br>• Climate change and the greenhouse gas effect<br>• Global climate scenarios<br>• Economics of low-carbon technologies<br>• Global and regional low carbon scenarios<br>• Measures of climate resilience<br>• Pollution control: Targets and policy instruments<br>• International Cooperation: Kyoto Protocol and Paris Agreement<br>• Applications of Climate Policy: EU-ETS and national CO2-tax<br>• Case studies for the energy, heat and mobility sector |
| 6 | **Learning objectives and skills** | Students who participate in this course will become familiar with the physical science basis of climate change, economic concepts for the allocation of public goods, scenarios for low-carbon energy systems from an technological and an economic perspective, and policy instruments to reduce greenhouse gas emissions.<br>Students who successfully participate in this module can:<br>• Explain the physical basics of climate change<br>• Understand economic concepts for public goods<br>• Compare different low-carbon technologies<br>• Describe pathways towards sustainable energy systems<br>• Develop an understanding of climate resilience<br>• Discuss different policy instruments<br>• Understand the EU-ETS and national carbon taxes<br>• Develop sector specific scenarios in case studies |
| 7 | **Prerequisites** | To succeed in this course, students will need to apply acquired knowledge from e.g. economics and mathematics. |

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| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Energy Markets Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich<br>Klausur (60 Minuten) |
| 11 | **Grading procedure** | schriftlich (50%)<br>Klausur (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Natural Resource and Environmental Economics. Roger Perman et al. Addison Wesley. |

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| 1 | **Module name**<br>53285 | **Empirical environmental economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Empirical Environmental Economics (2 SWS) | 3 ECTS |
| 3 | Lecturers | Prof. Dr. Mario Liebensteiner | |

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| 4 | **Module coordinator** | Prof. Dr. Mario Liebensteiner |
| 5 | **Contents** | This module provides an introduction to focal issues of environmental economics with a particular focus on empirical investigations. The module sets out to make students familiar with state-of-the-art econometric research methods in environmental economics. Key issues will be carbon emissions from the energy and transportation sectors, carbon pricing, integration and subsidization of renewable energies, and the effectiveness of different climate policies. |
| 6 | **Learning objectives and skills** | • Students get to know fundamental problems of environmental economics (e.g. problems of air pollution from burning fossil fuels, integration of renewable energy sources, and effective policy making)<br>• Students get to know recent econometric approach |
| 7 | **Prerequisites** | Basic microeconomics<br><br>Basic econometrics (at least multivariate OLS regressions) |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Energy Markets Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Klausur (90 Minuten) |
| 11 | **Grading procedure** | Präsentation (20%)<br>Klausur (80%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 60 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Journal articles and other relevant reading materials: will be distributed to course participants via StudOn Wooldridge, J.M. 2012 Introductory Econometrics: A Modern Approach. South-Western Cengage Learning. |

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|---|---|---|---|
| 1 | **Module name**<br>52971 | **Linear and combinatorial optimization** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Alexander Martin |
| 5 | **Contents** | The main focus of this lecture is on the theory and solution of linear optimization problems. We will address geometric aspects of linear programming, duality, model creation and sensitivity analysis. This course also covers the Simplex Method for solving linear programs. |
| 6 | **Learning objectives and skills** | Students will<br>• autonomously recognize and analyze problems in linear optimization,<br>• discuss basic algorithmic concepts and apply them systematically,<br>• classify methods of this field of study,<br>• gather and assess relevant information and set it in context. |
| 7 | **Prerequisites** | Linear Algebra |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Lecture notes Schrijver: Combinatorial Optimization, Springer 2003<br>Chvátal: Linear Programming, W.H. Freeman & Co, 1983 |

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|---|---|---|---|
| 1 | **Module name**<br>53180 | **Mathematical optimization for communications and signal processing** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Mathematical Optimization for Communications & Signal Processing (2 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Frauke Liers-Bergmann<br>Florian Rösel<br>Martina Kuchlbauer | |

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| 4 | **Module coordinator** | Prof. Dr. Frauke Liers-Bergmann |
| 5 | **Contents** | The focus of this module is on methods for modeling and solving optimization problems as they occur in the field communication and signal processing. Starting from practical applications, different classes of optimization problems are introduced that include linear, mixed-integer linear, continuous non-linear as well as mixed-integer non-linear optimization problems. Advantages and disadvantages of different modeling techniques will be outlined and different reformulations will be presented in order to achieve efficient solution approaches. Students will learn how to present optimization results properly as well as how to interpret and evaluate these results for practical applications in communications and signal processing. |
| 6 | **Learning objectives and skills** | The students<br>• have an overview over mathematical optimization in practice<br>• apply mathematical optimization modeling and solution techniques<br>• decide which solution approaches are suitable for which class of models<br>• know available software and how to use it |
| 7 | **Prerequisites** | A bachelor course in Mathematics for Engineers. Recommended are 3-4 courses in Mathematics for Engineers. |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Energy Markets Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | no Bibliography information available! |

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|---|---|---|---|
| 1 | **Module name**<br>52980 | **Methods and applications of mathematical optimization** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Frauke Liers-Bergmann |
| 5 | **Contents** | The focus of this module is on methods for modelling and solving optimization problems as they occur in the field of industry and economics. Advantages and disadvantages of different modelling techniques will be outlined and different reformulations will be presented in order to achieve efficient solution approaches. Students will learn how to present optimization results properly as well as how to interpret and evaluate these results for practical applications. This module covers topics such as optimization of transport networks (gas, water, energy), mathematical modelling and optimization techniques for market mechanisms in the energy sector and dealing with uncertain data. |
| 6 | **Learning objectives and skills** | The students<br>• will gain an overview over applications of mathematical optimization<br>• learn mathematical optimization modeling and solution techniques<br>• learn to decide which solution approaches are suitable for which class of models |
| 7 | **Prerequisites** | Linear and Combinatorial Optimization |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Lecture Notes Recent research literature |

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|---|---|---|---|
| 1 | **Module name**<br>52592 | **Quantitative methods in energy market modelling** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung mit Übung: MA Quantitative Methods in Energy Market Modelling (3 SWS) | - |
| 3 | Lecturers | Prof. Dr. Karl Gregor Zöttl<br>Beate Bäumler | |

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| 4 | **Module coordinator** | Prof. Dr. Karl Gregor Zöttl |
| 5 | **Contents** | It is the purpose of the course to understand and quantitatively analyse the economic interaction of the players and institutions in liberalized energy markets.<br><br>Liberalized electricity markets can be segmented in a regulated part (the networks) and the non-regulated parts (generation and retail) where private companies interact in a market environment. The interaction of the different agents is analysed with computational equilibrium frameworks based the concepts applied in industrial organization. Next to the fundamental understanding of the relevant market interaction, the models allow for a quantitative analysis of proposals for the design of energy markets. The participants thus develop the tools for an autonomous assessment of currently discussed policies in liberalized electricity markets (e.g. changed support schemes for renewables, changed network tariff systems, impact of capacity markets).<br><br>The course aims at students in the field of economics /business as well as students in the fields of engineering and mathematics. An integral part of the course id formed by homework assignments conducted in groups. The ability to cooperate also beyond the classical limits of each discipline is an important qualification for the students careers, which should be stimulated in the context of this course. |
| 6 | **Learning objectives and skills** | The students:<br><br>• develop a clear picture of the relevant market participants in liberalized electricity markets and understand their incentives and objectives<br>• learn fundamental concepts and models which allow to analyze the interaction at those markets<br>• get to know important publically available data sources which allow for a quantitative analysis of the market situations considered<br>• know the current challenges when designing those markets and can quantitatively analyze the solutions proposed in the current policy debate. |
| 7 | **Prerequisites** | The students should be familiar with the mathematical methods acquired during their Bachelor degree.<br><br>Institutional knowledge of electricity markets is not required. |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |

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| 10 | **Method of examination** | Klausur<br>schriftlich |
| 11 | **Grading procedure** | Klausur (80%)<br>schriftlich (20%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Daniel Kirschen and Goran Strbac: Power System Economics, Wiley 2004. Steven Stoft: Power System Economics, Wiley 2002. Wolfgang Ströbele, Wolfgang Pfaffenberger, Michael Heuterkes: Energiewirtschaft, Oldenbourg 2010. |

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| 1 | **Module name**<br>52940 | **Seminar: Behavioral economics 2** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Behavioral Economics 2 (3 SWS) | 5 ECTS |
| 3 | Lecturers | Xiaoyu Zhou<br>Prof. Dr. Veronika Grimm | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The seminar deals with theories and methods from behavioural and experimental economics. Although behavioral and experimental economics are relatively recent fields of research, many insights have been gained from applying the methods of the field to key economic questions. Relevant topics include, but are not limited to, nudging (in the sector of health, labor, public and energy economics), norm compliance (mainly public and labor economics), social preferences (mainly health and labor economics) or uncertainty preferences (energy economics). Depending on the topic of the seminar, questions of experimental design, conducting studies and analysis of behavioural data can be dealt with. |
| 6 | **Learning objectives and skills** | Students<br>• Gain fundamental understanding of the methods of behavioral and experimental economics,<br>• Learn to autonomously apply those methods,<br>• Conceptualize own research ideas,<br>• Analyze the peculiarities of complex economic situations,<br>• Develop their presentation skills. |
| 7 | **Prerequisites** | Solid knowledge of microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>mündlich<br>Seminararbeit |
| 11 | **Grading procedure** | Präsentation (30%)<br>mündlich (20%)<br>Seminararbeit (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Camerer, Löwenstein and Rabin (2003), Advances in Behavioral Economics, Princeton University Press. Changing recent scientific literature |

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| 1 | **Module name**<br>52990 | **Seminar energy markets** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Energy Markets (4 SWS)<br>Seminar: Seminar Energy Markets (4 SWS)<br>Seminar: Seminar Energy Markets (4 SWS) | -<br>-<br>- |
| 3 | Lecturers | Prof. Dr. Karl Gregor Zöttl<br>Prof. Dr. Veronika Grimm | |

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| 4 | **Module coordinator** | Beate Bäumler<br>Prof. Dr. Veronika Grimm<br>Prof. Dr. Karl Gregor Zöttl |
| 5 | **Contents** | It is the purpose of the seminar to deepen the understanding of the economic interaction of the players and institutions in liberalized energy markets.<br><br>The participants learn and develop the tools for an autonomous economic assessment of currently discussed policies in liberalized electricity markets (e.g. changed support schemes for renewables, changed network tariff systems, impact of capacity markets).<br><br>In cooperation with experts from the industry, students are also confronted with the practitioners perspective which requires a more detailed application of the economic concepts employed.<br><br>The course aims at students in the field of economics /business as well as students in the fields of engineering and mathematics. In the final workshop, all Students present and mutually discuss their results together with practitioners from the industry. The ability to communicate also beyond the classical limits of each discipline is an important qualification for the students careers, which should be stimulated in the context of this seminar. |
| 6 | **Learning objectives and skills** | The students<br>• learn fundamental concepts and models which allow to analyze the economic interaction at energy markets,<br>• Learn to autonomously apply those methods,<br>• Conceptualize coherent analysis of current policy discussion of how to design energy markets,<br>• In close exchange with a practitioner from industry, learn to apply in meaningful way the conceptual analysis and discussions to real world problems.<br>• Develop their presentation skills. |
| 7 | **Prerequisites** | The students should be familiar with the mathematical methods acquired during their Bachelor degree.<br><br>Institutional knowledge of energy markets is helpful but not required. |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation |

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| | | mündlich<br>Seminararbeit |
| 11 | **Grading procedure** | Präsentation (30%)<br>mündlich (20%)<br>Seminararbeit (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Daniel Kirschen and Goran Strbac: Power System Economics, Wiley 2004. Steven Stoft: Power System Economics, Wiley 2002. Wolfgang Ströbele, Wolfgang Pfaffenberger, Michael Heuterkes: Energiewirtschaft, Oldenbourg 2010. |

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| 1 | **Module name**<br>54340 | **Seminar optimiziation in energy markets** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Frauke Liers-Bergmann |
| 5 | **Contents** | Die aktuell angebotenen Themen werden von den Dozenten rechtzeitig bekannt gegeben. |
| 6 | **Learning objectives and skills** | Die Studierenden<br>• Erarbeiten sich vertiefende Fachkompetenzen im Bereich der Optimierung von Energiemärkten;<br>• Analysieren Fragestellungen und Probleme im Bereich der Optimierung von Energiemärkten und lösen diese mit wissenschaftlichen Methoden;<br>• Verwenden relevante Präsentations- und Kommunikationstechniken und präsentieren die mathematischen Sachverhalte in mündlicher und schriftlicher Form;<br>• Tauschen sich untereinander und mit dem Dozenten über Informationen, Ideen, Probleme und Lösungen auf wissenschaftlichem Niveau aus. |
| 7 | **Prerequisites** | lineare und kombinatorische Optimierung |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Energy Markets Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>schriftlich |
| 11 | **Grading procedure** | Präsentation (75%)<br>schriftlich (25%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | no Bibliography information available! |

# Specialisation: Health Economics

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| 1 | **Module name**<br>52162 | **Applied empirical health economics** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Blockseminar Angewandte Empirische Gesundheitsökonomie / Seminar Applied Empirical Health Economics (3 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Harald Tauchmann<br>Irina Simankova | |

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| 4 | **Module coordinator** | Prof. Dr. Harald Tauchmann |
| 5 | **Contents** | The project seminar aims on introducing students to empirical research in the field of health economics. For this, two options are available. The first is to replicate and possibly extend an empirical analysis found in a research paper that is selected by the lecturer. The second is to conduct an independent empirical analysis based on one chapter of the textbook Jones, A. et al. (2013): Applied Health Economics. Each chapter of the book covers a topic of empirical health economics such as inequality in health, with a focus on specific methods (generalized Lorenz curve, probit regression for ordered categorical data, interval regression etc.) that are well suited for analyzing the specific research question. In particular, using these methods using the statistical software Stata® und using them for applied empirical work is key for the seminar. Each student individually works on an empirical project. Support and advise how to do this is provided on the individual student level. In order to get (more) familiar with stata, students may participate in a Stata-crash course prior to working on their projects. Students write a seminar thesis in which they describe and communicate their research and give a presentation of their thesis in a seminar. |
| 6 | **Learning objectives and skills** | Students<br>• become familiar with specific methods which are relevant in empirical health economics in health and learn to apply them to specific research questions<br>• deepen their methodological competences by using them in applied work<br>• acquire competences in developing and empirically addressing research questions in health economics<br>• learn to present and to discuss results of empirical research |
| 7 | **Prerequisites** | • Profound knowledge in micro econometrics<br>• Basic knowledge in the statistical software Stata ® (the course starts with an elective Stata® course, which is intended to allow students who do not know Stata® to successfully participating in the seminar) |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Seminararbeit<br>Präsentation |
| 11 | **Grading procedure** | Seminararbeit (65%)<br>Präsentation (35%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 30 h |

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| | | Independent study: 120 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Jones A., Rice, N. Bago dUva, T. & Balia, S. (2013): Applied Health Economics, 2nd ed., Routledge. |

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|---|---|---|---|
| 1 | **Module name**<br>53281 | **Behavioral economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Behavioral Economics (2 SWS) | - |
| 3 | Lecturers | Prof. Dr. Veronika Grimm<br>Yuval Ofek-Shanny | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The course provides a theoretical and empirical introduction into the area of Behavioral Economics. This relatively new area of economics research wants to identify important deviations from the predictions of classical economics models and to extend existing models to account for these findings. |
| 6 | **Learning objectives and skills** | In the course the method of experimental economics is introduced and its use for behavioral oriented research is learned. Students learn the skill of using empirical and experimental studies as complements to theory in the study of strategic interactions. |
| 7 | **Prerequisites** | Completed Bachelor degree in Economics or in a related discipline, Microeconomics I and II |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Camerer, Colin F. (2003), Behavioral Game Theory: Experiments on Strategic Interaction, Princeton Univ. Press. Journale articles, announcement on chair website |

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|---|---|---|---|
| 1 | **Module name**<br>54821 | **Evaluation methods in health economics I** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Gesundheitsökonomische Evaluationen I (3 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Oliver Schöffski | |

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| 4 | **Module coordinator** | Prof. Dr. Oliver Schöffski |
| 5 | **Contents** | Bei allen öffentlichen Großprojekten sind Kosten-Nutzen-Analysen zwingend vorgeschrieben. Die Methodik wurde im Gesundheitswesen weiterentwickelt, wo auch intangible Effekte (z.B. Lebensqualität) berücksichtigt werden müssen. In der Veranstaltung werden die unterschiedlichen Studienformen, die Grundprinzipien, das Design von gesundheitsökonomischen Studien und insbesondere das QALY- und das Effizienzgrenzenkonzept behandelt. |
| 6 | **Learning objectives and skills** | Die Studierenden<br>• ermessen den Unterschied zwischen Effektivität und Effizienz im Gesundheitswesen<br>• diskutieren verschiedene Möglichkeiten der Berechnung von Kosten und Nutzen medizinischer Maßnahmen und setzen Kosten und Nutzen verschiedener medizinischer Maßnahmen zueinander in Beziehung<br>• beurteilen aktuelle Diskussionen zu dieser Thematik<br>• vergleichen die verschiedenen Grundformen und -prinzipien gesundheitsökonomischer Evaluationen sowie die damit verbundenen Konzepte<br>• schätzen das QALY-Konzept im Hinblick auf seine Relevanz ein<br>• skizzieren das Design einer gesundheitsökonomischen Studie |
| 7 | **Prerequisites** | Keine |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Health Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur mit MultipleChoice (60 Minuten) |
| 11 | **Grading procedure** | Klausur mit MultipleChoice (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Schöffski / Graf von der Schulenburg (Hrsg.): Gesundheitsökonomische Evaluationen, 3. oder 4. Aufl., Berlin u. a., 2007, 2008 oder 2012. |

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|---|---|---|---|
| 1 | **Module name**<br>52850 | **Health economic evaluations II** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Gesundheitsökonomische Evaluationen II (3 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Oliver Schöffski | |

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| 4 | **Module coordinator** | Prof. Dr. Oliver Schöffski |
| 5 | **Contents** | Die Thematik wird in dieser Veranstaltung aufbauend auf der Grundlagenveranstaltung im 1. Semester weiter vertieft. Insbesondere werden hier die Methoden der Lebensqualitätsmessung behandelt und kritisch diskutiert. Weiterhin werden Modellierungen in Form von Entscheidungsbäumen und Markov-Modellen theoretisch und praktisch durchgeführt. Fallbeispiele runden diese Veranstaltung ab. |
| 6 | **Learning objectives and skills** | Die Studierenden<br>• verstehen die Problematik und die Relevanz der Messung von Lebensqualitätseffekten<br>• können entsprechende Lebensqualitätsmessungen eigenständig durchführen<br>• sind in der Lage verschiedene Modellierungsansätze beurteilen zu können<br>• können einfache Modellierungen selbst konzipieren, durchführen und die Ergebnisse interpretieren. |
| 7 | **Prerequisites** | Die Pflichtveranstaltung Gesundheitsökonomische Evaluationen I sollte vor diesem Modul belegt worden sein. |
| 8 | **Integration in curriculum** | Semester: 3 |
| 9 | **Module compatibility** | Specialisation: Health Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur mit MultipleChoice (60 Minuten) |
| 11 | **Grading procedure** | Klausur mit MultipleChoice (100%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Schöffski / Graf von der Schulenburg (Hrsg.): Gesundheitsökonomische Evaluationen, 3. oder 4. Aufl., Berlin u. a., 2007, 2008 oder 2012. |

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|---|---|---|---|
| 1 | **Module name**<br>53083 | **Economics of social policy** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: MA S Ökonomie der Sozialpolitik (3 SWS) | 5 ECTS |
| 3 | Lecturers | Sebastian Ach<br>Prof. Dr. Matthias Wrede<br>Elisa Poletto | |

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| 4 | **Module coordinator** | Prof. Dr. Matthias Wrede |
| 5 | **Contents** | Ausgewählte ökonomische Analysen der Sozialpolitik unter Einschluss ethischer und ökonomischer Grundlagen sowie institutioneller Aspekte |
| 6 | **Learning objectives and skills** | • Studierende kennen ausgewählte Bereiche der Sozialpolitik und können diese beschreiben und international vergleichen.<br>• Studierende können ethische und ökonomische Grundlagen staatlicher Eingriffe in ausgewählten Bereichen sozialer Sicherung darstellen, interpretieren und diskutieren.<br>• Studierende können Wirkungen sozialpolitisch relevanter Größen theoretisch und empirisch verstehen, bewerten und hinterfragen.<br>• Studierende können sozialpolitische Maßnahmen unter Effizienz- und Gerechtigkeitsgesichtspunkten bewerten und hinterfragen.<br>• Studierende geben Ihren Kommilitonen im Rahmen ihrer Präsentationen strukturiertes Feedback.<br>• Studierende fördern die Fachkenntnisse der anderen Studierenden durch themenspezifische Diskussionsbeiträge.<br>• Studierende erfassen, bewerten und diskutieren ausgewählte aktuelle, meist englischsprachige Forschungsarbeiten in Ihrer Seminararbeit. |
| 7 | **Prerequisites** | Mikroökonomische und ökonometrische Kenntnisse |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>Hausarbeit |
| 11 | **Grading procedure** | Präsentation (30%)<br>Hausarbeit (70%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |
| 16 | **Bibliography** | Die Literatur wird während des Kurses bekannt gegeben. |

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| 1 | **Module name**<br>53055 | **Panel and evaluation methods** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Panel- and Evaluation Methods (PEV)-Übung (2 SWS)<br>Tutorium: Panel- and Evaluation Methods-Tutorium (2 SWS)<br>Vorlesung: Panel- and Evaluation Methods (2 SWS)<br>Übung: Panel- and Evaluation Methods Softskills (2 SWS) | -<br>-<br>5 ECTS<br>- |
| 3 | Lecturers | Dr. Selina Gangl<br>Prof. Regina Therese Riphahn | |

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| 4 | **Module coordinator** | Prof. Regina Therese Riphahn |
| 5 | **Contents** | Endogeneity in the linear regression model; instrumental variables estimation; static and dynamic panel data models; matching; difference-in-differences estimation; regression discontinuity design; quantile regression; practical application of methods using statistics software STATA |
| 6 | **Learning objectives and skills** | Based on the introductory econometrics module Ökonometrie 1 students acquire specialized knowledge in panel und evaluation methods and apply it using the statistics software STATA. Students evaluate to what degree empirical patterns can be interpreted as causal and decide to what extent problems of endogeneity can be solved via panel data or exogeneous variation Students can produce own empirical analyses. |
| 7 | **Prerequisites** | Basic knowledge in statistics and econometrics |
| 8 | **Integration in curriculum** | Semester: 3;1 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (60 Minuten) |
| 11 | **Grading procedure** | Klausur (100%)<br>100 % written exam (a voluntarily submitted homework can account for 20 % of the final grade if it improves the grade. In the homework an empirical analysis is performed based on Stata. The final grade can be improved by up to 0.7 points. However, the exam must be passed. The homework only counts towards final grades in the semester in which they are produced, i.e. only in the winter semester.) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Wooldridge, J.M., 2010, Econometric Analysis of Cross Section and Panel Data, 2.A., MIT Press. Greene, William H., 2020, Econometric Analysis, 8. ed., Pearson, New Jersey<br><br>Cameron, C.A. and P.K. Trivedi, 2005, Microeconometrics. Methods and Applications, Cambridge University Press |

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| | | Angrist, J. and J.-S. Pischke, 2009, Mostly Harmless Econometrics, Princeton University Press, Princeton, and Oxford.<br><br>Verbeek, M., 2017, A Guide to Modern Econometrics, 5. A., Wiley. |

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| 1 | **Module name**<br>54611 | **Public economics** | **5 ECTS** |
| 2 | Courses / lectures | Vorlesung: Public Economics in Theory and Practice (L) (0 SWS) | 5 ECTS |
| 3 | Lecturers | Anne Maria Kesselring<br>Anne Maria Kesselring<br>Prof. Dr. Thiess Büttner | |

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| 4 | **Module coordinator** | Prof. Dr. Thiess Büttner<br>Nima Farhang-Damghani<br>Anne Maria Kesselring |
| 5 | **Contents** | The lecture provides an introduction in public economics at the intermediate level. The course first derives the basic theoretical foundations for an optimal design of public policy. In the second step, the course discusses specific aspects of public policy, such as taxation and redistribution, social security, tax evasion, debt finance, interjurisdictional competition and fiscal federalism. It supplements theory by exploring practical problems. |
| 6 | **Learning objectives and skills** | Students know how to characterize efficient public policies using microeconomic decision models. They can use this framework to study public policy in a rigorous and consistent general equilibrium context. Students are acquainted with important empirical approaches to evaluate public policies quantitatively. Moreover, they acquire knowledge about options, methods and limits to implement efficient public policy |
| 7 | **Prerequisites** | Basic microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Specialisation: Health Economics Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten)<br>Written exam (90 minutes) |
| 11 | **Grading procedure** | Klausur (100%)<br>Written exam (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 60 h<br>Independent study: 90 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Hindriks, J., and Myles, G., (2006), Intermediate Public Economics, MIT Press, Cambridge Atkinson, A.B., Stiglitz, J. E., (1980), Lectures on Public Economics . MacGraw-Hill, New York Lecture notes are provided at the beginning of the course. |

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| 1 | **Module name**<br>52930 | **Seminar: Behavioral economics 1** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Behavioral Economics 1 (3 SWS) | 5 ECTS |
| 3 | Lecturers | Prof. Dr. Veronika Grimm<br>Xiaoyu Zhou | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The seminar sheds light on various issues in market and institution design focusing on selected applications. Market and institution design applies methods of game theory and (behavioral) economics to develop effective market rules. In this seminar, the focus will lie on market rules of various markets such as labor-markets or markets in the sector of health or public economics. In different market environments, phenomena like trust, social preferences, or bounded rationality are important. Understanding these aspects is of key importance for specifying the details of a particular market environment. In the seminar, we will analyse the peculiarities of selected markets and their implications for the effective organization of those markets from a theoretical and/or behavioural perspective. |
| 6 | **Learning objectives and skills** | Students<br>• Analyze the peculiarities of markets and their operating mode within the frame of complex theoretic and behavioral models,<br>• Discuss the validity of those models based on experimental or empirical studies,<br>• Evaluate, based on the literature, different market and institution designs,<br>• Autonomously analyze complex questions and develop solution concepts<br>• Are able to write a relevant theoretic or empirical scientific essay,<br>• Develop their presentation skills. |
| 7 | **Prerequisites** | Solid knowledge of microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Seminararbeit<br>mündlich<br>Präsentation |
| 11 | **Grading procedure** | Seminararbeit (50%)<br>mündlich (20%)<br>Präsentation (30%) |
| 12 | **Module frequency** | in jedem Semester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |

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| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Changing recent scientific literature |

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| 1 | **Module name**<br>52940 | **Seminar: Behavioral economics 2** | **5 ECTS** |
| 2 | Courses / lectures | Seminar: Seminar Behavioral Economics 2 (3 SWS) | 5 ECTS |
| 3 | Lecturers | Xiaoyu Zhou<br>Prof. Dr. Veronika Grimm | |

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| 4 | **Module coordinator** | Nima Farhang-Damghani<br>Prof. Dr. Veronika Grimm<br>Simon Mehl |
| 5 | **Contents** | The seminar deals with theories and methods from behavioural and experimental economics. Although behavioral and experimental economics are relatively recent fields of research, many insights have been gained from applying the methods of the field to key economic questions. Relevant topics include, but are not limited to, nudging (in the sector of health, labor, public and energy economics), norm compliance (mainly public and labor economics), social preferences (mainly health and labor economics) or uncertainty preferences (energy economics). Depending on the topic of the seminar, questions of experimental design, conducting studies and analysis of behavioural data can be dealt with. |
| 6 | **Learning objectives and skills** | Students<br>• Gain fundamental understanding of the methods of behavioral and experimental economics,<br>• Learn to autonomously apply those methods,<br>• Conceptualize own research ideas,<br>• Analyze the peculiarities of complex economic situations,<br>• Develop their presentation skills. |
| 7 | **Prerequisites** | Solid knowledge of microeconomics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Präsentation<br>mündlich<br>Seminararbeit |
| 11 | **Grading procedure** | Präsentation (30%)<br>mündlich (20%)<br>Seminararbeit (50%) |
| 12 | **Module frequency** | nur im Wintersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Camerer, Löwenstein and Rabin (2003), Advances in Behavioral Economics, Princeton University Press. Changing recent scientific literature |

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| 1 | **Module name**<br>56792 | **The economics of health insurance** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Ü: The Economics of Health Insurance (1 SWS)<br>Vorlesung: VL: The Economics of Health Insurance (2 SWS) | 2,5 ECTS<br>- |
| 3 | Lecturers | Franz Josef Zorzi<br>Prof. Dr. Harald Tauchmann | |

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| 4 | **Module coordinator** | Prof. Dr. Harald Tauchmann |
| 5 | **Contents** | The course covers the economics of health care taking a microeconomic perspective. The course focusses on the market for health insurance and its imperfections that originate from the specific characteristics of health as a commodity and result in market failure and hence undesirable market outcomes such as adverse selection, moral hazard, and risk selection. Based on the theoretical analysis implications for the question of how to design a health (insurance) system are derived. |
| 6 | **Learning objectives and skills** | The students<br>• learn to analyze the market for health insurance<br>• acquire knowledge about the institutions of the German health insurance system and how to assess them from a theoretical perspective<br>• test the theoretical predictions using empirical analyses |
| 7 | **Prerequisites** | Solid skills in microeconomics, basic skills in econometrics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Zweifel, P., Breyer, F., Kifmann, M. (2009): Health Economics, Springer 2nd ed. |

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| 1 | **Module name**<br>52153 | **The supply of medical services** | **5 ECTS** |
| 2 | Courses / lectures | Übung: Ü: Supply of Medical Services (1 SWS)<br>Vorlesung: VL: Supply of Medical Services (2 SWS) | 2,5 ECTS<br>- |
| 3 | Lecturers | Irina Simankova<br>Prof. Dr. Harald Tauchmann | |

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| 4 | **Module coordinator** | Prof. Dr. Harald Tauchmann |
| 5 | **Contents** | In this course the market for medical services and in particular the supply of services from physicians and hospitals is analyzed. The focus is on behavioral incentives and how they are shaped by the characteristics of health as a special good as well as by institutional settings. Topics to be covered are supplier induced demand, quality-quantity-relationship in hospitals and optimal reimbursement schemes. The course will also cover individual health behavior. Throughout the course microeconomic models will be used. |
| 6 | **Learning objectives and skills** | Students<br>• understand the behavior of phsysicians from a microeconomic perspective<br>• can evaluate governmental regulations in health care markets<br>• can discuss reforms in the health care sector |
| 7 | **Prerequisites** | Solid knowledge of microeconomics and econometrics |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Klausur (90 Minuten) |
| 11 | **Grading procedure** | Klausur (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Workload in clock hours** | Contact hours: 45 h<br>Independent study: 105 h |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Englisch |
| 16 | **Bibliography** | Zweifel, P., Breyer, F., Kifmann, M. (2009): Health Economics, Springer, 2. Aufl. |

# Miscellaneous

## Free elective modules

- Up to 2 free elective modules worth 5 ECTS credits each may be taken. These are modules offered by the Faculty. When choosing modules, a subject-specific increase in expertise compared to the preceding Bachelor's degree must be proven. The programme coordinator must approve the suitability of the proposed courses.

- An overview on the available modules can be found with the following path on campo: https://www.campo.fau.de > Studies offered > Module descriptions > Show module descriptions > type in "Master of Science Economics PO-Version 20212" > check the modules in the section "1950 Miscellaneous"

- Languages as free elective modules: One course independent of level. Second course must be of level B2 or higher.

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| 1 | **Module name**<br>55691 | **Study abroad module I** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Johannes Rincke |
| 5 | **Contents** | EN: The content of the courses visited in the foreign university must be related to the topic of the masters content.<br><br>The master coordinator decides on the suitability of the courses using German or English documents.<br><br>DE: Die an der ausländischen Universität besuchten Lehrveranstaltungen sollten einen thematischen Bezug zu den Inhalten des Masters haben.<br><br>Eine Prüfung der Eignung der Lehrveranstaltungen erfolgt durch den Masterkoordinator auf der Basis deutsch- oder englischsprachiger Unterlagen. |
| 6 | **Learning objectives and skills** | EN: Students acquire comprehensive, detailed and specialised knowledge on the research frontier. They are able to communicate this knowledge in a clear and unambiguous way in a foreign language. Besides gaining expertise students gain intercultural and social skills. Students can organize themselves and respond to changing requirements independently and in a problem-solving attitude.<br><br>DE: Die Studierenden verfügen über umfassendes, detailliertes und spezialisiertes Wissen auf dem neuesten Erkenntnisstand der Wissenschaft. Sie können dieses Wissen in klarer und eindeutiger Weise auch in einer Fremdsprache vermitteln. Neben den Fachkompetenzen erwerben die Studierenden interkulturelle und soziale Kompetenzen. Die Studierenden können sich selbst organisieren und auf sich verändernde Anforderungen eigenständig und lösungsorientiert reagieren. |
| 7 | **Prerequisites** | Learning Agreement |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Variabel |
| 11 | **Grading procedure** | Variabel (100%) |
| 12 | **Module frequency** | in jedem Semester |
| 13 | **Workload in clock hours** | Contact hours: ?? h (keine Angaben zum Arbeitsaufwand in Präsenzzeit hinterlegt)<br>Independent study: ?? h (keine Angaben zum Arbeitsaufwand im Eigenstudium hinterlegt) |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |

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|---|---|---|
| 16 | **Bibliography** | EN: Considering the specifications of the course at the foreign university.<br>DE: Berücksichtigung der Angaben zu den Lehrveranstaltungen an der ausländischen Universität |

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|---|---|---|---|
| 1 | **Module name**<br>55692 | **Study abroad module II** | **5 ECTS** |
| 2 | Courses / lectures | No courses / lectures available for this module! | |
| 3 | Lecturers | No lecturers available since there are no courses / lectures for this module! | |

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| 4 | **Module coordinator** | Prof. Dr. Johannes Rincke |
| 5 | **Contents** | EN: The content of the courses visited in the foreign university must be related to the topic of the masters content.<br><br>The master coordinator decides on the suitability of the courses using German or English documents.<br><br>DE: Die an der ausländischen Universität besuchten Lehrveranstaltungen sollten einen thematischen Bezug zu den Inhalten des Masters haben.<br><br>Eine Prüfung der Eignung der Lehrveranstaltungen erfolgt durch den Masterkoordinator auf der Basis deutsch- oder englischsprachiger Unterlagen. |
| 6 | **Learning objectives and skills** | EN: Students acquire comprehensive, detailed and specialised knowledge on the research frontier. They are able to communicate this knowledge in a clear and unambiguous way in a foreign language. Besides gaining expertise students gain intercultural and social skills. Students can organize themselves and respond to changing requirements independently and in a problem-solving attitude.<br><br>DE: Die Studierenden verfügen über umfassendes, detailliertes und spezialisiertes Wissen auf dem neuesten Erkenntnisstand der Wissenschaft. Sie können dieses Wissen in klarer und eindeutiger Weise auch in einer Fremdsprache vermitteln. Neben den Fachkompetenzen erwerben die Studierenden interkulturelle und soziale Kompetenzen. Die Studierenden können sich selbst organisieren und auf sich verändernde Anforderungen eigenständig und lösungsorientiert reagieren. |
| 7 | **Prerequisites** | Learning Agreement |
| 8 | **Integration in curriculum** | Semester: 2 |
| 9 | **Module compatibility** | Miscellaneous Master of Science Economics 20212 |
| 10 | **Method of examination** | Variabel |
| 11 | **Grading procedure** | Variabel (100%) |
| 12 | **Module frequency** | in jedem Semester |
| 13 | **Workload in clock hours** | Contact hours: ?? h (keine Angaben zum Arbeitsaufwand in Präsenzzeit hinterlegt)<br>Independent study: ?? h (keine Angaben zum Arbeitsaufwand im Eigenstudium hinterlegt) |
| 14 | **Module duration** | 1 Semester |
| 15 | **Teaching and examination language** | Deutsch |

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|---|---|---|
| 16 | **Bibliography** | EN: Considering the specifications of the course at the foreign university.<br>DE: Berücksichtigung der Angaben zu den Lehrveranstaltungen an der ausländischen Universität |

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| 1 | **Module name**<br>1998 | **Master's thesis module** | **30 ECTS** |
| 2 | Courses / lectures | Seminar: MA: Seminar zur Masterarbeit (2 SWS) | - |
| 3 | Lecturers | Prof. Dr. Matthias Wrede | |

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| 4 | **Module coordinator** | |
| 5 | **Contents** | EN: Students write their master's thesis.<br>In the seminar students present and discuss their master's thesis.<br><br>DE: Die Studierenden erstellen Ihre Masterarbeit.<br>Im Rahmen des Seminars präsentieren und diskutieren die Studierenden ihre Masterarbeiten. |
| 6 | **Learning objectives and skills** | EN:<br>Master's thesis:<br>In the master's thesis students show that they are able to work on a topic or an economic issue within a prescribed period independently and with scientific methods. They can prepare the findings concisely and interpret them competently.<br>Masters thesis seminar:<br>Students discuss their own and other contributions to economic research. The seminar should assist students in the preparation of the masters thesis and give them important support to the independent solution and presentation of issues.<br>DE:<br>Masterarbeit:<br>In der Masterarbeit zeigen Studierende, dass sie in der Lage sind innerhalb einer vorgegebenen Frist ein Thema bzw. eine ökonomische Fragestellung selbständig und mit wissenschaftlichen Methoden zu bearbeiten sowie die Erkenntnisse prägnant aufzubereiten und kompetent zu interpretieren.<br>Seminar zur Masterarbeit:<br>Studierende diskutieren eigene und andere Beiträge zur volkswirtschaftlichen Forschung. Das Seminar soll die Studierenden bei der Anfertigung der Masterarbeit unterstützen und ihnen wichtige Hilfen zur selbständigen Lösung und Darstellung von Problemen geben. |
| 7 | **Prerequisites** | EN: Courses from the 1.  3. semesters<br>DE: Besuch der Veranstaltungen des 1. - 3. Semesters |
| 8 | **Integration in curriculum** | Semester: 4 |
| 9 | **Module compatibility** | Pflichtmodul Master of Science Economics 20212 |
| 10 | **Method of examination** | schriftlich (6 Monate) |
| 11 | **Grading procedure** | schriftlich (100%) |
| 12 | **Module frequency** | nur im Sommersemester |
| 13 | **Resit examinations** | The exams of this moduls can only be resit once. |
| 14 | **Workload in clock hours** | Contact hours: 30 h<br>Independent study: 120 h |
| 15 | **Module duration** | 1 Semester |
| 16 | **Teaching and examination language** | Deutsch oder Englisch |

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|---|---|---|
| 17 | **Bibliography** | EN: Changing current research literature DE: Wechselnde aktuelle Forschungsliteratur |