

ALFRED-WEBER-  
INSTITUTE  
FOR ECONOMICS

FACULTY OF  
ECONOMICS AND  
SOCIAL SCIENCES



UNIVERSITÄT  
HEIDELBERG  
ZUKUNFT  
SEIT 1386

Master's programme:

**M.Sc. Economics**

# Module Handbook

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## Preamble: Qualification Objectives at Heidelberg University

In line with the mission statement and the university's constitution, Heidelberg University's degree programmes are based on subject-specific, interdisciplinary and practical goals for comprehensive academic education and for the students' future careers. The resulting competency profile is included in the module handbooks as a universally valid qualification profile and is implemented in the specific qualification objectives as well as the curricula and modules of the individual degree programmes:

- Development of subject-related skills with a pronounced research orientation;
- Development of trans-disciplinary dialogue skills;
- Development of practical problem-solving skills;
- Development of personal and social skills;
- Promotion of disposition to assume social responsibility based on the acquired skills.

### Introduction to the M.Sc. Economics programme

The 2-year Master's programme in Economics at the Alfred-Weber-Institute for Economics at Heidelberg University was launched in the winter semester 2009/2010. The two-year programme aims at students seeking to enhance their knowledge and fine-tune their methodological skills in Economics after successful completion of a B.Sc. degree course in the same subject. The Alfred-Weber-Institute for Economics (AWI) welcomes an intake capacity of the programme between 60 and 80 students per year in order to maintain the well established high-quality support.

A major concern of the course is to enable students to go about their academic work independently. Course structure is fully in line with the customary international standards and attaches particular importance to the relevance of economic research for financial and economic policy issues, not least with a view to qualifying graduates for professions involving political/public affairs consultancy. Students can acquaint themselves with economic research issues in the supplementary elective modules and seminars they attend. In keeping with the AWI's major research interests they will be concentrating their efforts largely on Behavioural Economics, Economic Growth and Development Policy, as well as on Environmental Economics.

To prepare students for the international labour market for economists, classes are held in English, some of them taught by visiting international professors.

The Alfred-Weber-Institute for Economics is internationally renowned for its research and enjoys a high degree of visibility on that score. Its main research interests focus on Decision-making and Game Theory, Political Economy, International Economics and Quantitative and Experimental Economics, especially Behavioural Economics.

### Qualification objectives

The M.Sc. in Economics is a professionally organised course geared to international standards. Its main aim is to familiarise students with current academic methods and research findings, thus enabling them to engage independently with economic policy issues and comply with the academic standards required in publications on economic subjects.

### Subject-related Qualification objectives

Graduates of the Master's programme in Economics acquire a deep understanding of modern research-orientated methods and topics in Microeconomics, Macroeconomics and Econometrics. They develop strong analytical skills in all of the aforementioned areas and are able to assess the advantages and disadvantages of different methods. Additionally, they are able to critically assess methods and models used in Economics as well as to develop, answer and discuss questions posed in the current economic fields of research.

### Generic Qualification objectives

Graduates of the Master's programme in Economics possess the required skills to discuss current topics in economic research with their peers as well as the underlying methods and assumptions. They are able to quickly apply the analytical skills and tools acquired to other fields. Moreover, they are able to quickly delve into new subjects and conduct independent economic research and present their findings in English.

### Programme Structure

The Master of Science programme is designed to ensure that students understand the implications of their subject well, are able to make appropriate use of sophisticated academic methods and findings, and are capable of independent economic research in accordance with academic principles.

The programme follows a modular system that takes 4 semesters to complete, including sitting for exams and the completion of a thesis. First semester compulsory modules are Advanced Microeconomics, Advanced Macroeconomics, Advanced Econometrics and Advanced Mathematics. In the second and third semesters, students are expected to choose from a range of economic and interdisciplinary elective modules and seminars to complement their research. The electives from the economics modules can be chosen from the following areas of focus:

#### **POLITICAL ECONOMY AND PUBLIC ECONOMICS**

Empirical Political Economy  
Environmental and Resource Economics  
Labour Economics  
Political Economics

#### **INTERNATIONAL ECONOMICS**

Development Economics  
International Macroeconomics  
Trade

#### **QUANTITATIVE AND EXPERIMENTAL ECONOMICS**

Applied Econometrics  
Behavioural Economics and Experimental Economics  
Game Theory and Experimental Economics  
Decision Theory and Financial Intermediation  
Organizational Behaviour and Experimental Economics

In the third semester, students have the opportunity to apply for a study stint abroad, including the ERASMUS programme, the EU-exchange programme to promote greater mobility and cooperation between partner universities. Credits obtained from the partner universities are transferable towards the Master's degree. The fourth semester is reserved for the completion of the Master's thesis.

Completion of the Master's programme requires a total of 120 ECTS credit points (each CP having an equivalent value of a workload of 30 hours), out of which 40 credits come from compulsory modules, 50 credits from elective modules and 30 credits from the Master's thesis. Graduates will be conferred the degree "Master of Science" (M.Sc.).

### Teaching/Learning methods

- Lecture:

Content is usually taught through presentations given by the lecturer. Students are encouraged to read the literature and go over the content in their own time.

- Seminar:

Students choose e.g. one topic of focus, about which they give a presentation and/or complete a written assignment (such as term paper or essay). Further teaching and learning methods include group discussions, portfolios, learning diaries and practical exercises.

- Final Examination:

There is no final examination in the M.Sc. Economics degree programme. Instead, students sit individual exams during the course of each module. This is because each module teaches students different skills. The examinations therefore test the different skills specific to each module.

### Learning outcomes

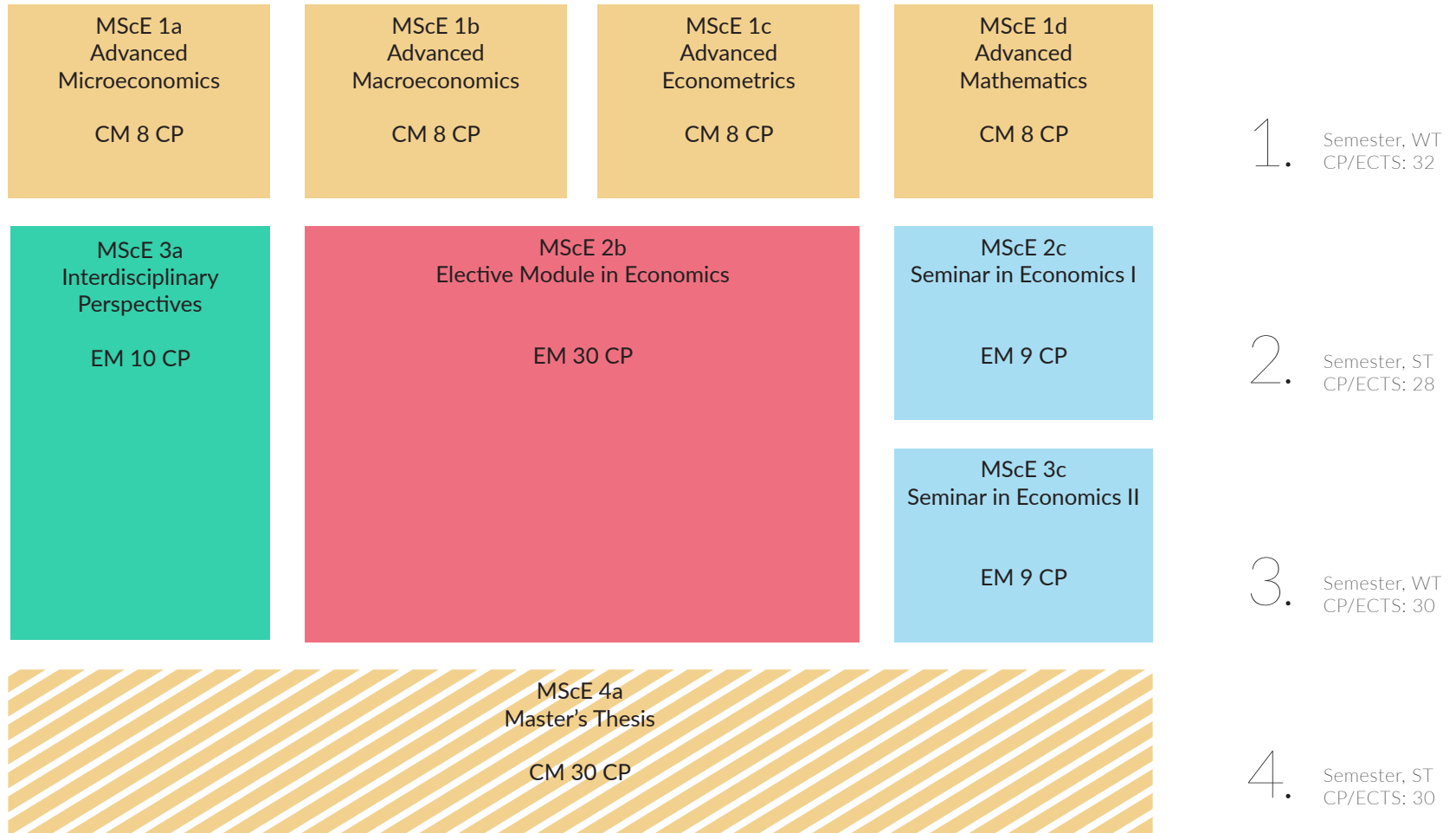
- In **written exams**, students prove that they have an in-depth understanding of the core concepts in Economics and that they are able to apply these concepts to solve problems in a short time.
- In **seminars**, students show that they can grasp the essence of scientific papers and can organize the insights distilled from research literature in a well-structured manner. They communicate these insights to their fellow students and respond adequately to critical questions from the audience. Moreover, they formulate critical questions about other students' presentations.
- The students write seminar papers on topics of their choice. For this purpose, they draw on the scientific literature. They develop own ideas for small research projects and design approaches to test hypotheses.
- In the **Master's thesis**, students demonstrate their ability to formulate more extensive research questions in economics and answer these question with the help of the tools acquired during the programme. Over the period of several months students organise and prepare their thesis independently and effectively. They are successful in developing a clear and logical structure for an extensive research project. They critically assess the applied methods and premises and derive convincing conclusions.

## Career prospects

A master's degree in economics provides graduates with a wide array of subject-specific and transferable skills, such as analytical skills, problem-solving, numeracy, communication and computing. Employers will value their understanding of decision-making, their acquired skills, and their experience in viewing problems in a domestic and international context. Endowed with these essential skills, graduates of the "Master of Science in Economics" are much sought-after by the private sector and public institutions alike, and have excellent job prospects in:

- Research institutes and universities,
- Ministries and government agencies, particularly those concerned with economic affairs,
- International organisations such as the International Monetary Fund, OECD, ECB etc.,
- Think tanks, consultancy firms and economic advisory services,
- The private sector, especially in financial institutions such as banks, insurance companies or international corporations.

## Study Guide M.Sc. Economics



CM = Compulsory Module

EM = Elective Module

Compulsory Modules Economics

32 CP/ETCS

Seminars in Economics

18 CP/ETCS

Total

Elective Modules Economics

30 CP/ETCS

Interdisciplinary Perspectives

10 CP/ETCS

120 CP/ETCS

Master's Thesis

30 CP/ETCS

Code // Name of the Module	<b>MScE1a // Advanced Microeconomics</b>
Study programme	M.Sc. Economics
Type of Module	Compulsory Module
Number of ECTS/CP // Workload	8 // 240 h
Contact hours // Cycle	5 // Winter term
Type of course	Lecture with tutorial
Courses	Lecture „Advanced Microeconomics“ (3 credit hours per week) and accompanying tutorial (2 credit hours per week)

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### Curriculum

The module covers the main topics in standard microeconomic theory on an advanced formal level. The first part covers consumer theory and the theory of the firm. Next, some basics of general equilibrium theory are covered, including the two welfare theorems. The second part presents an introduction to decisions under risk and to strategic interaction and game theory.

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### Learning objectives

Students are made familiar with the fundamental concepts of microeconomics on an advanced level, including advanced formal mathematical methods. They learn to analyse strategic decision-making situations in settings of certainty and uncertainty, understand their effect on market activity in competitive markets, and evaluate the efficiency of microeconomic allocations.

Students acquire an overview of the current state of research on selected topics in microeconomics and will be able to conduct independent research in the field.

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Specifics	-
Recommended Literature	Jehle & P. J. Reny, Advanced Microeconomic Theory (3rd ed.), 2010, Prentice Hall. Mas-Collel, Whinston & Green, Microeconomic Theory, 1995, Oxford University Press D. M. Kreps, A Course in Microeconomic Theory, 1990, Princeton University Press. D. M. Kreps, Microeconomic Foundations I, 2012, Princeton University Press.
Assessment	Final exam (60-180 min) and possibly a midterm exam. Further details will be announced in the syllabus.
Module coordinator	Prof. Jörg Oechssler, Ph.D.



Code // Name of the Module	<b>MScE1b // Advanced Macroeconomics</b>
Study programme	M.Sc. Economics
Type of Module	Compulsory Module
Number of ECTS/CP // Workload	8 // 240 h
Contact hours // Cycle	5 // Winter term
Type of course	Lecture with tutorial
Courses	Lecture "Advanced Macroeconomics" (3 credit hours per week) and accompanying tutorial (2 credit hours per week)

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### Curriculum

The module provides students with advanced conceptual and methodological skills that are necessary for dealing independently with macroeconomic issues and research questions.

The module features introductions to growth theory, real business cycle theory and New Keynesian Economics. In each section, basic models and the relevant solution techniques are discussed, followed by a comparison of the resulting predictions with corresponding empirical observations.

In the tutorial, standard techniques such as intertemporal optimization and linearization are taught. Additionally, students are introduced to computational solving techniques of macroeconomic models.

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### Learning objectives

Upon completion of the module, students have learned how to use basic modern macroeconomic models to predict effects of changes in exogenous variables on short- and long-term equilibria, to extend these models to account for potential shortcomings, and to derive relevant policy implications.

Furthermore, students will be acquainted with the methodological framework and the intuition necessary to understand current macroeconomic research literature and will have a rigorous foundation for the discussion of macroeconomic policies.

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Specifics	-
Recommended Literature	David Romer: „Advanced Macroeconomics“ Jordi Galí: „Monetary Policy, Inflation and the Business Cycle“ Barro and Sala-i-Martin: „Economic Growth“
Assessment	120-minute exam at the end of the semester
Module coordinator	Prof. Dr. Zeno Enders

Code // Name of the Module	<b>MScE1c // Advanced Econometrics</b>
Study programme	M.Sc. Economics
Type of Module	Compulsory Module
Number of ECTS/CP // Workload	8 // 240 h
Contact hours // Cycle	5 // Winter term
Type of course	Lecture with tutorial
Courses	Lecture "Advanced Econometrics" (3 credit hours per week) and tutorial/computer exercise (2 credit hours per week)

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### Curriculum

Building on the learning objectives of the B.Sc.'s Econometrics modul this module further explores econometric methods for the analysis of cross-sectional, panel and time series data. The module first introduces and discusses the main properties of the ordinary least squares (OLS) estimator. In particular, we will focus on identification, consistency, asymptotic normality, efficiency and specification testing. The module proceeds to cover instrumental variables regression, models for panel data, experiments and quasi-experiments, regression with a limited dependent variable and time series analysis. Throughout the module, students will develop knowledge and skills in applying econometric methods to analyze economic data using the econometric software Stata.

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### Learning objectives

The purpose of this module is to provide students with the necessary tools for a thorough understanding of modern econometric techniques and their empirical application. Upon completion of the module, students will be able to read and understand the current literature in econometrics, to conduct their own empirical research projects using Stata, and to replicate and critically evaluate empirical findings in the previous literature.

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Specifics	A three-day review course on statistics/econometrics will be offered before the beginning of the term. The course covers basic concepts of statistics and probability theory.
Recommended Literature	Greene, W. H., 2012. <i>Econometric Analysis</i> , Pearson. Hayashi, F., <i>Econometrics</i> , 2000. Princeton University Press. Stock, J. H., Watson, M. W., 2014. <i>Introduction to Econometrics</i> , Pearson. Wooldridge, J. M., 2010. <i>Econometric Analysis of Cross Section and Panel Data</i> , MIT Press. Wooldridge, J. M., 2012. <i>Introductory Econometrics</i> , South-Western College Publishing.
Assessment	120-minute exam at the end of the semester
Module coordinator	Prof. Dr. Christian Conrad

Code // Name of the Module	<b>MScE1d // Advanced Mathematics</b>
Study programme	M.Sc. Economics
Type of Module	Compulsory Module
Number of ECTS/CP // Workload	8 // 240 h
Contact hours // Cycle	5 // Winter term
Type of course	Lecture with tutorial
Courses	Lecture "Advanced Mathematics" (3 credit hours per week) and accompanying tutorial (2 credit hours per week)

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### Curriculum

The course offers a rigorous introduction into modern mathematical methods used in economics with special emphasis on optimization theory and the solution of equation systems. Mathematical techniques introduced in this context include properties of sets in finite-dimensional real vector spaces, continuity, differentiability, and special properties of functions (homogeneity, concave and convex curvature), implicit function theorem, Kuhn-Tucker theorem, non-linear equation systems and fixed points.

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### Learning objectives

Upon completion, students will be familiar with most mathematical techniques required for advanced courses in economics. They will have the necessary prerequisites for reading and understanding the economics literature at the level of research journals.

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Prerequisites	Basic microeconomics and macroeconomics at BA level
Recommended Literature	Simon, C. & Blume, L. (1994). <i>Mathematics for Economists</i> . New York: Norton. Sydsæter, K. & Hammond, P. (2008). <i>Essential Mathematics for Economic Analysis</i> . 3rd Edition. London: Prentice Hall. Sydsaeter, K., Hammond, P., Seierstad, A. & Strom (2008). <i>Further Mathematics for Economic Analysis</i> . 2nd Edition. London: Prentice Hall.
Assessment	two-hours exam (120 minutes) & (optional) midterm
Module coordinator	Prof. Dr. Jürgen Eichberger

Code // Name of the Module	<b>MScE2b // Elective Module in Economics</b>
Study programme	M.Sc. Economics
Type of Module	Elective Module
Number of ECTS/CP // Workload	30 // 900 h
Contact hours // Cycle	20 // Summer term and winter term
Type of course	Lecture with tutorial
Courses	5 Lectures with tutorials Each lecture (including the tutorial) of 4 credit hours (SWS) has the value of 6 ECTS credit points

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### Curriculum

Free choice of economic lectures covering current research on theoretical or applied topics. Courses offered will vary each semester and reflect the variety of topics the Alfred-Weber-Institute's faculty covers.

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### Learning objectives

Students are able to comprehend and develop further theories relevant to specific fields. What is more, students are able to derive testable hypotheses from theoretical models and have acquired the ability to structure, analyse, and quantitatively evaluate practical economic issues. Upon completing the module, students will have acquired knowledge about the current state of research on selected topics and will be able to carry out independent research.

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Specifics	Successful attendance of the compulsory modules MScE1a, 1b, 1c and 1d is recommended. Possible specific requirements will be published in LSF. Courses that are part of the B.Sc. Economics (Politische Ökonomik) or that have been completed as part of another module of the M.Sc. Economics may not be taken.
Assessment	60 to 180-minutes exam at the end of the semester.
Module coordinator	Chairperson of Examination Board

Code // Name of the Module	<b>MScE2c // Seminar in Economics I</b>
Study programme	M.Sc. Economics
Type of Module	Elective Module
Number of ECTS/CP // Workload	9 // 270 h
Contact hours // Cycle	2 // Summer term
Type of course	Seminar
Courses	Seminars

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### Curriculum

Free choice of economic seminars (2 credit hours per week) covering current research on theoretical or empirical topics. Courses offered will vary each semester and reflect the different research focuses of the Alfred-Weber-Institute.

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### Learning objectives

Students are able to comprehend and develop further theories relevant to specific fields of Economics. Moreover, students are able to derive testable hypotheses from theoretical models and have acquired the ability to structure, analyse, and quantitatively evaluate practical economic issues. Upon completing the module, students will have acquired knowledge about the current state of research on selected topics and will be able to carry out independent research and are able to express thoughts and ideas clearly in a variety of settings and situations. Participants are able to understand technically and conceptually demanding original research based literature. They are able to excerpt core lines of thoughts and to present the results to other participants. They learn to narrow down the problem and to formulate exact questions. The course prepares students to do independent research and to participate in the joint research activities of the Economics Department.

In terms of knowledge students:

- Understand current research methodology applied to Economics
- Apply advanced economic principles to current problems
- Understand theoretical framework for research methods applied to Economics

In terms of practical skills students:

- Integrate knowledge provided from disciplinary as well as interdisciplinary sources to solve advanced research problems
- Evaluate data and results using critical thinking skills
- Can revise and present scientific case studies in multimedia presentation in English.
- Can apply all current tools of academic writing

In terms of social competence students:

- Effectively are able to collaborate with other students in analysing results, and preparing oral presentations
- Are able to find appropriate sources that can be summarised and integrated into multimedia presentation
- Are aware of importance of access to data, knowledge and results of scientific studies in Economics
- Are aware of importance and role of scientific honesty, data reliability, intellectual property rights and rules of access to data and scientific information;
- Accept the importance of quality of research results presentation (i.e. oral presentations and a written research paper) for effective scientific communication.

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Specifics	Successful attendance of the compulsory modules MScE1a, 1b, 1c and 1d is recommended. Specific requirements are published in LSF. Courses that are part of the B.Sc. Economics (Politische Ökonomik) or that have been completed as part of another module of the M.Sc. Economics may not be taken.
Assessment	Research paper and an oral presentation
Module coordinator	Chairperson of Examination Board

Code // Name of the Module	<b>MScE3a // Interdisciplinary Perspectives</b>
Study programme	M.Sc. Economics
Type of Module	Elective Module
Number of ECTS/CP // Workload	10 // 300 h
Contact hours // Cycle	min. 4 // Winter term and summer term
Type of course	Lecture/Tutorial/Seminar

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### Curriculum

Free choice of non-economic lectures or seminars from an adjacent discipline that are offered within all possible study-programmes of Heidelberg University both on Bachelor's level as well as on Master's level. Lectures or seminars that are part of the M.Sc. Economics' elective module may also be taken upon request. Courses offered within B.Sc. Economics (Politische Ökonomik) of the Alfred-Weber-Institute cannot be chosen.

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### Learning objectives

Students are able to apply categories, aims and methods of other adjacent academic disciplines. As a result a further development of transdisciplinary dialogue competencies will be enhanced. By understanding and acculturate basic concepts of adjacent disciplines and their research oriented lines of thinking, students are able to identify interactions and interdependencies. As a result students develop a broader and more comprehensive understanding of their own economic discipline. Furthermore students are able to evaluate the consequences of economic concepts and decisions in an interdisciplinary context so that they will be in a position to reflect on the requirements of their own role within society.

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Specifics	Should there be no indication on the amount of the acquired ECTS credit points, the module coordinator will determine a respective ECTS equivalence.
Assessment	Graded written or oral exam according to the regulations applied by the institute or faculty the class is offered by.
Module coordinator	Marcus Padberg, M.A.

Code // Name of the Module	<b>MScE2c // Seminar in Economics II</b>
Study programme	M.Sc. Economics
Type of Module	Elective Module
Number of ECTS/CP // Workload	9 // 270 h
Contact hours // Cycle	2 // Winter term
Type of course	Seminar
Courses	Seminars

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### Curriculum

Free choice of economic seminars (2 credit hours per week) covering current research on theoretical or empirical topics. Courses offered will vary each semester and reflect the different research focuses of the Alfred-Weber-Institute.

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### Learning objectives

Students are able to comprehend and develop further theories relevant to specific fields of Economics. Moreover, students are able to derive testable hypotheses from theoretical models and have acquired the ability to structure, analyse, and quantitatively evaluate practical economic issues. Upon completing the module, students will have acquired knowledge about the current state of research on selected topics and will be able to carry out independent research and are able to express thoughts and ideas clearly in a variety of settings and situations. Participants are able to understand technically and conceptually demanding original research based literature. They are able to excerpt core lines of thoughts and to present the results to other participants. They learn to narrow down the problem and to formulate exact questions. The course prepares students to do independent research and to participate in the joint research activities of the Economics Department.

In terms of knowledge students:

- Understand current research methodology applied to Economics
- Apply advanced economic principles to current problems
- Understand theoretical framework for research methods applied to Economics

In terms of practical skills students:

- Integrate knowledge provided from disciplinary as well as interdisciplinary sources to solve advanced research problems
- Evaluate data and results using critical thinking skills
- Can revise and present scientific case studies in multimedia presentation in English.
- Can apply all current tools of academic writing

In terms of social competence students:

- Effectively are able to collaborate with other students in analysing results, and preparing oral presentations
- Are able to find appropriate sources that can be summarised and integrated into multimedia presentation
- Are aware of importance of access to data, knowledge and results of scientific studies in Economics
- Are aware of importance and role of scientific honesty, data reliability, intellectual property rights and rules of access to data and scientific information;
- Accept the importance of quality of research results presentation (i.e. oral presentations and a written research paper) for effective scientific communication.



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Specifics	Successful attendance of the compulsory modules MScE1a, 1b, 1c and 1d is recommended. Specific requirements are published in LSF. Courses that are part of the B.Sc. Economics (Politische Ökonomik) or that have been completed as part of another module of the M.Sc. Economics may not be taken.
Assessment	Research paper and an oral presentation
Module coordinator	Chairperson of Examination Board

Code // Name of the Module	<b>MScE4a // Master's Thesis</b>
Study programme	M.Sc. Economics
Type of Module	Compulsory Module
Number of ECTS/CP // Workload	30 // 900 h
Contact hours // Cycle	10 // Summer term
Type of course	Research paper and structured supervision

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### Curriculum

In the Master's thesis students prove their ability to independently apply scientific methods of Economics and to write an original piece of research in coordination with the respective supervisor. This concluding scientific work should be an independently written research thesis in any field of Economics.

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### Learning objectives

Students build up detailed knowledge in the planning, realisation and evaluation of a special issue in Economics. By the end of the module students:

- are able to demonstrate a comprehensive understanding of the research topic of the thesis,
- define a feasible research project allowing for time and resource constraints,
- develop an adequate research methodology and be able to formulate and test concepts and hypotheses,
- apply concepts and methods of Economics to the formulated research question,
- make optimal use of library resources,
- access databases, understand their uses and limitations, and extract relevant data,
- independently apply concepts and methods of Economics to the formulated research question.

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Specifics	-
Assessment	Graded research paper
Module coordinator	A suitable supervisor for a Master's thesis can be chosen from all professors of the Alfred-Weber-Institute for Economics