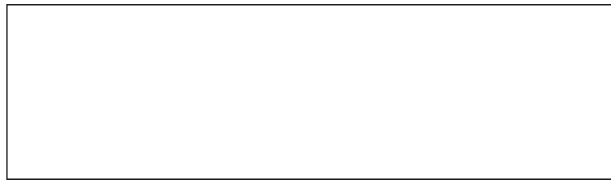




LUDWIG-  
MAXIMILIANS-  
UNIVERSITÄT  
MÜNCHEN



## **Module Handbook**

**Master's Program: Quantitative Economics (Master of Science, M.Sc.)**

**(120 ECTS-Credits)**

88/177/---/M0/H/2025

**Status: 26. February 2025**

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## Abbreviations and Explanations

ECTS	European Credit Transfer and Accumulation System
h	Hours
SoSe	Summer Semester
SWS	Weekly Semester Hours
WiSe	Winter Semester
WP	Elective Compulsory Module
P	Compulsory Module

1. The modules and their corresponding ECTS-Credits are to be understood as follows: ECTS-Credits with no brackets indicate ECTS-Credits granted upon passing a module examination or partial examination. ECTS-Credits placed within brackets serve a purely calculative function.
2. Please note: the module handbook serves as a point of reference during studies. For binding rules and regulations please rely solely on the valid programme and examination regulations. Please view your area of study under: [www.lmu.de/studienangebot](http://www.lmu.de/studienangebot)

## Module: P 1 Microeconomics Consumer and Decision Theory

**Program** Master's Program: Quantitative Economics (Master of Science)

### Module Parts

Type	Course	Cycle	Attendance	Self Study	ECTS
Lecture	P 1.1 Microeconomics - Consumer and Decision Theory	WiSe	30 h (2 SWS)	60 h	(3)
Tutorial	P 1.2 Microeconomics - Consumer and Decision Theory	WiSe	30 h (2 SWS)	60 h	(3)

A total of 6 ECTS-Credits need to be acquired in this module. Contact hours account for 4 semester hours (SWS). Including self-study, there is a time investment of approx. 180 hours.

**Module Type** Compulsory module with a required course.

**Rules for Elective Compulsory Module** None

**Semester** 1

**Duration** The module lasts for one semester.

**Contents** This is a first-year graduate course in microeconomics designed for doctoral students that covers the most fundamental core elements of microeconomics. We first introduce the foundation of decision theory and then apply this approach to study consumer demand theory and decision under uncertainty. We also study classic production theory and introduce general equilibrium with special attention to the two welfare theorems. The technical level of the course is significantly higher than that of standard master courses, as is the speed at which the material is presented.

**Qualification Objectives** Students will be in the position to understand the revealed preference approach that serves as the foundation of economic modeling; rigorously model individual decision processes, consumer and producer behavior, and the welfare implications of economic interactions; and develop sophisticated analytical skills necessary to understand and conduct cutting-edge economic research in a variety of subfields, both theoretical and empirical.

**Form of Examination** Written exam

**Assessment** The module is graded.

**Requirement for Granting of ECTS-Credits** ECTS-Credits are granted upon passing the assigned examination for the module.

**Module Coordinator**

Microeconomics Teaching Group Coordinator

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**Teaching Language**

English

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**Additional Information**

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## Module: P 2 Macroeconomics Growth Theory

### Program

Master's Program: Quantitative Economics (Master of Science)

### Module Parts

Type	Course	Cycle	Attendance	Self Study	ECTS
Lecture	P 2.1 Macroeconomics - Growth Theory	WiSe	30 h (2 SWS)	60 h	(3)
Tutorial	P 2.2 Macroeconomics - Growth Theory	WiSe	30 h (2 SWS)	60 h	(3)

A total of 6 ECTS-Credits need to be acquired in this module. Contact hours account for 4 semester hours (SWS). Including self-study, there is a time investment of approx. 180 hours.

<b>Module Type</b>	Compulsory module with a required course.
<b>Rules for Elective Compulsory Module</b>	None
<b>Semester</b>	1
<b>Duration</b>	The module lasts for one semester.
<b>Contents</b>	<p>This module provides an advanced introduction to modern macroeconomics, with an emphasis on illustrating core methodological concepts by detailed study of workhorse models. The course discusses how quantitative versions of (extensions of) the models are useful for understanding empirical regularities, where the emphasis is on a long-run perspective. Main themes of the course are:</p> <ol style="list-style-type: none"> <li>1. The Neoclassical Growth Model</li> <li>2. Dynamic Programming</li> <li>3. Overlapping Generations Models</li> </ol>
<b>Qualification Objectives</b>	<p>Students will be in the position to understand the core theories in macroeconomics as well as their relation to empirical facts and data. The course will familiarize students with theories to describe and understand the evolution of important aggregate variables such as consumption, output, investment, employment, as well as prices such as interest rates and wages. Students will be able to judge policy measures in a normative way based on the relevant macroeconomic theories.</p>
<b>Form of Examination</b>	Written exam
<b>Assessment</b>	The module is graded.
<b>Requirement for Granting of ECTS-Credits</b>	ECTS-Credits are granted upon passing the assigned examination for the module.

**Module Coordinator**Macroeconomics Teaching Group Coordinator

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**Teaching Language**English

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**Additional Information**

Textbooks:

(1) D. Acemoglu, Introduction to Modern Economic Growth, Princeton University Press, 2009.

(2) Ljungqvist, L. – Sargent, T. J. (2004). Recursive Macroeconomic Theory. MIT Press.

(3) Lucas, R. E. – Stokey, N. L. (1989). Recursive Methods in Economic Dynamics. Harvard University Press.

## Module: P 3 Mathematics for Economists

### Program

Master's Program: Quantitative Economics (Master of Science)

### Module Parts

Type	Course	Cycle	Attendance	Self Study	ECTS
Lecture	P 3.1 Mathematics for Economists	WiSe	30 h (2 SWS)	60 h	(3)
Tutorial	P 3.2 Mathematics for Economists	WiSe	30 h (2 SWS)	60 h	(3)

A total of 6 ECTS-Credits need to be acquired in this module. Contact hours account for 4 semester hours (SWS). Including self-study, there is a time investment of approx. 180 hours.

<b>Module Type</b>	Compulsory module with a required course.
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<b>Rules for Elective Compulsory Module</b>	None
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<b>Semester</b>	1
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<b>Duration</b>	The module lasts for one semester.
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<b>Contents</b>	<ul style="list-style-type: none"> <li>• Introduction to logic and proofs</li> <li>• Linear Algebra: Gaussian-Jordan elimination, rank of a matrix, conditions for the existence of (multiple) solutions of a linear system, determinants, positive and negative definiteness of a matrix.</li> <li>• vectors, lines, planes, hyperplanes, flats</li> <li>• Sequences and their limits, open, closed, bounded, and compact sets</li> <li>• Partial derivatives, tangent plane, gradient, and derivatives of functions of several variables and of vector functions, including composite functions.</li> <li>• Taylor approximations of functions of several variables</li> <li>• Implicit function theorem</li> <li>• Continuity</li> <li>• Weierstrass theorem, Rolle theorem, and the Mean-Value theorem</li> <li>• Unconstrained optimization, first and second order conditions.</li> <li>• Constrained optimization: first order conditions for equality constraints, inequality constrained, and mixed constraints, first and second order conditions.</li> <li>• Constrained optimization: envelop theorems and the meaning of the multiplier.</li> <li>• Constrained optimization: second order conditions for functions of 2 variables and a single equality constraint.</li> <li>• Homogeneous functions and their properties.</li> <li>• Concave, convex, quasiconcave, and quasiconvex functions and their properties.</li> </ul>
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- Concave programming.

<b>Qualification Objectives</b>	<p>The course is one of the compulsory modules in Master program in Quantitative Economics. The objective of the course is to present the students with some of the mathematical tools and results that will be used</p> <p>throughout the first year of the program. The course will emphasize the intuition behind the results and teaches how to prove mathematical statements.</p>
<b>Form of Examination</b>	Written exam
<b>Assessment</b>	The module is graded.
<b>Requirement for Granting of ECTS-Credits</b>	ECTS-Credits are granted upon passing the assigned examination for the module.
<b>Module Coordinator</b>	Microeconomics Teaching Group Coordinator
<b>Teaching Language</b>	English
<b>Additional Information</b>	<p>Textbooks:</p> <p>(1) Binmore, Ken, and Joan Davies. Calculus: concepts and methods. Cambridge University Press, 2001.</p> <p>(2) Simon, Carl P., and Lawrence Blume. Mathematics for economists. Vol. 7. New York: Norton, 1994.</p>

## Module: P 4 Econometrics Regression Analysis

**Program** Master's Program: Quantitative Economics (Master of Science)

### Module Parts

Type	Course	Cycle	Attendance	Self Study	ECTS
Lecture	P 4.1 Econometrics - Regression Analysis	WiSe	30 h (2 SWS)	60 h	(3)
Tutorial	P 4.2 Econometrics - Regression Analysis	WiSe	30 h (2 SWS)	60 h	(3)

A total of 6 ECTS-Credits need to be acquired in this module. Contact hours account for 4 semester hours (SWS). Including self-study, there is a time investment of approx. 180 hours.

<b>Module Type</b>	Compulsory module with a required course.
<b>Rules for Elective Compulsory Module</b>	None
<b>Semester</b>	1
<b>Duration</b>	The module lasts for one semester.
<b>Contents</b>	This module offers a formal treatment of modern methods in microeconometrics, including proofs of key results and critical review of the identification assumptions. Regression models and estimators covered in this Module include Ordinary Least Squares (OLS), Generalized Method of Moments (GMM), and Maximum Likelihood (ML).
<b>Qualification Objectives</b>	Students will understand the theory of modern econometric methods, especially the role of identifying assumptions, and of statistical approaches for estimation. With this background, they will learn to evaluate the validity of empirical studies in various fields of applied economics and to design and implement such studies themselves.
<b>Form of Examination</b>	Written exam
<b>Assessment</b>	The module is graded.
<b>Requirement for Granting of ECTS-Credits</b>	ECTS-Credits are granted upon passing the assigned examination for the module.
<b>Module Coordinator</b>	Econometrics Teaching Group Coordinator
<b>Teaching Language</b>	English
<b>Additional Information</b>	This lecture is self-contained. Applied work in the tutorials uses the econometrics software Stata or R.

## Module: P 5 Econometrics Advanced Methods

### Program

Master's Program: Quantitative Economics (Master of Science)

### Module Parts

Type	Course	Cycle	Attendance	Self Study	ECTS
Lecture	P 5.1 Econometrics - Advanced Methods	WiSe	30 h (2 SWS)	60 h	(3)
Tutorial	P 5.2 Econometrics - Advanced Methods	WiSe	30 h (2 SWS)	60 h	(3)

A total of 6 ECTS-Credits need to be acquired in this module. Contact hours account for 4 semester hours (SWS). Including self-study, there is a time investment of approx. 180 hours.

<b>Module Type</b>	Compulsory module with a required course.
<b>Rules for Elective Compulsory Module</b>	None
<b>Semester</b>	1
<b>Duration</b>	The module lasts for one semester.
<b>Contents</b>	This module offers a formal treatment of modern methods in microeconometrics, including proofs of key results and critical review of the identification assumptions. It covers advanced methods and applications such as panel data, treatment effect estimation, and discrete choice.
<b>Qualification Objectives</b>	Students will understand the theory of modern econometric methods, especially the role of identifying assumptions, and of statistical approaches for estimation. With this background, they will learn to evaluate the validity of empirical studies in various fields of applied economics and to design and implement such studies themselves.
<b>Form of Examination</b>	Written exam
<b>Assessment</b>	The module is graded.
<b>Requirement for Granting of ECTS-Credits</b>	ECTS-Credits are granted upon passing the assigned examination for the module.
<b>Module Coordinator</b>	Econometrics Teaching Group Coordinator
<b>Teaching Language</b>	English
<b>Additional Information</b>	This lecture is self-contained. Applied work in the tutorials uses the econometrics software Stata or R.

## Module: P 6 Microeconomics Game Theory and Information Economics

**Program** Master's Program: Quantitative Economics (Master of Science)

### Module Parts

Type	Course	Cycle	Attendance	Self Study	ECTS
Lecture	P 6.1 Microeconomics - Game Theory and Information Economics	SoSe	30 h (2 SWS)	60 h	(3)
Tutorial	P 6.2 Microeconomics - Game Theory and Information Economics	SoSe	30 h (2 SWS)	60 h	(3)

A total of 6 ECTS-Credits need to be acquired in this module. Contact hours account for 4 semester hours (SWS). Including self-study, there is a time investment of approx. 180 hours.

<b>Module Type</b>	Compulsory module with a required course.
<b>Rules for Elective Compulsory Module</b>	None
<b>Semester</b>	2
<b>Duration</b>	The module lasts for one semester.
<b>Contents</b>	<p>This module provides students with the tools of game theory and information economics to analyze strategic interactions and settings of asymmetric information.</p> <ol style="list-style-type: none"> <li>1. Rerun: Static Games of Complete Information</li> <li>2. Static Games of Incomplete Information</li> <li>3. Dynamic Games of Complete Information</li> <li>4. Bargaining Games</li> <li>5. Repeated games</li> <li>6. Dynamic Games of Incomplete Information</li> <li>7. Information Economics (Adverse Selection, Screening, Signaling, Moral Hazard)</li> </ol>
<b>Qualification Objectives</b>	Students will be in the position to understand strategic interactions in economics (e.g., in markets) and to analyze frictions due to asymmetric information.
<b>Form of Examination</b>	Written exam
<b>Assessment</b>	The module is graded.
<b>Requirement for Granting of ECTS-Credits</b>	ECTS-Credits are granted upon passing the assigned examination for the module.
<b>Module Coordinator</b>	Microeconomics Teaching Group Coordinator

**Teaching Language**

English

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**Additional Information**

## Textbooks:

(1) Maschler, Solan, and Zamir, Game Theory, Cambridge University Press, 2020.

(2) Mas-Colell, A., Whinston, M., and J. Green, Microeconomic Theory, Oxford University Press, 1995.

(3) Osborne, Martin J. and Ariel Rubinstein, A Course in Game Theory, MIT Press, 1994.

## Module: P 7 Macroeconomics Business Cycles and Policy

**Program** Master's Program: Quantitative Economics (Master of Science)

### Module Parts

Type	Course	Cycle	Attendance	Self Study	ECTS
Lecture	P 7.1 Macroeconomics - Business Cycles and Policy	SoSe	30 h (2 SWS)	60 h	(3)
Tutorial	P 7.2 Macroeconomics - Business Cycles and Policy	SoSe	30 h (2 SWS)	60 h	(3)

A total of 6 ECTS-Credits need to be acquired in this module. Contact hours account for 4 semester hours (SWS). Including self-study, there is a time investment of approx. 180 hours.

**Module Type** Compulsory module with a required course.

**Rules for Elective Compulsory Module** None

**Semester** 2

**Duration** The module lasts for one semester.

**Contents** This course continues with the introduction to modern dynamic macroeconomics. The focus is on a short-run perspective, and on questions of policy. The first part of the course covers modern business cycle theory. The second part of the course covers distributional questions (of income, wealth, consumption). Finally, the course introduces frictional markets.

1. Real Business Cycle Models
2. Standard Incomplete Market Models
3. Search and Matching Models

**Qualification Objectives** Students will be in the position to apply modern macroeconomic methods to study business cycle dynamics. They will also learn another workhorse model of modern macroeconomics (the Standard Incomplete Markets model) and be able to apply dynamic programming techniques in models featuring stochastic elements, which allows them to study distributional outcomes in partial and general equilibrium.

**Form of Examination** Written exam

**Assessment** The module is graded.

**Requirement for Granting of ECTS-Credits** ECTS-Credits are granted upon passing the assigned examination for the module.

**Module Coordinator** Macroeconomics Teaching Group Coordinator

**Teaching Language**

English

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**Additional Information**

Textbooks:

(1) Ljungqvist, L. – Sargent, T. J. (2004). Recursive Macroeconomic Theory. MIT Press.

(2) Lucas, R. E. – Stokey, N. L. (1989). Recursive Methods in Economic Dynamics. Harvard University Press.

## Module: P 8 Soft Skills

### Program

Master's Program: Quantitative Economics (Master of Science)

### Module Parts

Type	Course	Cycle	Attendance	Self Study	ECTS
Seminar	P 8.1 Academic Writing	SoSe	30 h (2 SWS)	60 h	(3)
Seminar	P 8.2 Presentation Skills	WiSe	30 h (2 SWS)	60 h	(3)

A total of 6 ECTS-Credits need to be acquired in this module. Contact hours account for 4 semester hours (SWS). Including self-study, there is a time investment of approx. 180 hours.

### Module Type

Compulsory module with a required course.

### Rules for Elective Compulsory Module

None

### Semester

2

### Duration

The module lasts for two semesters.

### Contents

The module consists of 2 workshops: "Presentation Techniques" and "Academic Writing".

Content Presentation Techniques:

- Structuring talks to be audience-friendly
- Expressions for introducing, summarizing and making transitions
- Building rapport with the audience
- Emphasizing key messages
- Using your voice: intonation, pace, pausing
- Body language and eye contact
- Effective style and format for visuals
- Dealing with difficult questions

Content Academic Writing:

- Managing the writing process professionally
- Understanding the drafting and revision processes
- Finding a focus by identifying an appropriate research question
- Creating precise, accurate, and correct sentences
- Understanding structural and language norms for English research papers
- Giving and receiving feedback on texts
- Examining structural relationships within and between sections of a paper
- Examining participants' texts with regard to structure and language, using a variety of feedback strategies



- Recognizing stylistically adequate and inadequate language

<b>Qualification Objectives</b>	<p>Presenation Techniques: Students will learn to think more about their audience when creating research talks. Their talks will be developed to make them more interesting, clear and concise so that their audience can better understand the content and key messages. They will also learn about typical differences between German and international English presentation style.</p> <p>Academic Writing: Students will be introduced to a variety of strategies that will provide assistance to draft texts more efficiently, to pinpoint their strengths and weaknesses, and to revise them effectively.</p>
<b>Form of Examination</b>	Written assignment and presentation
<b>Assessment</b>	The module is not graded.
<b>Requirement for Granting of ECTS-Credits</b>	ECTS-Credits are granted upon passing the assigned examination for the module.
<b>Module Coordinator</b>	Dean of Studies
<b>Teaching Language</b>	English
<b>Additional Information</b>	/

## Module: WP 1 Advanced Topics in Microeconomics

### Program

Master's Program: Quantitative Economics (Master of Science)

### Module Parts

Type	Course	Cycle	Attendance	Self Study	ECTS
Lecture	WP 1.1 Advanced Topics in Microeconomics	WiSe & SoSe	30 h (2 SWS)	60 h	(3)
Tutorial	WP 1.2 Advanced Topics in Microeconomics	WiSe & SoSe	30 h (2 SWS)	60 h	(3)
Seminar	WP 1.3 Advanced Topics in Microeconomics	WiSe & SoSe	30 h (2 SWS)	150 h	(6)
Lecture	WP 1.4 Research in Microeconomics	WiSe & SoSe	30 h (2 SWS)	60 h	(3)

A total of 15 ECTS-Credits need to be acquired in this module. Contact hours account for 8 semester hours (SWS). Including self-study, there is a time investment of approx. 450 hours.

<b>Module Type</b>	Elective compulsory module with a required course.
<b>Rules for Elective Compulsory Module</b>	The module can be chosen according to the following rules: From the elective compulsory modules WP 1 to WP 4, two elective compulsory modules must be chosen. In the 2nd and 3rd semester, one elective compulsory module each must be chosen.
<b>Semester</b>	2
<b>Duration</b>	The module lasts for one semester.
<b>Contents</b>	This module covers advanced theoretical and empirical analyses of microeconomic problems of firms, consumers and workers in a variety of contexts. Examples of these topics include, but are not restricted to, development economics, organizational economics, behavioral industrial organization, market design, labor markets, innovation and competition, spatial economics, or the digital economy.
<b>Qualification Objectives</b>	Students will be in the position to apply advanced microeconomic concepts to consumer, firm, worker, and government decision problems and study their consequences empirically and theoretically.
<b>Form of Examination</b>	Oral exam
<b>Assessment</b>	The module is graded.
<b>Requirement for Granting of ECTS-Credits</b>	ECTS-Credits are granted upon passing the assigned examination for the module.

<b>Module Coordinator</b>	Microeconomics Teaching Group Coordinator
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<b>Teaching Language</b>	English
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<b>Additional Information</b>	/
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## Module: WP 2 Advanced Topics in Macroeconomics

### Program

Master's Program: Quantitative Economics (Master of Science)

### Module Parts

Type	Course	Cycle	Attendance	Self Study	ECTS
Lecture	WP 2.1 Advanced Topics in Macroeconomics	WiSe & SoSe	30 h (2 SWS)	60 h	(3)
Tutorial	WP 2.2 Advanced Topics in Macroeconomics	WiSe & SoSe	30 h (2 SWS)	60 h	(3)
Seminar	WP 2.3 Advanced Topics in Macroeconomics	WiSe & SoSe	30 h (2 SWS)	150 h	(6)
Lecture	WP 2.4 Research in Macroeconomics	WiSe & SoSe	30 h (2 SWS)	60 h	(3)

A total of 15 ECTS-Credits need to be acquired in this module. Contact hours account for 8 semester hours (SWS). Including self-study, there is a time investment of approx. 450 hours.

<b>Module Type</b>	Elective compulsory module with a required course.
<b>Rules for Elective Compulsory Module</b>	The module can be chosen according to the following rules: From the elective compulsory modules WP 1 to WP 4, two elective compulsory modules must be chosen. In the 2nd and 3rd semester, one elective compulsory module each must be chosen.
<b>Semester</b>	2
<b>Duration</b>	The module lasts for one semester.
<b>Contents</b>	<p>This module provides an introduction to current topics at an advanced level. Possible Topics include:</p> <ol style="list-style-type: none"> <li>1. Asset Pricing</li> <li>2. Real Business Cycles</li> <li>3. New-Keynesian Models</li> <li>4. Bank Runs</li> <li>5. Technical Change and Inequality</li> <li>6. Heterogeneous Agent Models</li> </ol>
<b>Qualification Objectives</b>	This topics course will introduce students to recent research on macroeconomic debates and familiarize them with the application of macroeconomic tools. Students will be in the position to apply theoretical and empirical economic methods to macroeconomic problems, with a particular focus on heterogeneous agents and dynamics.
<b>Form of Examination</b>	Oral exam
<b>Assessment</b>	The module is graded.

<b>Requirement for Granting of ECTS-Credits</b>	ECTS-Credits are granted upon passing the assigned examination for the module.
<b>Module Coordinator</b>	Macroeconomics Teaching Group Coordinator
<b>Teaching Language</b>	English
<b>Additional Information</b>	Textbook: (1) J. Cochrane, Asset Pricing, 2005. D. Acemoglu, Introduction to Modern Economic Growth, Princeton University Press, 2009.

## Module: P 9 Research Project

**Program** Master's Program: Quantitative Economics (Master of Science)

### Module Parts

Type	Course	Cycle	Attendance	Self Study	ECTS
Colloquium	P 9.1 Research Project	WiSe & SoSe	30 h (2 SWS)	150 h	(6)
Practical Course	P 9.2 Research Project	WiSe & SoSe	60 h (4 SWS)	120 h	(6)

A total of 12 ECTS-Credits need to be acquired in this module. Contact hours account for 6 semester hours (SWS). Including self-study, there is a time investment of approx. 360 hours.

**Module Type** Compulsory module with a required course.

**Rules for Elective Compulsory Module** None

**Semester** 3

**Duration** The module lasts for one semester.

**Contents** The students have to conduct their own research project by formulating a research question and working on this question. Their project has to contribute to current research within their field of interest.

**Qualification Objectives** The students learn to formulate a research question, to plan a research project and work as a researcher. Through cooperation with their supervisor, they learn how to structurally answer research questions and how to deal with obstacles within the process. They are required to guarantee reproducibility through adhering to open science standards. The communication of their results in form of a presentation and a working paper is also an essential part of the research project. Therefore, the students have to acquire necessary soft skills (e.g. project management) as well as necessary skills with statistical and mathematical software.

**Form of Examination** Oral presentation

**Assessment** The module is not graded.

**Requirement for Granting of ECTS-Credits** ECTS-Credits are granted upon passing the assigned examination for the module.

**Module Coordinator** Dean of Studies

**Teaching Language** English

**Additional Information**

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## Module: WP 3 Advanced Topics in Econometrics

### Program

Master's Program: Quantitative Economics (Master of Science)

### Module Parts

Type	Course	Cycle	Attendance	Self Study	ECTS
Lecture	WP 3.1 Advanced Topics in Econometrics	WiSe & SoSe	30 h (2 SWS)	60 h	(3)
Tutorial	WP 3.2 Advanced Topics in Econometrics	WiSe & SoSe	30 h (2 SWS)	60 h	(3)
Seminar	WP 3.3 Advanced Topics in Econometrics	WiSe & SoSe	30 h (2 SWS)	150 h	(6)
Lecture	WP 3.4 Research in Econometrics	WiSe & SoSe	30 h (2 SWS)	60 h	(3)

A total of 15 ECTS-Credits need to be acquired in this module. Contact hours account for 8 semester hours (SWS). Including self-study, there is a time investment of approx. 450 hours.

<b>Module Type</b>	Elective compulsory module with a required course.
<b>Rules for Elective Compulsory Module</b>	The module can be chosen according to the following rules: From the elective compulsory modules WP 1 to WP 4, two elective compulsory modules must be chosen. In the 2nd and 3rd semester, one elective compulsory module each must be chosen.
<b>Semester</b>	3
<b>Duration</b>	The module lasts for one semester.
<b>Contents</b>	This module presents recent, state-of the innovations in econometric methods. Courses will focus both on the formal theory of these methods and their implementation in applied research in economics.
<b>Qualification Objectives</b>	Students will be able to evaluate the validity of empirical studies that use state-of-the-art econometric methods in various fields on applied economics and to design such research projects themselves.
<b>Form of Examination</b>	Oral exam
<b>Assessment</b>	The module is graded.
<b>Requirement for Granting of ECTS-Credits</b>	ECTS-Credits are granted upon passing the assigned examination for the module.
<b>Module Coordinator</b>	Econometrics Teaching Group Coordinator
<b>Teaching Language</b>	English



**Additional Information**

This lecture is self-contained. Applied work in the tutorials uses the econometrics software Stata or R.

## Module: WP 4 Advanced Topics in Public Economics

### Program

Master's Program: Quantitative Economics (Master of Science)

### Module Parts

Type	Course	Cycle	Attendance	Self Study	ECTS
Lecture	WP 4.1 Advanced Topics in Public Economics	WiSe & SoSe	30 h (2 SWS)	60 h	(3)
Tutorial	WP 4.2 Advanced Topics in Public Economics	WiSe & SoSe	30 h (2 SWS)	60 h	(3)
Seminar	WP 4.3 Advanced Topics in Public Economics	WiSe & SoSe	30 h (2 SWS)	150 h	(6)
Lecture	WP 4.4 Research in Public Economics	WiSe & SoSe	30 h (2 SWS)	60 h	(3)

A total of 15 ECTS-Credits need to be acquired in this module. Contact hours account for 8 semester hours (SWS). Including self-study, there is a time investment of approx. 450 hours.

<b>Module Type</b>	Elective compulsory module with a required course.
<b>Rules for Elective Compulsory Module</b>	The module can be chosen according to the following rules: From the elective compulsory modules WP 1 to WP 4, two elective compulsory modules must be chosen. In the 2nd and 3rd semester, one elective compulsory module each must be chosen.
<b>Semester</b>	3
<b>Duration</b>	The module lasts for one semester.
<b>Contents</b>	This module covers theoretical and empirical analyses of government activity within the economy at an advanced level. The effects of government intervention on heterogeneous individuals and firms will be studied in selected policy areas and optimal policy measures will be derived.
<b>Qualification Objectives</b>	Students will be in the position to apply advanced theoretical and empirical economic methods to study the policy interventions in various policy areas.
<b>Form of Examination</b>	Oral exam
<b>Assessment</b>	The module is graded.
<b>Requirement for Granting of ECTS-Credits</b>	ECTS-Credits are granted upon passing the assigned examination for the module.
<b>Module Coordinator</b>	Public Economics Teaching Group Coordinator
<b>Teaching Language</b>	English

**Additional Information**

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## Module: P 10 Final Module

**Program** Master's Program: Quantitative Economics (Master of Science)

### Module Parts

Type	Course	Cycle	Attendance	Self Study	ECTS
Master's Thesis	P 10.1 Master's Thesis	WiSe & SoSe	-	810 h	(27)
Colloquium	P 10.2 Colloquium Master's Thesis in Quantitative Economics	WiSe & SoSe	30 h (2 SWS)	60 h	(3)

A total of 30 ECTS-Credits need to be acquired in this module. Contact hours account for 2 semester hours (SWS). Including self-study, there is a time investment of approx. 900 hours.

<b>Module Type</b>	Compulsory module with a required course.
<b>Rules for Elective Compulsory Module</b>	None
<b>Semester</b>	4
<b>Duration</b>	The module lasts for one semester.
<b>Contents</b>	<p>In this module, the master's thesis demonstrates the ability to do independent scientific work.</p> <p>The colloquium provides a platform for the scientific exchange of information as well as the opportunity to acquire key qualifications.</p>
<b>Qualification Objectives</b>	Through intensive study of a subject in the Master's thesis as well as the independent application of scientific methods in the subject, students learn to relate and combine the contents of the modules completed during their studies.
<b>Form of Examination</b>	Master's Thesis and colloquium.
<b>Assessment</b>	The module is graded.
<b>Requirement for Granting of ECTS-Credits</b>	ECTS-Credits are granted upon passing the assigned examination for the module.
<b>Module Coordinator</b>	Dean of Studies
<b>Teaching Language</b>	English
<b>Additional Information</b>	/