



UNIVERSITY
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Department of Economics

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MASTER OF ECONOMICS

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Compulsory Modules for study track 2: Competition and Regulation Economics

Module number and title	E505 Industrial Organization: Markets and Strategies
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics, compulsory module for M.Sc. Economics in study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Dr. Martin Peitz
Cycle of offer	Every spring semester
ECTS credits	14
Teaching method (hours per week)	Lecture (4) + exercise (2)
Workload	420 working hours, including 63 hours of class time and 357 hours of independent studies and exam preparation
Course language	English
Prerequisites	E601- E603 (or equivalent; this course is only suitable for Economics students)
Grading	Written exam (180 min)
Goals and contents of the module	This course covers the theory of industrial organization. It provides an overview of modern industrial organization with an emphasis of the theory and formal models. Models are adapted to tackle concrete problems. Students are provided with a toolkit and are encouraged to think strategically. Theoretical analyses are complemented by case studies and background knowledge of competition policy. Organization: 1. Introduction; 2. Market Power; 3. Sources of Market Power; 4. Pricing and Market Segmentation 5. Product Quality and Information; 6. Theory of Competition Policy; 7. R&D and Intellectual Property; 8. Networks, Standards, and Systems; 9. Intermediation.
Expected competences acquired after completion of the module	Ability to develop industrial organization models, ability to solve industrial organization models, ability to analyze business and competition cases.
Further information	Essential reading: Paul Belleflamme and Martin Peitz (2015), Industrial Organization: Markets and Strategies, 2 nd edition, Cambridge University Press
Expected number of students	30
Contact person	Name: Prof. Dr. Martin Peitz; Email: martin.peitz@gmail.com

Module number and title	E5046 Empirical Industrial Organization
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics, compulsory module for M.Sc. Economics in study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Nicolas Schutz, Ph.D.
Cycle of offer	Every spring semester
ECTS credits	7
Teaching method (hours per week)	Lecture (2) + exercise (1)
Workload	210 working hours, including 31.5 hours of class time and 178.5 hours of independent studies and exam preparation
Course language	English
Prerequisites	E601- E603 (or equivalent; this course is only suitable for Economics students)
Grading	Written exam (120 min)
Goals and contents of the module	This course is designed to provide an introduction to empirical methods in industrial organization, with a focus on antitrust issues. This course covers the traditional topics in empirical industrial organization and antitrust: Demand estimation, supply estimation, measurement of market power, productivity estimation, and horizontal mergers. The aim is to provide students with the knowledge of the standard models and approaches and introduce them to modern research questions. This course is organized in lectures complemented by computer sessions. The software used is Matlab.
Expected competences acquired after completion of the module	Students acquire methodological skills and programming skills in the field of empirical industrial organization. Those skills can be applied to answer empirical questions in industrial organization and antitrust policy.
Expected number of students	30
Contact person	Name: Prof. Nicolas Schutz, Ph.D.; Email: schutz@uni-mannheim.de

Module number and title	Competition Law
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics, compulsory module for M.Sc. Economics in study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Dr. Friedemann Kainer
Cycle of offer	Every spring semester

ECTS credits	5
Teaching method (hours per week)	Lecture (2)
Workload	150 working hours, including 21 hours of class time and 129 hours of independent studies and exam preparation
Course language	English
Prerequisites	none
Grading	Written exam (120 min)
Goals and contents of the module	The course familiarizes students with the essential concepts of competition law and introduces them to the legal tools available to competition authorities and private parties. The course will put a particular emphasis on those aspects of competition law which rely heavily on economic findings. Students will be invited to discuss the interplay between competition law and economics on the examples of cartels, the abuse of market power, and merger control. Numerous cases and examples provide a close link to the practice of competition law.
Expected competences acquired after completion of the module	Students will be able to understand competition law cases and to follow current developments in competition law and policy, e.g., the role of competition law in a digital economy. They will learn how economic arguments can be used in a legal discourse and how law and economics interact in the field of competition law.
Further information	Legal texts will be provided. Further reading: Fox/Gerard, EU Competition Law, 2017; Lorenz, Introduction to EU Competition Law, 2013; Wish/Bailey, Competition Law, 8.ed., 2015.
Expected number of students	15
Contact person	Name: Prof. Dr. Friedemann Kainer; Email: Iskainer@uni-mannheim.de
Module number and title	E5051 Mannheim Competition Policy Forum
Information	<p>The last couple of years have seen a remarkable increase in the application of economic insights to competition problems. In order to further promote and refine this development, practitioners need to understand how microeconomics can help to shed light on particular aspects of competition problems. At the same time, academics benefit from a better understanding of real-world challenges and institutional details.</p> <p>The forum aims at providing a platform for the discussion of recent cases, general competition policy issues, and relevant academic research in the field. Renowned practitioners and academics will be invited to present their views on cases and general policy questions, followed by a discussion of the economic implications with the audience.</p> <p>Starting from the autumn semester 2017, the MCPF is an official part of two master's programs at the University of Mannheim. Participation is compulsory for economics students in the competition and regulation track and for law students in the master on competition and regulation law.</p>

Specialization Phase: Lectures

The descriptions of modules for study track 3: Economic Research can be found in the [CDSE course catalog](#) on the website of the Graduate School of Economic and Social Sciences.

Module number and title	E505 Industrial Organization: Markets and Strategies
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics, compulsory module for M.Sc. Economics in study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Dr. Martin Peitz
Cycle of offer	Every spring semester
ECTS credits	14
Teaching method (hours per week)	Lecture (4) + exercise (2)
Workload	420 working hours, including 63 hours of class time and 357 hours of independent studies and exam preparation
Course language	English
Prerequisites	E601- E603 (or equivalent; this course is only suitable for Economics students)
Grading	Written exam (180 min)
Goals and contents of the module	This course covers the theory of industrial organization. It provides an overview of modern industrial organization with an emphasis of the theory and formal models. Models are adapted to tackle concrete problems. Students are provided with a toolkit and are encouraged to think strategically. Theoretical analyses are complemented by case studies and background knowledge of competition policy. Organization: 1. Introduction; 2. Market Power; 3. Sources of Market Power; 4. Pricing and Market Segmentation 5. Product Quality and Information; 6. Theory of Competition Policy; 7. R&D and Intellectual Property; 8. Networks, Standards, and Systems; 9. Intermediation.
Expected competences acquired after completion of the module	Ability to develop industrial organization models, ability to solve industrial organization models, ability to analyze business and competition cases.
Further information	Essential reading: Paul Belleflamme and Martin Peitz (2015), Industrial Organization: Markets and Strategies, 2 nd edition, Cambridge University Press
Expected number of students	30
Contact person	Name: Prof. Dr. Martin Peitz; Email: martin.peitz@gmail.com

Module number and title	E528 Financial Economics
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Dr. Ernst-Ludwig von Thadden / Dr. Andrea Modena
Cycle of offer	Irregular
ECTS credits	7
Teaching method (hours per week)	Lecture (2) + exercise (1)
Workload	210 working hours, containing 31.5 hours class time and 178.5 hours independent study time and preparation for the exam
Course language	English
Prerequisites	E601- E603 (or equivalent); basic programming knowledge (e.g., Matlab, R, or Python) is desirable.
Grading	Midterm exam (60 min, 30%), final exam (90 min, 70%)
Goals and contents of the module	<p>The course introduces the fundamental principles of modern finance, including key concepts in asset pricing and corporate finance. It is divided into four main sections. The first section establishes the foundation of arbitrage theory in static and dynamic settings, focusing on state prices and stochastic discount factors. The second section explores choices under uncertainty and general equilibrium, leading to an introduction of portfolio choice theory and various asset pricing models, such as the Capital Asset Pricing Model (CAPM) and consumption CAPM. The third section applies the theory to pricing financial instruments and evaluating their risks. If time permits, the course will also cover model implementation and computation aspects. The final section covers the basics of corporate finance, including the Modigliani-Miller Theorem and trade-off theory. It's important to note that while verbal analysis can be helpful, it is not sufficient to understand modern financial markets fully. Mathematics is the most appropriate language for describing and analyzing complex financial instruments. Similar to a visit of a foreign country, contemplating contemporary art, or exploring the deep internet, learning a new language can be challenging. Still, with practice, it becomes more accessible, and you will eventually be able to speak it fluently.</p> <p><u>Part A. Arbitrage theory</u></p> <ol style="list-style-type: none"> 1. Uncertainty, Information, and Stochastic Processes. 2. Financial markets in discrete (uni, multi-period). 3. State prices, arbitrage, stochastic discount factor, market completeness. 4. Financial markets in continuous time. <p><u>Part B. Portfolio choices and asset pricing</u></p> <ol style="list-style-type: none"> 1. Preferences under uncertainty. 2. Self-financing portfolio (GOP, Mean-variance, CAPM, Factor models). 3. Utility maximization (Martingale and HJBE methods; CCAPM).

Expected competences acquired after completion of the module	<p>4. Asset pricing in general equilibrium.</p> <p><u>Part C. Applications</u></p> <ol style="list-style-type: none"> 1. Fixed-income securities and the term structure of interest rates; and models. 2. Derivatives (Forward, Swaps, European and American Options, CDS). 3. Numerical methods (binomial tree calibration, finite-differences, Monte Carlo). <p><u>Part D. Corporate finance</u></p> <ol style="list-style-type: none"> 1. Firm valuation and the Modigliani-Miller Theorem. 2. Firm valuation with endogenous default. 3. Trade-off theory; Agency frictions. <p>Upon successful completion of the module, the students should understand the fundamental questions of financial economics: how are asset prices determined and how are firms financed. They will also acquire the necessary tools to understand more advanced asset pricing and corporate finance models.</p>
Further Information	<p>There is no unique ideal textbook for this course; the material consists of lecture notes that are freely available on my web page. The lecture notes draw mainly on material covered in the following references:</p> <ul style="list-style-type: none"> • Bjork, T. (2009) Arbitrage theory in continuous time. Oxford University press. • Back, K. (2010) Asset pricing and portfolio choice theory, Oxford University Press. • Brandimarte, P. (2013) Numerical methods in finance and economics: a MATLAB-based introduction John Wiley & Sons, 2013. • Luciano, E., and Dumas B. (2017) The economics of continuous-time finance MIT Press. • Hull, J. (2009) Options, futures and other derivatives Prentice Hall. • Menoncin, F. (2011) Analisi e gestione dei rischi di mercato, di credito e operativo Academia Univ. Press. • Moreno-Bromberg, S. and Rochet, J-C. (2018) Continuous-time Models in Corporate Finance, Banking, and Insurance. Princeton University Press. • Shreve, S. (2005). Stochastic calculus for finance, vol. I and II Springer Science & Business Media.
Expected number of students	25
Contact person	Name: Dr. Andrea Modena; Email: andrea.modena@uni-mannheim.de
Module number and title	E548 Empirical Political Economy
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Dr. Camille Urvoy
Cycle of offer	Irregular

ECTS credits	5
Teaching method (hours per week)	Lecture (2)
Workload	150 working hours, containing 21 hours class time and 129 hours independent study time
Course language	English
Prerequisites	E601- E603 (or equivalent)
Grading	Written exam (60 minutes, 50%), take-home assignment (5 – 10 pages,50%)
Goals and contents of the module	In this course, we will study recent advances in empirical political economy. We will first study elections: to what extent elections allow representation and accountability in representative democracies, why people vote and what happens when they do not, who runs for elections and how does the identity of the winner impact policy making. We will also discuss other ways some interest groups can influence policy making: campaign contributions, lobbying, and collective action. We will also study the role of traditional and social media both in democracies and non-democracies. Finally, we will study how recent technological changes (internet, social media) reshape media and political landscapes. We will study on empirical work that provide case studies of important reforms, policies or events. The goal is to provide students with evidence-based answers on how policies determine how voters' interests are represented and mapped into public policies.
Expected competences acquired after completion of the module	By reading and studying empirical papers, students will familiarize with academic publications, develop critical thinking regarding their arguments and conclusions. They will also develop their econometrics skills by understanding how they can be used in practice. They will also acquire general knowledge on concepts on the economics of institutions and media economics.
Expected number of students	20
Contact person	Name: Prof. Dr. Camille Urvoy; Email: camille.urvoy@gmail.com
Module number and title	E563 Game Theory
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Volker Nocke, Ph.D. / Andrei Matveenko, Ph.D.
Cycle of offer	Every spring semester
ECTS credits	7
Teaching method (hours per week)	Lecture (2) + exercise (1)
Workload	210 working hours, containing 31.5 hours class time and 178.5 hours independent study time and preparation for the exam

Course language	English
Prerequisites	E601- E603 (or equivalent); basic programming knowledge (e.g., Matlab, R, or Python) is desirable.
Grading	Final exam (120 min)
Goals and contents of the module	This course provides a thorough treatment of game theory, which is a formal framework for analyzing strategic interactions. It revisits, expands on, and complements the game-theoretic concepts introduced in E601 Advanced Microeconomics. Covering static and dynamic games of complete and incomplete information, this course defines suitable solution concepts and discusses various economic applications. The exercises allow students to familiarize themselves with the use of game-theoretic tools and to study further applications.
Expected competences acquired after completion of the module	The students know game theory at an advanced level. They are able to describe strategic interactions formally, identify and apply suitable solution concepts, and critically evaluate the resulting prediction of behavior and outcomes. Moreover, the students understand the key ideas of game-theoretic reasoning used in academic research in economics and other disciplines.
Expected number of students	25
Contact person	Name: Andrei Matveenko, Ph.D.; Email: andrei.v.matve@gmail.com
Module number and title	E581 International Trade
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Lei Li, Ph.D.
Cycle of offer	Every spring semester
ECTS credits	7.5
Teaching method (hours per week)	Lecture (3)
Workload	225 working hours, including 31.5 hours of class time and 193.5 hours of independent studies and exam preparation
Course language	English
Prerequisites	E601-603 (or equivalent); experience with statistical software such as Stata will be helpful
Grading	2 take-home assignments (15 slides and 8 – 12 pages, 85%), classroom discussion (15%)
Goals and contents of the module	International trade has always generated a great deal of controversy. By focusing on the determinants, patterns, and effects of international trade, this course demystifies some of the complex issues that surround discussions of

Expected competences acquired after completion of the module	<p>globalization. Why do countries trade with each other? Who gains and who loses from international trade? What are the labor market consequences of international trade, and is trade liberalization responsible for rising inequality? Why do countries have trade disputes?</p> <p>Our first goal is to introduce the canonical models in international trade. A tentative list of topics includes the gravity equation, neoclassical trade theory, trade and labor markets, economic geography, and the role of firms in international trade.</p> <p>The second goal is to present the empirical tools used in international trade. A tentative list of topics includes the US-China trade war, trade and labor market, and the gravity equation. Students will also get familiar with several widely used trade-related datasets and learn how to conduct empirical analysis.</p> <p>Our third goal to introduce frontier researches to students. We will draw on some recent academic papers from international trade, which will allow students to have a good understanding of cutting-edge researches and help students outline future research questions.</p> <p>Firstly, students will have a comprehensive knowledge of the core trade models. To be specific, students are expected to be able to define and interpret the key features and the limits of the international trade theories learnt in this course.</p> <p>Secondly, they are expected to have a good understanding of the empirical tools in international economics. They are expected to be able to apply and integrate the knowledge learnt in this course to conduct independent researches.</p> <p>Thirdly, they will improve their competencies in scientific writing and presentation skills. The group work in this course will allow students to learn to communicate and work efficiently with other students. They are able to bear particular responsibility in a team.</p>
Expected number of students	20
Contact person	Prof. Lei Li, Ph.D.; Email: lei.li@uni-mannheim.de
Module number and title	E588 International Macroeconomics
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Harald Fadinger, Ph.D.
Cycle of offer	Irregular
ECTS credits	9.5
Teaching method (hours per week)	Lecture (3) + exercise (1)

Workload	285 working hours, including 42 hours of class time and 243 hours of independent studies and exam preparation
Course language	English
Prerequisites	E601-603 (or equivalent)
Grading	Written exam (120 min)
Goals and contents of the module	The course offers an introduction to international macroeconomics at the graduate level, emphasizing theory and the use of formal dynamic macroeconomic models. Models are used to tackle concrete policy problems. Students are provided with a toolkit and are encouraged to think independently. Topics covered will include (time permitting): current accounts and global imbalances, open-economy real business cycle models, nominal and real exchange rates, nominal rigidities and monetary policy in open economies, financial and exchange rate crises, sovereign debt crises.
Expected competences acquired after completion of the module	The students know international macro models at an advanced level. They are able to understand and to analyze macroeconomic questions arising in the open economy using formal mathematical models. They are able to analyze concrete macroeconomic policy questions.
Further information	Suggested readings: <ul style="list-style-type: none"> • Maurice Obstfeld and Kenneth Rogoff (1996): Foundations of International Macroeconomics, MIT Press. • Stephanie Schmitt-Grohe and Martin Uribe (2017): Open-economy Macroeconomics, Princeton University Press. • Stephanie Schmitt-Grohe and Martin Uribe and Michael Woodford (2019): International Macroeconomics, Lecture Notes, NYU.
Expected number of students	20
Contact person	Name: Prof. Harald Fadinger, Ph.D.; Email: harald.fadinger@uni-mannheim.de
Module number and title	E5019 Advanced Microeconometrics
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Mengshan Xu, PhD.
Cycle of offer	Every spring semester
ECTS credits	9
Teaching method (hours per week)	Lecture (2) + exercises (2)
Workload	270 working hours, including 33 hours of class time and 237 hours of independent studies and exam preparation

Course language	English
Prerequisites	E601-603 (or equivalent)
Grading	Written exam (120 min)
Goals and contents of the module	<p>This module offers advanced theory in various topics of modern microeconometrics, including linear regression, nonlinear regression, and nonparametric regression. Technical discussions of asymptotic theory and an introduction of machine learning methods for econometrics are also included. The participating students should have completed E603, and have considerable interests in econometric and statistical theory.</p> <p>Topics:</p> <ol style="list-style-type: none"> 1. Linear regression: <ol style="list-style-type: none"> a. Least squares regression review b. Panel data review c. Difference in Differences d. (Optional) Time series model 2. Nonlinear regression: <ol style="list-style-type: none"> a. MLE and nonlinear models b. Discrete choice and limited dependent model c. M-estimator and GMM d. Causal inference in econometrics e. (Optional) Quantile regression 3. Nonparametric regression: <ol style="list-style-type: none"> a. Kernel estimation b. Regression discontinuity c. (Optional) Series regression 4. Other Topics: <ol style="list-style-type: none"> a. General asymptotic theory b. Machine Learning
Expected competences acquired after completion of the module	<p>Upon successful completion of the module, students will better understand the modern econometrics theory and be better prepared for study and research at higher levels. For the students who plan to do applied works in the future, they will have deeper insights into the mechanisms behind the models widely adopted in modern applied economics. For the students who plan to do theoretical research in the future, their analytical capabilities will be further improved, and they will be able to start reading frontline research papers independently and doing individual research.</p>
Further Information	<p>Recommended textbooks</p> <ul style="list-style-type: none"> • Econometrics, Bruce E. Hansen, (2021) • Microeconometrics Methods and Applications, Cameron and Trivedi (2005) • Econometric Analysis of Cross Section and Panel Data, Wooldridge. (2010)
Expected number of students	20
Contact person	Name: Prof. Mengshan Xu, PhD.; Email: Mengshan.Xu@uni-mannheim.de

Module number and title	E5031 Applied Labour Economics
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Dr. Asmus Zoch-Gordon, Dr. Marc Gillaizeau
Cycle of offer	Every spring semester
ECTS credits	9
Teaching method (hours per week)	Lecture (2) + exercises (2)
Workload	270 working hours, including 33 hours of class time and 237 hours of independent studies and exam preparation
Course language	English
Prerequisites	E601-603 (or equivalent)
Grading	Written exam (100 min, 50%), take-home assignments (8 – 12 pages, 50%)
Goals and contents of the module	This course will focus on different microeconomic models using actual empirical studies from the field of labour economics. Starting from the standard theory of competitive labour markets, we introduce the concept of human capital, to explain wage differences between individuals, and explore the role of education. Exploring the Mincer earnings function, discrimination and unemployment, the students will learn how to analyse actual labour data sets using Stata. The first part of the course will deal with linear panel data models and instrumental regressions, the second part will focus on discrete choice models. This course will end with the introduction of non-parametric estimators.
Expected competences acquired after completion of the module	Ability to use Stata to conduct independent micro-econometric analysis and apply advanced micro-economic models.
Further Information	Introductory literature: <ul style="list-style-type: none"> ● Wooldridge, Jeffrey M. (2002), Econometric Analysis of Cross Section and Panel Data, Cambridge, Mass.: MIT Press. ● George J. Borjas, Labor Economics
Expected number of students	25
Contact person	Name: Dr. Asmus Zoch-Gordon; Email: zoch@uni-mannheim.de

Module number and title	E5035 Environmental Economics
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Dr. Andreas Gerster
Cycle of offer	Every spring semester
ECTS credits	9.5
Teaching method (hours per week)	Lecture (3) + exercise (1)
Workload	285 working hours, including 42 hours of class time and 243 hours of independent studies and exam preparation
Course language	English
Prerequisites	E601-603 (or equivalent)
Grading	Written exam (120 min)
Goals and contents of the module	This course is an introduction to the field of environmental economics at the graduate level. The first part of the course presents the economic theory of environmental policy. Based on the theory of externalities, a broad range of instruments for environmental policy will be analyzed from an economic point-of-view. The second part of the course deals with empirical methods for the valuation of environmental quality, which is required for cost-benefit-analysis and in the implementation of environmental policies. The third part of the course is dedicated to the economic analysis of international environmental problems. The fourth part of the course provides an introduction to topics in behavioral environmental economics.
Expected competences acquired after completion of the module	Ability to formulate and solve problems in environmental regulation using advanced economic theory and mathematical techniques. Ability to estimate willingness-to-pay for environmental quality using statistical methods. Understanding of strategic incentives in international negotiations over environmental problems.
Further Information	Literature: <ul style="list-style-type: none"> • Daniel J. Phaneuf and Till Requate. A course in environmental economics. Cambridge University Press. • William J. Baumol and Wallace E. Oates, The theory of environmental policy. Cambridge University Press
Expected number of students	20
Contact person	Name: Dr. Andreas Gerster; email: gerster@uni-mannheim.de

Module number and title	E5038 Empirical Macroeconomics: Shocks and Propagation
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Dr. Matthias Meier
Cycle of offer	Every spring semester
ECTS credits	5
Teaching method (hours per week)	Lecture (2)
Workload	150 working hours, including 21 hours of class time and 129 hours of independent studies and exam preparation
Course language	English
Prerequisites	E601- E603 (or equivalent)
Grading	Written exam (90 min, 60%), take-home assignments (8 – 12 pages, 40%)
Goals and contents of the module	This course covers both methods and applications in empirical macroeconomics. On the methodological side, we first discuss narrative approaches to identify structural shocks and univariate methods to study their propagation. The second and larger methodological block covers structural vector autoregressive (SVAR) models. The focus will be on various identification strategies (e.g., short-run/long-run restrictions, sign restrictions, external instruments), but we will also cover inference, factor models, nonlinear models. The lectures, and even more so the assignment, introduce a range of applications. Those include the analysis of technology shocks, monetary policy shocks, and fiscal policy shocks.
Expected competences acquired after completion of the module	The course introduces students to the econometric theory and macroeconomic applications of structural vector autoregressions.
Further information	Recommended literature: <ul style="list-style-type: none"> • Ramey (Handbook of Macroeconomics, Volume 2A, Chapter 2: Macroeconomic Shocks and Their Propagation) • Kilian and Lütkepohl (Structural Vector Autoregressive Analysis, preliminary: see http://www-personal.umich.edu/~lkilian/book.html) Lütkepohl (New Introduction to Multiple Time Series Analysis, 2005)
Expected number of students	10
Contact person	Name: Prof. Dr. Matthias Meier; Email: m.meier@uni-mannheim.de

Module number and title	E5046 Empirical Industrial Organization
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics, compulsory module for M.Sc. Economics in study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Nicolas Schutz, Ph.D.
Cycle of offer	Every spring semester
ECTS credits	7
Teaching method (hours per week)	Lecture (2) + exercise (1)
Workload	210 working hours, including 31.5 hours of class time and 178.5 hours of independent studies and exam preparation
Course language	English
Prerequisites	E601-603 (or equivalent; this course is only suitable for Economics students)
Grading	Written exam (120 min)
Goals and contents of the module	This course is designed to provide an introduction to empirical methods in industrial organization, with a focus on antitrust issues. This course covers the traditional topics in empirical industrial organization and antitrust: Demand estimation, supply estimation, measurement of market power, productivity estimation, and horizontal mergers. The aim is to provide students with the knowledge of the standard models and approaches and introduce them to modern research questions. This course is organized in lectures complemented by computer sessions. The software used is Matlab.
Expected competences acquired after completion of the module	Students acquire methodological and programming skills in the field of empirical industrial organization. Those skills can be applied to answer empirical questions in industrial organization and antitrust policy.
Expected number of students	30
Contact person	Name: Prof. Nicolas Schutz, Ph.D.; Email: schutz@uni-mannheim.de
Module number and title	E5049 Topics in Macroeconomics and Labor Markets
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Anne Hannusch, Ph.D.
Cycle of offer	Irregular

ECTS credits	5
Teaching method (hours per week)	Lecture (2)
Workload	150 working hours, including 21 hours of class time and 129 hours of independent studies and exam preparation
Course language	English
Prerequisites	E601-603 (or equivalent)
Grading	Written Exam (90 min, 60%), take-home assignments (5 – 10 pages, 40%)
Goals and contents of the module	In this course, we will summarize selected empirical observations on wages, earnings, income, consumption and wealth from cross-sectional, household level data and document some empirical puzzles. We will then develop extensions of standard macroeconomic theory to explain these puzzles. The overarching theme of the course will be how public policies impact consumption, savings and time allocation decisions of different types of households. Topics will include time allocation within the household, income dynamics, joint and individual taxation, and means-tested social programs.
Expected competences acquired after completion of the module	The course introduces students to important extensions of standard macroeconomic theory that give novel answers various policy-relevant questions. Students will also be familiar with data facts that motivate these theories.
Expected number of students	20
Contact person	Name: Prof. Anne Hannusch, Ph.D.; Email: hannusch@uni-mannheim.de
Module number and title	E5067 Behavioral Economics
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Dr. Peter Duersch
Cycle of offer	Irregular
ECTS credits	7
Teaching method (hours per week)	Lecture (2) + exercise (1)
Workload	210 hours in total, containing 31.5 hours of class time and 178.5 hours independent study time and preparation for the exam
Course language	English
Prerequisites	E601-603 (or equivalent)
Grading	Written exam (120 min)

Goals and contents of the module	In this course, advanced topics in Behavioral Economics are discussed. These contain, among others, models of reference dependence, social preferences (inequity aversion, reciprocity, normative behavior, social image / self-image concerns), misconceptions of the world (overconfidence, self-serving beliefs), models of salience and focusing. Finally, the use of process data and Neuroeconomics topics are touched upon.
Expected competences acquired after completion of the module	By the end of the course students should have an overview over the field of Behavioral Economics, be able to apply behavioral models to social and economic interactions, and understand the challenges and limitations of theoretical modelling of human behavior.
Expected number of students	20
Contact person	Name: Prof. Dr. Peter Duersch; Email: duersch@uni-mannheim.de
Module number and title	E5068 Empirical Public Economics
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Arthur Seibold, Ph.D.
Cycle of offer	Irregular
ECTS credits	7.0
Teaching method (hours per week)	Lecture (2) + exercise (1)
Workload	210 hours in total, containing 31.5 hours of class time and 178.5 hours independent study time and preparation for the exam
Course language	English
Prerequisites	E601-603 (or equivalent)
Grading	Written exam (120 min, 70%), take-home assignment (8 – 12 pages, 30%)
Goals and contents of the module	This course aims at providing a thorough understanding of the main empirical methods used in modern public economics, while introducing students to the main topics of research in the field. Topics include both tax policies such as income taxation as well as public expenditure policies such as social insurance. The discussion of empirical methods focuses mostly on credible, quasi-experimental research designs including instrumental variables, difference-in-differences, regression discontinuity and bunching estimators. Recent research papers serve as examples to guide the discussion of empirical methods.
Expected competences acquired after	Students will acquire thorough knowledge and understanding of empirical methods used in modern public economics and the main topics of research in the field. They will be able to apply their knowledge of econometrics in analyzing research and policy questions in public economics. The course

completion of the module	aims at enabling students to critically assess and evaluate research designs they may encounter in their subsequent studies or professional life.
Further information	References used for this course are <ul style="list-style-type: none"> • Peter J. Brockwell and Richard A. Davis (1996) Introduction to Time Series and Forecasting, Springer. • In Choi (2015), Almost all about unit roots, Cambridge University Press. • James D. Hamilton (1994), Time Series Analysis, Princeton. • Uwe Hassler (2016), Stochastic Processes and Calculus: an elementary introduction with applications, Springer.
Expected number of students	20
Contact person	Name: Prof. Arthur Seibold, Ph.D.; Email: seibold@uni-mannheim.de
Module number and title	E5095 Nonparametric Econometrics
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Mengshan Xu, Ph.D.
Cycle of offer	Irregular
ECTS credits	9.5
Teaching method (hours per week)	Lecture (3) + exercise (1)
Workload	285 working hours, including 42 hours of class time and 243 hours of independent studies and exam preparation
Course language	English
Prerequisites	E603 (or equivalent)
Grading	Written exam (120 min)
Goals and contents of the module	This course gives an introduction to nonparametric estimation from a theoretical and applied perspective. Nonparametric methods do not rely on the assumption that models can be described by finite-dimensional parameters. Instead, infinite-dimensional classes of targets under smoothness conditions are considered, e.g. a class of smooth density functions. The discussed methods are suitable in situations in which there is no a priori knowledge of the functional structures of the underlying models. Theoretical foundations will be provided and the techniques will be applied using statistical software. The course covers density estimation and regression problems based on kernel estimators. The theoretical part includes the introduction to concepts that are crucial to investigate the quality of estimation procedures in general. Within this framework, statistical properties of the estimators will be discussed such as consistency, upper bounds for estimation risk, asymptotic normality. We

Expected competences acquired after completion of the module	<p>will encounter typical phenomena like the curse of dimensionality, which has attracted a great deal of attention and is a starting point for numerous developments in the analysis of big data.</p> <p>Upon completing this course, the students will have a working knowledge of classical nonparametric methods for estimation of functions that are statistically relevant. They will understand the theoretical background of these methods and they will be familiar with concepts that allow them to describe and assess the behavior of estimators with regard to the quality of estimation. The students can apply the discussed estimation procedures to data using statistical software. They are aware of the strengths and limitations of the nonparametric techniques introduced in the course.</p>
Expected number of students	15
Contact person	Name: Prof. Dr. Cathrine Aeckerle-Willems; Email: aeckerle@uni-mannheim.de
Module number and title	E5114 Machine learning and statistical learning
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Dr. Markus Frölich
Cycle of offer	Every spring semester
ECTS credits	7.0
Teaching method (hours per week)	Lecture (2) + exercise (1)
Workload	210 hours in total, containing 31.5 hours of class time and 178.5 hours independent study time and preparation for the exam
Course language	English
Prerequisites	E601-603 (or equivalent)
Grading	Written exam (120 min, 70%), take-home assignment (5 – 10 pages, 30%)
Goals and contents of the module	Important topics of statistical learning and machine learning and applications in R.
Expected competences acquired after completion of the module	Application of statistical learning models in R for data analysis.
Further information	We will have computer sessions in the computer lab. You may bring your own laptop. R is open source software.

Expected number of students	20
Contact person	Name: Anja Dostert; Email: dostert(at)uni-mannheim.de
Module number and title	E5117 Firms in International Trade
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Dr. Philipp Richter
Cycle of offer	In the spring semester 2023 only
ECTS credits	5.0
Teaching method (hours per week)	Lecture (2)
Workload	150 hours in total, containing 21 hours class time and 129 hours for independent studies, exercises and exam preparation
Course language	English
Prerequisites	E601-603 (or equivalent)
Grading	Written exam (120 min)
Goals and contents of the module	This course will discuss the role of firms in international trade. How does firm heterogeneity matter to rationalize empirical regularities of international trade flows? How do firms organize their production globally, and why do some firms decide to offshore parts of their production process? Key topics of the course include understanding global value chains and the trade effects on welfare and the income distribution resulting from firm heterogeneity. In applications, the course focuses on the link between firm characteristics and firm behavior to labor market and environmental outcomes. The overall focus of this course lies on recent methods (both empirical and analytical), important findings, and open research questions.
Expected competences acquired after completion of the module	Students will gain knowledge on and a thorough understanding of the research frontier in the field. Students will develop and improve their skills in critically assessing and evaluating research designs, of both theoretical and empirical work.
Further information	Basic readings: <ul style="list-style-type: none"> • Melitz, Marc J., and Daniel Trefler (2012). "Gains from Trade When Firms Matter." <i>Journal of Economic Perspectives</i>, 26 (2): 91-118. • Antras, Paul (2016). "Global Production. Firms, Contracts, and Trade Structure." Princeton University Press

Expected number of students	20
Contact person	Prof. Dr. Philipp M. Richter; email: philipp.richter@uni-mannheim.de

Specialization Phase: Seminars

Module number and title	E530 Topics in Industrial Organization
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Ph.D. Nicolas Schutz
Cycle of offer	Every spring semester
ECTS-Credits	5
Teaching method (hours per week)	Block seminar (2)
Workload	150 hours working hours for organizational meeting, block seminar, preparation of the seminar paper and presentation
Course language	English
Prerequisites	E601-603 (or equivalent)
Grading	Seminar paper (8 – 10 pages, 70%), presentation and discussion (60 min, 30%)
Goals and Contents of the module	The seminar covers recent research papers in theoretical industry organization. Potential topics include horizontal merger, oligopolistic behavior, vertical relations, advertising, and consumer search. A reading list will be distributed at a later stage.
Expected Competences acquired after completion of the module	Students will gain knowledge in the modern literature on theoretical industry organization. Through reading recent research article, they will acquire an excellent command of the technical tools used by researchers contributing to this field. Relevant techniques include advanced game-theoretical tools (perfect Bayesian equilibrium and its refinements, repeated games) as well as mathematical tools (multivariate analysis and proof-writing skills). Students taking this course will be able to use this new knowledge as a starting point to start contributing in a research-oriented way to the theoretical industrial organization literature. Students will also broaden their presentation and discussion skills.
Expected number of students	13
Contact person	Name. Prof. Ph. D. Nicolas Schutz; Email: schutz@uni-mannheim.de

Module number and title	E5006 Topics in Empirical Industrial Organization
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Dr. Michelle Sovinsky
Cycle of offer	Irregular
ECTS credits	5
Teaching method (hours per week)	Block seminar (2)
Workload	150 working hours for organizational meeting, block seminar, preparation of the seminar paper and presentation
Course language	English
Prerequisites	E601-603 (or equivalent)
Grading	Seminar paper (10 pages, 50%), presentation and discussion (40 min, 50%)
Goals and contents of the module	This course is intended for masters students interested in conducting research in empirical industrial organization. Students will be required to write a paper and present a published paper during the class.
Expected competences acquired after completion of the module	Students will be familiar with recent research in empirical IO and will be able to provide constructive criticism of work and gain skills in presenting.
Further information	Paper topics will be selected from current publications in empirical industrial organization.
Expected number of students	13
Contact person	Name: Prof. Michelle Sovinsky, Ph.D.; Email: msovinsky@econ.uni-mannheim.de

Module number and title	E5009 Topics in Heterogeneity in Macroeconomics
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Miren Azkarate-Askasua, Ph.D.
Cycle of offer	Irregular
ECTS credits	5
Teaching method (hours per week)	Block seminar (2)

Workload	150 working hours for organizational meeting, block seminar, preparation of the seminar paper and presentation
Course language	English
Prerequisites	E601-603 (or equivalent)
Grading	Presentation (50 min, 40%), seminar paper (8 – 12 pages, 50%), classroom discussion (10%)
Goals and contents of the module	This seminar covers current research at the intersection of macroeconomics, labor economics and economic geography. We will study immigration, labor market power, inequality in the labor market, wealth inequality, minimum wage, employment protection legislation, the effects of trade on the labor market, the gender wage gap and topics broadly related to geography. Students will choose a paper from the reading list and present it in the seminar. The specific topics covered in the blockseminar will depend on the students' choice of papers. Moreover, students will write a short seminar paper which summarizes and critically evaluates the chosen paper and will present their critical evaluation. Active in-class participation is encouraged.
Expected competences acquired after completion of the module	Learn about recent papers, summarize and critically evaluate them. Students will improve their critical thinking, their communication skills and writing skills.
Expected number of students	13
Contact person	Prof. Miren Azkarate-Askasua, PhD; email: azkarate-askasua@uni-mannheim.de
Module number and title	E5047 New Developments in Digital Economics
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Achim Wambach, Ph.D.
Cycle of offer	Once
ECTS credits	5
Teaching method (hours per week)	Block seminar (2)
Workload	150 working hours for organizational meeting, block seminar, preparation of the seminar paper and presentation
Course language	English
Prerequisites	E601-603 or equivalent; for MMM and Business Mathematics students: good foundations in macroeconomics

Grading	Seminar paper (22,000 characters including spaces, 50%), presentation and discussion (30 min, 50%)
Goals and contents of the module	The seminar deals with key characteristics and new developments of digital markets and platforms, such as the role of data, consumer search, platform design & self-preferencing, as well as the impact of digitalisation on firms' innovation output and productivity. The seminar will focus on empirical, theoretical and experimental contributions to the literature, while also highlighting the relevant policy concerns arising in the digital sphere.
Expected competences acquired after completion of the module	Students have gained a broad understanding on digital economics and its new developments. They are able to apply their expertise and methods to analyze and evaluate issues of digital markets. The students have broadened their analytical abilities as well as their presentation and discussion skills.
Expected number of students	13
Contact person	Name: Kaja von Campenhausen; Email: Kaja.vonCampenhausen@zew.de
Module number and title	E5054 Topics in Environmental and Energy Economics
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Kevin Remmy, Ph.D.
Cycle of offer	Irregular
ECTS credits	5
Teaching method (hours per week)	Block seminar (2)
Workload	150 hours working hours for organizational meeting, block seminar, preparation of the seminar paper and presentation
Course language	English
Prerequisites	E601-E603 (or equivalent). Basic knowledge of empirical industrial organization and econometrics are advantageous.
Grading	Seminar paper (10 – 20 pages, 50%), presentation and discussion (40 min, 50%)
Goals and contents of the module	The seminar covers recent research in environmental and energy economics. The course gives introduction to empirical studies of important topics in environmental and energy economics. The empirical papers we will study use a wide array of methods and approaches, ranging from theoretical modeling, to quasi-experimental research designs, to structural modelling and estimation. Topics include emissions reduction policy in the U.S. and EU, electricity market (market power and regulation) and natural resource market etc.

Expected competences acquired after completion of the module	Students have gained a broad understanding on selected recent trends in environmental and energy economics. They are able to apply their expertise and methods to analyse, discuss and evaluate issues of environmental and energy economics. The students have broadened and sharpened their analytical abilities as well as their presentation and discussion skills.
Expected number of students	13
Contact person	Name: Kevin Remmy, Ph.D.; Email: kevin.remmy.001@gmail.com
Module number and title	E5096 Economics of Corruption
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Dr. Franziska Heinicke
Cycle of offer	Every spring semester
ECTS credits	5
Teaching method (hours per week)	Block seminar (2)
Workload	150 working hours for organizational meeting, block seminar, preparation of the seminar paper and presentation
Course language	English
Prerequisites	E601-603 or equivalent
Grading	Seminar paper (8 - 12 pages, 60%), presentation and discussion (40 min, 40%)
Goals and contents of the module	Corruption, defined as the abuse of entrusted power, remains a prevalent phenomenon across the world. Since democratic processes and economic interactions rely on well-functioning institutions, the political debate around corruption is focusing on how to fight corruption. In this seminar, we will consider economic literature on corruption in order to better understand the drivers of corruption; the impact corruption has on societies and possible tools to fight corruption. We will consider the relation between corruption and, among others, public institutions, culture, economic growth, foreign aid and education. Further, we will discuss policy interventions to reduce corruption such as information provision and whistleblower programs. The course focuses on empirical literature including studies utilizing cross-country corruption measures as well as experimental studies.
Expected competences acquired after completion of the module	The seminar will enable students to read and critically evaluate scientific papers in the field of corruption and to consider their contribution in the larger context of the literature. By writing and presenting a term paper students will further improve their skill in writing and presenting scientific work.

Expected number of students	13
Contact person	Name: Dr. Franziska Heinicke; Email: f.heinicke@uni-mannheim.de
Module number and title	E5109 Topics in Economic Demography
Usability of the module	Elective course for M.Sc. Economics
Responsible teacher	Prof. Philipp Ager, Ph.D.
Cycle of offer	Irregular
ECTS-Credits	5
Teaching method (hours per week)	Block seminar (2)
Workload	150 working hours for organizational meeting, block seminar, preparation of the seminar paper and presentation
Course language	English
Prerequisites	E601-603 (or equivalent)
Grading	Seminar paper (10 – 15 pages, 50%), presentation (30 min, 40%), classroom discussion (10%)
Goals and Contents of the module	This course will discuss the main triggers that led to a fertility decline in Europe and North America during the 19th and 20th centuries. The historical fertility transition that countries in North America and Europe experienced is regarded as one of the most important determinants of rapid and sustainable long-run growth. Falling fertility rates allowed the transition from a Malthusian regime, where income per capita was roughly constant, to a regime with lower population growth and higher living standards. We will discuss the role of different factors that contributed to this transition, such as structural change, public health improvements, declining child labor, the rise in the relative wage of women, or the rise in the demand for human capital during the second phase of the industrialization. Particular focus will be on articles that evaluate the importance of human capital for the fertility transition. The material covered in the course is grounded in the field of economic history, economic growth, and demography. The focus will be on articles that evaluate the causal impact of these triggers for the fertility transition.
Expected Competences acquired after completion of the module	Participants of this seminar will acquire a deeper understanding of a well-established literature on the historical fertility transition. The students will discuss and evaluate papers that are currently at the frontier of this field. The students will gain an understanding of different empirical methods that applied economists use to establish causality. They will also improve their presentation and writing skills.
Further information	The reading list will be provided in the first meeting. Presentations will be on two consecutive days in April.

Expected number of students	13
Contact person	Name: David Koll; Email: koll@uni-mannheim.de
Module number and title	E5110 Fighting Poverty through Quality
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Nicolas Bonneton, Ph.D.
Cycle of offer	Irregular
ECTS-Credits	5
Teaching method (hours per week)	Block seminar (2)
Workload	150 working hours for organizational meeting, block seminar, preparation of the seminar paper and presentation
Course language	English
Prerequisites	E601-603 (or equivalent)
Grading	2 seminar papers (3 – 5 pages, 60%), presentation (30 min, 30%), classroom discussion (10%)
Goals and Contents of the module	<p>Quality of goods and services is lower in developing countries than in advanced economies. Everyone has in mind an anecdote highlighting this difference. Travelers to developing countries are for instance advised to buy their medications before departure because those available in local drug stores or street markets are unreliable. Beyond the anecdotes and the scandals, problems of sub-standard quality, such as non-conformity or counterfeiting products, are more frequent and on larger scale in developing countries than in advanced economies with daunting consequences for development. While usually perceived as a by-product of development, provision of quality is also key for it. It is crucial for economic growth and human welfare to have access to reliable inputs, machineries and infrastructures, drugs and durable. High quality goods and services allow progress on the economic, medical, social, educational and environmental dimensions. It matters also for trade as high quality products catch higher markups in export markets. During this seminar, we will be discussing how firms in developing countries can upgrade in quality, what are the associated political challenges, and how to design efficient international aid.</p> <p>Students are required to pick a paper from the reading list and give a presentation to discuss the paper's strengths and weaknesses. Based on their work, and the comments that they receive in the presentation, students are required to write a report summarizing and critically discussing the paper and synthesizing the findings in related papers presented by other students. A detailed list of topics and associated papers will be circulated once the seminar spots have been allocated.</p>

Expected Competences acquired after completion of the module	Students will be familiar with recent research in empirical IO and will be able to provide constructive criticism of work and gain skills in presenting.
Further information	Paper topics will be selected from current publications in empirical microeconomics.
Expected number of students	13
Contact person	Name: Nicolas Bonneton; Email: nicolas.bonneton@gmail.com
Module number and title	E5112 The Limits of Markets
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Dr. Roland Beck
Cycle of offer	Irregular
ECTS-Credits	5
Teaching method (hours per week)	Block seminar (2)
Workload	150 working hours for organizational meeting, block seminar, preparation of the seminar paper and presentation
Course language	English
Prerequisites	E601-603 (or equivalent)
Grading	Term paper (8 pages, 40%), presentation (30 min, 40%), classroom discussion (20%)
Goals and Contents of the module	This course exposes Master students to a broad set of classic and more recent readings on the limits of markets from various angles. After reviewing traditional market failures covered in standard economic textbooks (externalities, public goods and information asymmetries), the course covers the limits of market-based well-being measures at the level of individuals (i.e. the relationship between income and subjective well-being) and at the level of the economy (i.e. the measurement of welfare beyond GDP). Finally, we discuss some normative aspects of market mechanisms at the intersection of Economics and Political Philosophy as well as practical implications for socially responsible investing.
Expected Competences acquired after completion of the module	Upon successful completion of the module, the students understand traditional market failures as well as additional short-comings of market-based measures and institutions. These insights should provide students with a framework for assessing important policy choices such as deciding which goods and services should be allocated by the market and which metrics should complement market-based measures of welfare. In addition,

	the concepts of the course are used to evaluate environmental, social, and governance (ESG) ratings for socially responsible investing.
Expected number of students	13
Contact person	Name: Dr. Roland Beck; Email: r.beck@uni-mannheim.de
Module number and title	E5118 IO of Food and Nutrition
Usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Responsible teacher	Prof. Helena Perrone, Ph.D.
Cycle of offer	Irregular
ECTS-Credits	5
Teaching method (hours per week)	Block seminar (2)
Workload	150 working hours for organizational meeting, block seminar, preparation of the seminar paper and presentation
Course language	English
Prerequisites	E601-603 (or equivalent)
Grading	Presentation(40 min, 55%), seminar paper (3 – 4 pages, 30%), classroom discussion (15%)
Goals and Contents of the module	The main objective of the course is to familiarize students with relevant papers in empirical Industrial Organization that study issues related to firm competition, pricing dynamics, vertical relations, etc. in food markets, and the effects of different public policies on consumer nutritional choices. Furthermore, the course aims at developing students critical skills and presentation skills, as well as foster discussion on the topics included in the module.
Expected Competences acquired after completion of the module	The students are able to define and interpret the main characteristics, the limits, and the terminology used in empirical literature of IO of food markets and nutrition. The students are able to evaluate the contribution of a paper to the general literature and identify weaknesses and strengths of the scientific paper they chose to study. The students are able to integrate knowledge from different fields (Industrial Organization, Econometrics, Public Policy, etc.) .
Expected number of students	13
Contact person	Name: Helena Perrone; Email: helenaperrone@gmail.com

Specialization Phase: Internship

Module number and title	E5998 Internship
Form and usability of the module	Elective module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Cycle of offer	Every semester
ECTS credits	6
Teaching method (hours per week)	Internship
Workload	175 internship working hours; 5 hours for the preparation of an internship report in line with the Internship Report form.
Module language	Language of the internship: any; Language of documents of proof: German or English
Participation requirements	Bachelor's degree
Requirements for the Award of ECTS Credits, and Grading	Proof that the intern worked at least 175 hours, typically to be completed within a period of eight to twelve weeks; internship report (600 – 1000 words) and confirmations in accordance with the corresponding form; the internship is not graded
Goals and contents of the module	Application of specialized knowledge and approaches from the field of the economic sciences to practical problems; getting to know practical approaches relevant to the respective field of work; acquisition of key competences
Expected competences acquired after completion of the module	Upon completion of the module, students are able to apply the knowledge and understanding gained from the degree program in a professional context. They have developed and enhanced explanations and solutions in their area of work and obtained specialized knowledge relating to this field. They have reflected on work processes, evaluated them and, if applicable, (re)designed them. They have exchanged with their colleagues about information, ideas, problems and solutions and have formulated and defended positions and solutions. By completing an internship abroad, they may have developed their proficiency in a foreign language for use in business contexts.
Additional information	The internship meets the requirements for mandatory internships set out in the federal regulations on employing interns dated 1 January 2015 (Praktikantenrichtlinie Bund) and the supplementary information on internships (Durchführungsroundschreiben D5-31005/1#11 dated 4 May 2020, page 4: „Sehen Studiengänge ein Praktikum als Wahlpflichtmodul (Wahl zwischen einem Praktikum oder Seminar, Hausarbeit, Forschungsaufenthalt etc.) vor und entscheidet sich eine Studentin oder ein Student für ein Praktikum, gilt dieses als Pflichtpraktikum nach dieser Richtlinie.“)
Contact information	Name: Sebastian Herdtweck; Email: econgrad@uni-mannheim.de; Office: L7, 3-5, room 405; Office hours: upon appointment

Research Phase

Module number and title	E5999 Master's Thesis
Form and usability of the module	Compulsory module for M.Sc. Economics in study track 1: Economics and study track 2: Competition and Regulation Economics
Cycle of offer	Every semester
ECTS credits	30
Teaching method (hours per week)	Written final thesis, length to be agreed with the supervisor, typically 20 to 70 pages
Workload	900 hours, optionally including a master's colloquium
Module language	English
Participation requirements	Completion of at least 45 ECTS credits in the specialization phase and successful completion of at least one seminar
Requirements for the Award of ECTS Credits, and Grading	The master's thesis is passed if it is graded "fair" (4.0) ("ausreichend") or better.
Goals and contents of the module	The students work independently on a topic from the fields of Economics, Statistics, Econometrics, and/or Economic History. The thesis should demonstrate the ability to identify and apply relevant theories and methods in academic research and to present the results in a linguistically and formally appropriate way. The topic, assignment, and scope of the master's thesis shall be limited by the supervisor so that its completion is possible within the given period of time.
Expected competences acquired after completion of the module	<p>Upon completion of the module, students have demonstrated the ability to apply the knowledge and understanding gained from the degree program in a research context, in particular:</p> <ul style="list-style-type: none"> - largely independently develop a research idea and line of inquiry, - identify and evaluate scientific literature relevant for the research topic, - deepen and integrate specialized knowledge in the chosen field of research and independently close knowledge gaps, - identify and apply scientific concepts and methods suitable for the respective line of inquiry, - demonstrate profound skills in data collection, compilation, preparation, processing, and presentation, - exchange with their supervisor about information, ideas, problems, and solutions and formulate and defend positions and solutions, - recognize the specifics and limitations of their research, - reflect on the results obtained scientifically, socially and, if necessary, ethically, - present their results in a precise and consistent manner and in accordance with the formal requirements of a scientific work, - organize their scientific work process independently and - use English flexibly and effectively and produce clear, well-structured, detailed text on complex subjects.

Contact information	Name: Sebastian Herdtweck; Email: econgrad@uni-mannheim.de; Office: L7, 3-5, room 405; Office hours: upon appointment
Module number and title	E8999 Master's Thesis (Dissertation Proposal)
Form and usability of the module	Compulsory module for M.Sc. Economics in study track 3: Economic Research
Cycle of offer	Every semester
ECTS credits	20
Teaching method (hours per week)	Written final thesis, length to be agreed with the supervisor, typically 10 to 35 pages
Workload	600 hours
Module language	English
Participation requirements	Completion of at least 45 ECTS credits in the specialization phase
Requirements for the Award of ECTS Credits, and Grading	The master's thesis is passed if it is graded "fair" (4.0) ("ausreichend") or better.
Goals and contents of the module	The students work independently on a topic from the fields of Economics, Statistics, Econometrics, and/or Economic History. The thesis has two goals. Firstly, it should demonstrate the ability to identify and apply cutting-edge theories and methods to academic research and to present the results in a linguistically and formally appropriate way. Secondly, it should indicate the extent and nature of the student's dissertation research interests. The topic, assignment, and scope of the thesis shall be limited by the supervisor so that its completion is possible within the given period of time.
Expected competences acquired after completion of the module	Upon completion of the module, students have demonstrated the ability to apply the knowledge and understanding gained from the degree program in a research context, in particular: <ul style="list-style-type: none"> - independently develop a research idea and line of inquiry, - identify and evaluate scientific literature relevant for the research topic, - deepen and integrate highly specialized knowledge in the chosen field of research and independently close knowledge gaps, - identify, develop, and apply scientific concepts and methods suitable for the respective line of inquiry, - demonstrate profound skills in data collection, compilation, preparation, processing, and presentation, - exchange with their supervisor about information, ideas, problems, and solutions and formulate and defend positions and solutions, - recognize and evaluate the specifics and limitations of their research with special consideration of most recent academic research, - reflect on the results obtained scientifically, socially and, if necessary, ethically,

- present their results in a precise and consistent manner and in accordance with the formal requirements of a scientific work,
- organize their scientific work process independently and
- use English flexibly and effectively and produce clear, well-structured, detailed text on complex subjects.

Contact information

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