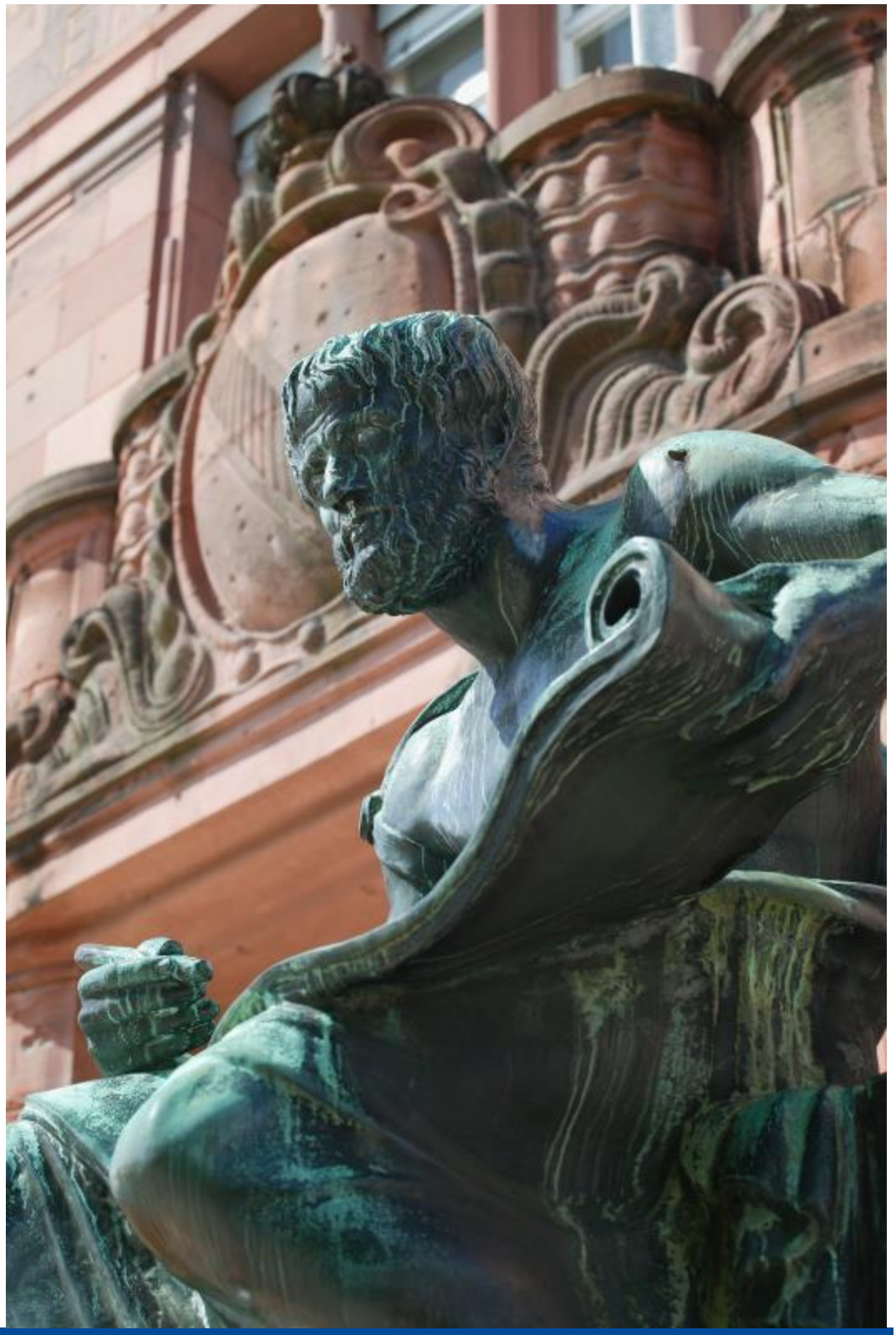

UNI FREIBURG

Module Handbook

Master of Science Economics

Edition: September 2021

Content

Disclaimer:

- The indications about the frequency at which the courses are taught are subject to change. Changes and modifications are possible.
- This version of the Module Handbook has not been approved by any official organ of the Faculty. It is a preliminary version. Changes and modifications are possible.

1. The program of studies

The master's program in Economics offers a broad and consecutive degree at an advanced level with a focus on economic issues and methods. During the program, students will develop distinct analytical skills and gain knowledge about current economic topics. They will be able to identify, structure, and analyze problems from different economic, political, and social fields, as well as find and present solutions to these problems. Students will gain professional skills and thus will be able to successfully work in the fields of business, finance, policy-making, and economic research.

1.1. Outline

Degree:	**Master of Science**
Study form:	Consecutive study with a second occupational qualified final degree
Begin of studies:	Winter semester (1. term); Winter- and Summer semester (in terms)
Standard period of Study:	4 Semesters
Degree requirements:	120 ECTS-Points
Specializations:	**Economics and Politics** **Finance** **Information Systems and Network Economics (Profile temporarily unavailable in Winter Semester 2020/21)**
Study Abroad:	Recommended in the third and/or fourth semester. Both the faculty and the university offer extensive exchange programs. Alternatively, studying abroad can also be organized by yourself. Advice regarding study abroad from the foreign office of economics can be found in Chapter 5.
Language:	▪ English

1.2. General program structure

The Master of Science in Economics is a two-year program with a total of 120 ECTS points. After a general introduction, the focus transitions to applied economics, which is also handled within the field of basic research. The general structure of the Master of Science in Economics at the University of Freiburg is discussed below.

The degree program is divided into two areas: a basic area consisting of mandatory courses and a specialization area.

Basic Area. The basic area consists of **30 ECTS-Points** and includes the block “Economic Theory and Policy” and the block “Quantitative Economics”.
Students must complete all the modules from the Quantitative Economics block:

- Computational Economics (6 ECTS)
- Intermediate Econometrics (10 ECTS)

Students must also complete four of the five modules from the Economic Theory and Policy Block:

- Advanced Microeconomics I (6 ECTS)
- Advanced Microeconomics II (6 ECTS)
- Advanced Macroeconomics I (6 ECTS)
- Advanced Macroeconomics II (6 ECTS)
- Economic Policy and Public Choice (6 ECTS)

Specialization Area. A total of **6 ECTS points** must be acquired in the block “Specialization Courses”. The specialization module for each profile is:

- Economic & Politics: Constitutional Economics (6 ECTS)
- Finance: Principles of Finance (6 ECTS)
- Information Systems and Network Economics: Digital and Network Economics (3 out of 6 ECTS) and Electronic Markets (3 out of 6 ECTS)

Elective Area: A total of 44 ECTS points must be completed with modules chosen by the student from the different courses offered by the Department of Economics. Most elective modules provide 4 or 6 ECTS points. The elective area is comprised of two types of courses:

Internal Elective Courses: A minimum of 32 ECTS points and a maximum of 44 ECTS points must be acquired from internal elective courses. These modules are chosen by the student and are related to their field of specialization.
External Elective Courses: A maximum of 12 ECTS points can be chosen from those modules that are considered internal elective of the other Profiles.

The general structure of the Master of Science in Economics at the University of Freiburg is shown in the following figure.

1.3. Recommended Study Plan for Master of Science Economics (MEP)

Recommended plan of studies for the Master of Science in Economics

Sem.	Economic Theory and Policy (30 ECTS)	Quantitative Economics (16 ECTS)	Profile 1 Economics & Politics	Profile 2 Finance	Profile 3 ISNE	ECTS-Pkte.
1 (WS)	Advanced Microeconomics I *and* Advanced Macroeconomics I *and* Economic Policy and Public Choice 18 ECTS	Computational Economics 6 ECTS				24
2 (SS)	Advanced Microeconomics II *and* Advanced Macroeconomics II 12 ECTS	Intermediate Econometrics 10 ECTS	Constitutional Economics 6 ECTS	Principles of Finance 6 ECTS	Network Economics *and* Electronic Marktes 6 ECTS	ca. 32
3 (WS)			Elective courses Economics & Politics 44 ECTS	Elective Courses Finance 44 ECTS	Elective Courses Information Systems and Network Economics 44 ECTS	ca. 32
4 (SS)	Master Thesis (24 ECTS, 20 Weeks)					ca. 32
ECTS	30 ECTS	16 ECTS	74 ECTS	74 ECTS	74 ECTS	120

Stand: 28.05.2011

Explanation for the Study Plan:

Contact hours (SWS): *Semesterwochenstunden* (weekly hours per semester).
ECTS: Credit points according to the European Credit Transfer System
Mind: *Mindestens* (minimum requirement)
SS: Summer term (April 1 – September 30)
WS: Winter term (October 1 – March 31)

Please notice

The course schedule is a general recommendation for the organization of successful and continuous studies. Individual preferences and changes are possible. The study regulations are to be complied with. Additionally, the following points must be considered:

a. Modules can be consecutive with regards to content, e.g. lectures are often succeeded by seminars in the next semester. Please compare with the individual module descriptions
b. After 2 semesters, at least 30 ECTS points have to be acquired in order to ensure successful progression of the studies. If the student is not able to fulfill the requirements, he or she will lose the right to take the exams. This is not the case if the student is not responsible for exceeding the deadline.
c. Frequency of courses: Mandatory courses are offered regularly. Some elective courses are also offered regularly (every Winter Semester or every Summer Semester). Several elective courses are offered irregularly, although courses of similar content are offered regularly. Please check “Frequency taught” in each module description. Please note that the indications about the frequency at which the courses are taught are subject to change and modifications are possible.

For these reasons (a – c above), a carefully thought out and individual schedule for your studies is highly recommended

1.4. Job perspectives

The aim of this program is to qualify students for positions in national and international organizations and institutes. The program is designed specifically to provide graduates with professional competence and knowledge of empiric methods.

The Economics & Politics profile, with its emphasis on economic policy analytics and quantitative methods, qualifies graduates for employment at regulatory or policy-making organizations, governmental and international institutions such as central banks, federal ministries, the European Commission, international development agencies, economic policy consultancies, and research institutes devoted to economic policy analysis.

The Finance profile, with its strong focus on quantitative finance, prepares students for careers in the financial sector, particularly in the areas of risk analysis, portfolio management and analysis, and development of derivatives, futures and options.

The quantitative skills acquired in the program also allow our students to succeed in careers such as data science, data analytics, data mining and business analytics.

In addition, the degree provides an entry point for an academic career, doctoral studies, and positions at research institutes.

2. Organization of the studies

During the program, students have to comply with various formalities regarding registration and proof of successful exam results. The examination office of the Faculty of Economy is responsible for the administration of these formalities.

2.1 Type of courses

There are three different types of courses. The most common type of courses is lectures. Lectures take place weekly and students can register for the examination during the examination period. Students do not have to register beforehand in order to attend the lecture or the exercise sessions.
Seminars are restricted to smaller groups of students and usually require students to conduct research-related tasks such as reviewing the literature, conducting research projects, writing research papers and giving scientific presentations. Seminars do not require written examinations but do require the preparation of written assignments (seminar papers) and oral presentations. Topics courses provide students with an in-depth research experience and are necessary for obtaining the master degree with honors.

Lectures usually are worth 4 ECTS points. Sometimes lectures can are accompanied by tutorial, an additional weekly session in which the concepts of the lecture are elaborated in a more practical way, usually involving solving problem sets. Lectures accompanied by a tutorial usually provide 6 ECTS points.

2.2 Registration

Attending courses:

Attending lectures generally does not require previous registration. Lectures are open to all who want to attend them.

Some lectures might restrict participation to smaller groups, such as block lectures or those requiring PC-Pool sessions or tutorials. To take part in a course with limited spaces available, students must register directly. Registration usually takes place before the beginning of the semester and information on the registration process is usually posted on the website of the respective department.

Seminars and topic courses are restricted to small groups and usually require application before the beginning of the semester. Details of the application process are usually posted on the website of the respective department.

Registration for exams:

It is necessary to register via the online campus management system (HISinONE) for the examinations of lectures. You can find all necessary information regarding deadlines and procedures on the Economic Faculty examination office's homepage or at the website of the Master of Economics Program.

2.3 Performance records

You can only receive the ECTS points for a given module once you have successfully taken all the required course-related examinations or fulfilled all the required achievements of that course.

Program achievements:

Program achievements are individually written, oral or practical tasks that students fulfill during the semester in the connection with their courses. These tasks can be written assignments or journals. Students will be informed about the amount and type of program achievements at the beginning of each module. Program achievements are evaluated, but not graded. However, there are minimum requirements that have to be fulfilled. The evaluation of these achievements is usually not part of the final grade.

Course-related exams:

Module exams are usually course-related. Students will be informed about the amount and type of course-related exams in their module handbook and at the beginning of each module. Oral exams are usually in the form of seminar presentations. Typical types of written exams are tests, assignments or term papers.

The duration of a written test is usually calculated as 15 minutes per ECTS point earned, i.e. 6 ECTS points = 90 minute exam. The result is part of the final grade. The degree final grade is the average of ECTS points earned, consisting of module grades and master thesis.

Timely registration is necessary in order to take the exam. If students take a module of choice from a different faculty, these faculty's course-related exam regulations apply.

2.4. Preliminary Exam

The program's preliminary exam is passed when at least 30 ECTS points have been acquired after the first two semesters. This ensures successful progress of the studies. If the student is unable to fulfill the requirement, he or she will lose the right to take the exams. This is not the case if the student is not responsible for exceeding the deadline.

3. Overview of the modules

Tip:

With a click on the title of the module you will be linked to the detailed description of the module. From this page you will also return by clicking on the title of the module.
A click on the section “Area of study/ Profiles” of the module description leads you back to the overview of the courses of the profile

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1st year: Mandatory courses:

Economic Theory and Policy		
	ECTS	**Page**
4 out of 5 Modules (one can be replaced with an elective course)		
Advanced Macroeconomics I	6	17
Advanced Macroeconomics II	6	18
Advanced Microeconomics I	6	19
Advanced Microeconomics II	6	21
Economic Policy and Public Choice	6	23
Quantitative Economics		
Computational Economics	6	24
Intermediate Econometrics	10	25
Specialization mandatory course		
Constitutional Economics (for Economics & Politics specialization profile)	6	27
Principles of Finance (for Finance specialization profile)	6	28
Digital and Network Economics (for Information Systems and Network Economics Profile)	3 out 6	29
Electronic Markets (for Information Systems and Network Economics Profile)	3 out 6	31

2nd year: Elective courses:

Internal electives		
	ECTS	**Page**
Internal elective modules: those elective modules of the own profile of specialization. A minimum of 32 ECTS and a maximum of 44 ECTS in internal elective modules must be attained.		

External electives		
	ECTS	**Page**
External elective modules: those elective modules of the other Profiles of specialization A maximum of 12 ECTS in external elective modules can be attained.		

Areas of studies / Profiles:

All modules in each profile can be taken by students of all Profiles, either as internal electives if the student belongs to that profile, or as external electives if the student is from another profile.

Profile 1: Economics and Politics		
	ECTS	**Page**
Mandatory Course:		
Constitutional Economics	6	27
Elective Courses in free choice of 44 ECTS		
Advanced Topics in Econometrics	6	33
Basic Income and Social Justice in the Social Contract Laboratory (SoCo Lab) (Seminar)	6	35
Behavioral Economics	4 or 6	37
Digital and Network Economics	6	44
Dynamic Fiscal Policy	6	46
Econometric Risk Management in Finance	6	47
Economic policy during the Eurocrisis: Evidence-based policy analysis of the EMU	4 or 6	49
Economics of Social Justice	4 or 6	51
Electronic Markets	6	52
Empirical Research Seminar in Institutional Economics	6	53
Global Economic Governance	4 or 6	58
Industrial Organization	6	59
Introduction to Empirical Economics Using STATA	4	60
Labor Economics and Causal Machine Learning Using R	4	61
Mathematical Methods for Economics and Finance	6	62
Microeconometrics Using STATA – Lecture	4	63
Microeconometrics Using STATA – Seminar	4	64
Migration Economics	4	65
Modern Econometrics Using R	4	66
Probability Theory for Economics and Finance	4	68
Research Colloquium on Migration Empirics (Seminar)	4	69
Selected Topics in Industrial Organization and Competition Economics	6	70
Selected Topics in Institutional Economics and International Economic Policy (Seminar)	6	71
Selected Topics in International and Development Economics (Seminar)	4 or 6	72
The Economics of Corruption	4 or 6	75
The Economics of Terror	4 or 6	76
The Long Term Determinants of Economic Development	4 or 6	77
The Political Economics of Information and Media	4 or 6	78
Time Series Analysis	6	79
Topics in Macroeconomics	6	80

Profile 2: Finance		
	ECTS	**Page**
Mandatory Course:		
Principles of Finance	**6**	**28**
Elective Courses in free choice of 44 ECTS		
Advances in Empirical Finance	6	32
Advanced Topics in Econometrics	6	33
Basic Income and Social Justice in the Social Contract Laboratory (SoCo Lab) (Seminar)	6	35
Behavioral Economics	4 or 6	37
Business Analytics	4	38
Computational Finance	6	42
Credit Risk	6	43
Digital and Network Economics	6	44
Dynamic Fiscal Policy	6	46
Econometric Risk Management in Finance	4	47
Economics of Social Justice	4 or 6	51
Electronic Markets	6	52
Finance, climate change, and the global energy transition	6	54
Financial Econometrics	6	55
Futures and Options	6	57
Global Economic Governance	4 or 6	58
Industrial Organization	6	59
Labor Economics and Causal Machine Learning Using R	4	61
Mathematical Methods for Economics and Finance	6	62
Modern Econometrics Using R	4	66
Portfolio Management	6	67
Probability Theory for Economics and Finance	4	68
Selected Topics in Industrial Organization and Competition Economics	6	70
Seminar in Quantitative Finance	6	74
Seminar Series in Finance	0	74
Time Series Analysis	6	79
Topics in Macroeconomics	6	80

Profile 3: Information Systems and Network Economics		
	ECTS	**Page**
Specialization Courses:		
Digital and Network Economics	**3 out of 6**	**29**
Electronic Markets	**3 out of 6**	**31**
Elective Courses in free choice of 44 ECTS		
Advances in Empirical Finance	6	32
Advanced Topics in Econometrics	6	33
Algorithm Design and Software Engineering	4	34
Basic Income and Social Justice in the Social Contract Laboratory [SoCoLab] (Seminar)	6	35
Behavioral Economics	4 or 6	37
Business Analytics	4	38
Business Analytics (Seminar): Business Intelligence with R and Python	6	39
Business Analytics (Seminar): Webscraper Development and Data Analysis using R and Python	6	41
Computational Finance	6	42
Credit Risk	6	43
Digital and Network Economics	3 out of 6	44
Dynamic Fiscal Policy	6	46
Econometric Risk Management in Finance	4	47
Economics of Social Justice	4 or 6	51
Electronic Markets	3 out of 6	52
Financial Econometrics	6	55
Industrial Organization	6	59
Labor Economics and Causal Machine Learning Using R	4	61
Mathematical Methods for Economics and Finance	6	62
Modern Econometrics using R	4	66
Probability Theory for Economics and Finance	4	68
Selected Topics in Industrial Organization and Competition Economics	6	70
Seminar in Quantitative Finance	6	73
The Political Economics of Information and Media	4 or 6	78
Time Series Analysis	6	79
Topics in Macroeconomics	6	80

4. Module description

4.1. Block: Economic Theory and Policy

Module	Advanced Macroeconomics I		
Area of study / Profiles	► Mandatory Economic Theory and Policy		
Recommended Semester	1st semester	Mandatory/Elective	Mandatory
Module Coordinator	Dr. Marten Hillebrand	Workload	180 hours
ECTS (credit points)	6 ECTS	Contact Hours (SWS)	3h Lecture 2h Tutorial
Course type	▪ Lecture ▪ Tutorial	Language	English
Rotation	Winter term		
Requirements	Course participants are expected to have a sound understanding of intermediate macroeconomics and microeconomics paired with a solid background in basic mathematics (linear algebra, calculus, constrained optimization, etc.) and statistics (probability theory, ran-dom variables, etc.). Since the course has a strongly quantitative focus, we expect a genuine interest in economic theory and math-ematical model building.		
Learning/ Qualification Target	Students are able to analyze macroeconomic models at an advanced level using state-of the art dynamic general equilibrium theory. Here, the main focus is on monetary models of the business cycle and the role of fiscal and monetary policy in this framework. Specifically, they learn about how monetary policy interacts with fiscal policy and how both branches jointly determine prices and allocations in real and financial markets and consumer welfare under alternative informational and political constraints.		
Content	Part I: New Classical Monetary Theory: ▪ 1. The Basic New Classical Model ▪ 2. Interaction of Fiscal and Monetary Policy ▪ 3. The Fiscal Theory of the Price Level ▪ 4. Monetary Policy in a Currency Union ▪ 5. Optimal Monetary Policy in a New Classical Model ▪ 6. The Stochastic New Classical Model* Part II. New Keynesian Monetary Theory: ▪ 7. The Basic New Keynesian Model ▪ 8. Monetary Policy in the New Keynesian Model ▪ 9. Optimal Monetary Policy in the New Keynesian Model* ▪ 10. Monetary Policy Trade-Offs: Discretion vs. Commitment* * = 'time permitting'		
Examination Type	Written examination (90 min.)		
Literature	▪ Gali (2008): Monetary Policy, Inflation, and the Business Cycle. Princeton University Press. ▪ Ljungqvist & Sargent (2012): Recursive Macroeconomic Theory. MIT Press. ▪ McCandless (2008): The ABCs of RBCs. Harvard University Press. ▪ Miao (2014): Economic Dynamics in Discrete Time. MIT Press.		
Additional Information & Links	For further information please see the chair homepage: http://www.macro.uni-freiburg.de/news/home		

Module	Advanced Macroeconomics II		
Area of study / Profiles	► Mandatory Economic Theory and Policy		
Recommended semester	2	Mandatory/elective	Mandatory
Module coordinator	Prof. Günther Schulze	Work load	180 hours
ECTS (credit points)	6	Contact hours (SWS)	3h Lecture 1h Tutorial
Course type	▪ Lecture ▪ Tutorial	Language	English
Frequency taught	Summer term		
Requirements	Solid micro- and macroeconomics at the Bachelor level		
Learning/ qualification target	Knowledge of concepts of the political economy of macroeconomics at an advanced level		
Content	Topics from the following list: ▪ Principle-agent problems in the political delegation ▪ Time-inconsistency problem ▪ Commitment vs. flexibility ▪ Central bank independence ▪ Credibility and reputation ▪ Mimicking and signaling ▪ Elections ▪ Redistribution ▪ Rent-seeking ▪ Political business cycles and other topics (topics may vary)		
Examination type	Exam (90 min.)		
Literature	Drazen, A: Political Economy in Macroeconomics. Princeton: Princeton University Press (current edition) Addititonal journal articles		
Additional information & links	https://www.iep.uni-freiburg.de/teaching		

Module	**Advanced Microeconomics I**		
Area of study / Profiles	► Mandatory Economic Theory and Policy		
Recommended Semester	1st semester	Mandatory/Elective	Mandatory
Module Coordinator	Prof. Dr. Germain Gaudin	Workload	180 hours
ECTS (Credit Points)	6 ECTS	Contact Hours (SWS)	2h Lecture 2h Tutorial
Course Type	▪ Lecture ▪ Tutorial	Language	English
Rotation	Every winter semester		
Requirements	Strong command of intermediate microeconomics. The following text is suitable for preparation: M. J. Osborne and A. Rubinstein: Models in Microeconomic Theory, Open Book Publishers, 2020 (electronic version freely available on the publisher's website).		
Learning/ Qualification Target	▪ Provide students with a solid foundation in microeconomic theory, using mathematical techniques. ▪ Provide students with a deeper knowledge in the neo-classical theory of consumers and firms. ▪ Provide students with a deeper knowledge in topics related to general equilibrium, and introduction to decisions under uncertainty. This course is required for students aiming at deepening their knowledge in Microeconomics, with an aim to pursue a career as economists in firms or organizations, or in a PhD program.		
Content	This course covers advanced microeconomic models, starting with the notions of preferences. Students will be taught the necessary tools to understand advance economic models. They will become familiar with advanced notions and models of individual choice, as well as the decision problems of firms. Students will learn both about the partial analysis of isolated markets, and the general equilibrium analysis. Emphasis will be made not only on the mathematical formulation of the problems, but also on the related economic meaning (and intuition). A detailed list of the topics addressed is as follows: ▪ Consumer theory: Notions; Preferences and utility; The consumer's problem; Indirect utility and expenditure; Consumer demand ▪ Topics in Consumer theory: e.g. Revealed preferences; Uncertainty ▪ Theory of the firm: Notions; Production; Cost; Duality in production; The competitive firm ▪ Partial equilibrium: Perfect competition; Imperfect competition; Equilibrium and welfare ▪ General equilibrium: Equilibrium in exchange; Equilibrium in competitive markets; Equilibrium in production; Core and equilibria		
Examination Type	Written examination at the end of the semester		
Literature	Main reference: ▪ G. A. Jehle and P. J. Reny, Advanced Microeconomic Theory, FT Press, 3rd ed. 2010.		

	Other references: ▪ A. Mas-Colell, M. D. Whinston and J. R. Green, Microeconomic Theory, Oxford University Press, 1995. ▪ A. Rubinstein, A., Lecture Notes in Microeconomic Theory, Princeton University Press, 2016. (Freely available on the author's website). ▪ D. M. Kreps, Microeconomic Foundations I: Choice and Competitive Markets, Princeton University Press, 2012. ▪ H. R. Varian, Microeconomic Analysis, W. W. Norton & Company, 3rd ed. 1992.
Additional Information & Links	https://www.competition.uni-freiburg.de/

Module	Advanced Microeconomics II		
Area of study / Profiles	► Mandatory Economic Theory and Policy		
Recommended Semester	2nd – 4rd semester	Mandatory/Elective	Mandatory
Module Coordinator	Prof. Dr. Germain Gaudin	Workload	180 hours
ECTS (Credit Points)	6 ECTS	Contact Hours (SWS)	2h Lecture 2h Tutorial
Course Type	▪ Lecture ▪ Tutorial	Language	English
Rotation	Every summer semester		
Requirements	Strong command of intermediate microeconomics. The following text is suitable for preparation: M. J. Osborne and A. Rubinstein: Models in Microeconomic Theory, Open Book Publishers, 2020 (electronic version freely available on the publisher's website).		
Learning/ Qualification Target	▪ Provide students with a solid foundation in microeconomic theory, using mathematical techniques. ▪ Provide students with a deeper knowledge of game theory and strategic decision-making. ▪ Provide students with a deeper knowledge in information economics and informational issues, as well as topics related to mechanism design and auctions. ▪ This course is required for students aiming at deepening their knowledge in Microeconomics, with an aim to pursue a career as economists in firms or organizations, or in a PhD programm.		
Content	This course covers advanced microeconomic models, and strategic decision-making and interactions. Students will be taught solid grounds in game theory and in the analysis of non-cooperative games. The course will cover games with complete and incomplete information, as well as games with finite and infinite horizon. Students will be made familiar with various topics in auctions and mechanism design. Emphasis will be made not only on the mathematical formulation of the problems, but also on the related economic meaning (and intuition). A detailed list of the topics addressed is as follows: ▪ Game theory: Strategic decision making; Strategic form games; Extensive form games ▪ Information economics: Adverse selection; Moral hazard, principal-agent problem; Information and market performance ▪ Auctions and mechanism design: Four standard auctions; Independent private values model; Revenue equivalence theorem; Designing a revenue maximizing mechanism; Designing allocatively efficient mechanisms		
Examination Type	Written examination at the end of the semester		
Literature	Main reference: ▪ G. A. Jehle and P. J. Reny, Advanced Microeconomic Theory, FT Press, 3rd ed. 2010.		

	Other references: ▪ Mas-Colell, M. D. Whinston and J. R. Green, Microeconomic Theory, Oxford University Press, 1995. ▪ H. R. Varian, Microeconomic Analysis, W. W. Norton & Company, 3rd ed. 1992. ▪ M. J. Osborne, An Introduction to Game Theory, Oxford University Press, International ed. 2009. ▪ R. Gibbons, A Primer in Game Theory, Pearson Higher Education, 1992. ▪ Rubinstein, A., Lecture Notes in Microeconomic Theory, Princeton University Press, 2016. (Freely available on the author's website). ▪ D. M. Kreps, Microeconomic Foundations I: Choice and Competitive Markets, Princeton University Press, 2012.
Additional Information & Links	https://www.competition.uni-freiburg.de/

Module	**Economic Policy and Public Choice**		
Area of study / Profiles	► Mandatory Economic Theory and Policy		
Recommended semester	1	Mandatory/elective	Mandatory
Module coordinator	Prof. Bernhard Neumärker	Work load	180 hours
ECTS (credit points)	6	Contact hours (SWS)	2 (L) 2 (T)
Course type	► Lecture ► Tutorial	Language	English
Frequency taught	Winter term		
Requirements	Basic knowledge of microeconomics is recommended		
Learning/ qualification target	▪ Identification of economic policy problems ▪ Appreciate the economic analysis of different systems and levels of collective choice ▪ Sophisticated understanding of economic policy formation ▪ Structuring economic policy norms		
Content	▪ Introduction ▪ Economic problems of economic policy 1. Economic man and collective action 2. Allocation and exchange 3. Distribution and conflict 4. Liberty and welfare 5. Implementation and reform 6. Stability and sustainability ▪ The public choice of economic policy 1. Rational and behavioral public choice 2. Positive and normative public choice ▪ Institutions and hierarchies of public choice 1. Authoritarian policy formation 2. Democratic organization and voting rules 3. Spatial hierarchy ▪ Liberal concepts of economic policy formation 1. Ordoliberal design 2. Liberal paternalism 3. Constitutional political economy ▪ Application to special policy issues 1. Redistribution in democracy 2. Organizing the just welfare state 3. Market regulation and privatization 4. Constitutional budget constraints and their effects on economic policy		
Examination type	Written exam (90 minutes)		
Literature	*Introductory textbooks:* ▪ Hillman, A.L.: Public Finance and Public Policy, 2nd Ed., Cambridge 2009. ▪ Mueller, D.C.: Public Choice III, Cambridge 2003. ▪ Additional readings are announced in class.		
Additional information & links	For further information please see the chair home page: http://www.wipo.uni-freiburg.de		

4.2. Block: Quantitative Economics

Module	**Computational Economics: Non-linear Optimization**		
Area of study / Profiles	► Mandatory Quantitative Economics		
Recommended semester	1. - 4. semester	Mandatory/elective	Mandatory
Module coordinator	Prof. Dr. Dirk Neumann	Work load	Ca. 180 hours
ECTS (credit points)	6	Contact hours (SWS)	2h Lecture 1h Exercise 1h Tutorial
Course type	▪ Lecture ▪ Exercise ▪ Tutorial	Language	English
Frequency taught	Winter term		
Requirements	None, Computational Economics is designed as an introductory Master-level course		
Learning / qualification target	Students develop an understanding of economic models using standard software at a PC. They learn to formulate optimization problems, and the theory behind optimization techniques. Exercise sessions will provide a hands-on experience using the programming language R.		
Content	In Computational Economics well-known economic problems are revisited, formulated as mathematical problems, and implemented using software. The models encompass a wide range of issues from microeconomics and macroeconomics, business production planning, as well as complex models of economic growth. The lecture discusses theoretical basics and methods of model design, as well as algorithms to solve them. During hands-on exercise sessions and tutorials these skills are practiced using software.		
Examination type	Written Exam		
Literature	▪ K.L. Judd, 1998, *Numerical Methods in Economics*, MIT Press: Cambridge, MA. ▪ D.A. Kendrick, P.R. Mercado, & H.M. Amman, 2005, *Computational Economics*, Princeton University Press: Princeton, NJ.		
Additional information & links	For further information, please see the chair home page: http://www.is.uni-freiburg.de		

<table>
<tr><th>Module</th><th colspan="3">Intermediate Econometrics</th></tr>
<tr><td>Area of study / Profiles</td><td colspan="3">► Mandatory Quantitative Economics</td></tr>
<tr><td>Recommended Semester</td><td>2nd semester</td><td>Mandatory/ Elective</td><td>Mandatory</td></tr>
<tr><td>Module Coordinator</td><td>Prof. Dr. Roxana Halbleib</td><td>Workload</td><td>• Approx. 260 hours (10 ECTS)</td></tr>
<tr><td>ECTS (credit points)</td><td>10 ECTS</td><td>Contact Hours (SWS)</td><td>• 4 h Lecture
• 2 h Exercise session</td></tr>
<tr><td>Course Type</td><td>• Lecture
• Exercise session
• Additional tutorial</td><td>Language</td><td>English</td></tr>
<tr><td>Frequency taught</td><td colspan="3">Every summer term</td></tr>
<tr><td>Requirements</td><td colspan="3">Knowledge of mathematics, statistics and probability theory (as taught in any standard bachelor program in economics).</td></tr>
<tr><td>Learning / Qualification Target</td><td colspan="3">This course aims at providing students with the basic tools in undergoing empirical research on their own. Upon successful completion of this course, students should be acquainted with the fundamentals of regression analysis and with its strengths and limitations. Moreover, they should be able to apply econometric tools and software to real economic problems and to thoroughly understand and critically interpret empirical findings.</td></tr>
<tr><td>Content</td><td colspan="3">The course covers the fundamentals of multiple linear regression analysis applied to cross sectional and time series data with emphasis on both theoretical foundations and empirical applications. The course also covers some selected topics in advanced econometrics.
The first two parts of the course involve a review of the methods taught in the statistics and econometrics courses in the Bachelor of Science in Volkswirtschaftslehre (Economics), as well as some advanced topics in regression analysis. This part is mandatory for all students. In the third part, some further advanced topics will be covered. This part is compulsory only for students writing the exam for 10 ECTS points (Master in Economics).
Besides lectures, the course entails theoretical and computer exercise sessions. While the theoretical exercise sessions aim at understanding and deepening the theoretical concepts, the computer exercise sessions aim at providing students with practical skills in undergoing empirical work by using R. The computer sessions are offered in exchange with the theoretical exercise sessions.</td></tr>
<tr><td>Examination Type</td><td colspan="3">Final Exam (120 minutes)</td></tr>
<tr><td>Literature</td><td colspan="3"><u>Introductory Literature</u>
▪ Wooldridge, J. M. (2019): Introductory Econometrics – A Modern Approach, 7th ed., South Western, Cengage Learning. Please note that old book editions are acceptable as well.
▪ Greene, W. H. (2008): Econometric Analysis, 6th, ed., Pearson Prentice Hall. Other book editions are acceptable as well. (eBook available)

<u>Additional Literature</u></td></tr>
</table>

	▪ Stock, J. H. and M. W. Watson (2015): *Introduction to Econometrics,* updated 3rd ed., global ed., Pearson. ▪ Angrist, J. D., and J.-S. Pischke (2009): *Mostly Harmless Econometrics – An Empiricist's Companion*, Princeton University Press. ▪ Angrist, J. D. and J. S. Pischke (2014): *Mastering Metrics:* *The Path from Cause to Effect,* Princeton University Press. ▪ Heiss, Florian (2016): *Using R for Introductory Econometrics.* ▪ Hansen, B. (2021): *Econometrics*, current manuscript, https://www.ssc.wisc.edu/~bhansen/econometrics/Econometrics.pdf ▪ Hansen, B. (2021): *Probability and Statistics for Economists*, current manuscript, https://www.ssc.wisc.edu/~bhansen/probability/Probability.pdf ▪ Hanck C., Arnold M., Gerber A. and Schmelzer M. (2020), *Introduction to Econometrics with R.* Further references will be given throughout the course
Additional Information & Links	Website http://www.econometrics.uni-freiburg.de/en/teaching The course material, updates and all relevant information is available on ILIAS. Students have to sign in for this course in HISinOne. The registration in ILIAS will be carried out automatically

4.3. Specialization Courses

Module	**Constitutional Economics**		
Area of study / Profiles	► Specialization Economics and Politics		
Recommended semester	2	Mandatory/elective	Mandatory
Module coordinator		Work load	180 hours
ECTS (credit points)	6	Contact hours (SWS)	2 (L) 2 (T)
Course type	▪ Lecture ▪ Tutorial	Language	English
Frequency taught	Summer term		
Requirements	Under Review		
Learning/ qualification target	Under Review		
Content	Under Review		
Examination type	Written exam (90 minutes)		
Literature	Under Review		
Additional Links information & links			

Module	**Principles of Finance**		
Area of study / Profiles	► Specialization Finance		
Recommended semester	2nd	Mandatory/elective	Mandatory (for Finance profile)
Module coordinator	Prof. Dr. Eva Lütkebohmert-Holtz	Work load	120 hours
ECTS (credit points)	6	Contact hours (SWS)	2 Lecture 2 Tutorial
Course type	▪ Lecture ▪ Tutorial	Language	English
Frequency taught	Every summer semester		
Requirements	Advanced Microeconomics I		
Learning/ qualification target	Introduction to basic concepts of asset pricing and the valuation of contingent claims		
Content	This course introduces the basic concepts of asset pricing and the valuation of contingent claims. Asset pricing in complete markets generates strong results such as information efficiency and the concepts of a market portfolio and a market price of risk. Moreover, in dynamically complete markets simple arbitrage techniques allow to value derivatives such as options. Empirically, however, the predictions based on complete markets are often rejected. So-called anomalies suggest that many - if not most - real markets are incomplete. Therefore, the second part introduces elements of valuation in incomplete markets when the property of equilibrium prices to communicate private information is rather limited.		
Examination type	120 min written exam at the end of the semester		
Literature	▪ Back: Asset Pricing and Portfolio Choice Theory, 2nd Ed., Oxford University Press, 2017. ▪ Cochrane: Asset Pricing, Princeton University Press, 2005. ▪ Danthine, Donaldson: Intermediate Financial Theory, 3rd Ed., Academic Press, 2015. ▪ Elton, Gruber, Brown, Goetzman Modern Portfolio Theory and Investment Analysis, 6th Ed., John Wiley & Sons, 2003 ▪ Gitman: Principles of Managerial Finance, 11th ed., Addison-Wesley, 2006. ▪ Lengwiler: Microfoundations of Financial Economics, Princeton Series in Finance, Princeton University Press, 2004 ▪ LeRoy, Werner: Principles of Financial Economics, Cambridge University Press, 2001. ▪ Ma: Advanced Asset Pricing Theory, Series in Quantitative Finance, Vol. 2, Imperial College Press, 2011.		
Additional information & links	https://www.finance.uni-freiburg.de/		

Module	**Digital and Network Economics**		
Area of study / Profiles	► Specialization Information Systems and Network Economics ► Elective Economics and Politics ► Elective Finance		
Recommended semester	2nd	Mandatory/elective	Mandatory (for ISNE profile) Elective for E&P and ISNE
Module coordinator	Prof. Germain Gaudin	Work load	180 hours
ECTS (credit points)	6	Contact hours (SWS)	2 Lecture 2 Tutorial
Course type	▪ Lecture ▪ Tutorial	Language	English
Frequency taught	Every summer semester		
Requirements	• Strong command of intermediate/advanced microeconomics. The following texts are suitable for preparation: M. J. Osborne and A. Rubinstein: Models in Microeconomic Theory, Open Book Publishers, 2020 (electronic version freely available on the publisher's website), and G. A. Jehle and P. J. Reny: Advanced Microeconomic Theory, FT Prentice Hall / Pearson, 3rd Edition, 2011. • The courses Advanced Microeconomics I is strongly recommended as a prerequisite. • Good command of industrial organization. The following text is suitable for preparation: P. Belleflamme and M. Peitz: Industrial Organization: Markets and Strategies, Cambridge University Press, 2nd Edition, 2015. • The courses Industrial Organization is recommended as a prerequisite. • Strong notions in mathematics		
Learning/ qualification target	• Provide students with a solid foundation in microeconomic theory applied to network industries and digital markets, using mathematical techniques. • Provide students with a deeper knowledge in the relevant economic effects of digital technology. • Provide students with a deeper knowledge in the relevant economic effects that prevail in network industries.		
Content	This course will cover various microeconomic aspects that are particularly relevant to network industries and the digital economy. The first part of the course will cover "Network economics," i.e. the economic analysis of so-called network industries such as telecommunications, energy, railways, utilities, etc. 1. Introduction to Network Economics 2. Decision-relevant costs and pricing 3. Compatibility standards in networks 4. Universal service 5. Market power regulation in network industries The second part of the course will cover "Digital Economics," i.e. the economic analysis of the changes in economic activity		

	stemming from digital technology. It will build on the notions introduced in the first part of the course. 6. Introduction to Digital Economics 7. Online prices and platforms 8. Digital goods and Piracy 9. Online advertising and Privacy 10. Regulation in digital markets Note: Other aspects relevant to the digital economy (including mechanism design, auctions, or reputation mechanisms) are addressed in the course “Electronic Markets.”
Examination type	Written examination at the end of the semester
Literature	• Goldfarb, A., and Tucker, C., “Digital Economics,” *Journal of Economic Literature*, 2019, 57(1), 3-43. • Knieps, G., *Network Economics: Principles – Strategies – Competition Policy*, Springer, 2015. • https://www.cambridge.org/core/books/economics-of-platforms/1465A930513786676D369128B0AF9D21
Additional information & links	https://www.competition.uni-freiburg.de/

Module	Electronic Markets		
Area of study / Profiles	► Specialization Information Systems and Network Economics ► Elective Economics and Politics ► Elective Finance		
Recommended Semester	1-4	Mandatory / Elective	Elective
Module coordinator	Prof. Dirk Neumann	Work load	180 hours
ECTS (credit points)	6	SWS	2 (L) 1 (E)
Course type	▪ Lecture ▪ Exercise	Language	English
Frequency taught	Summer term		
Requirements	No special requirements		
Learning/ qualification target	Electronic markets are an essential building block of today's networked service economy. We face them in automated stock exchanges, auctions at ebay and Google, as well as in industrial contracting. By enabling the trade and allocation of frequencies for wireless communication (UMTS, LTE) and emission certificates, electronic markets shape the future of our planet, our economies, and our societies. However, the design and implementation of market mechanisms is highly complex. Markets need to be protected from cheating by individual agents or full-blown market failures. The lecture "Electronic Markets" seeks to provide students with an understanding of how electronic market platforms are analyzed, designed, and introduced.		
Content	The topics covered in the lecture can be divided into three broad areas: ▪ *The microstructure*. This area includes rules that define how markets operate and covers, for instance, a recap of game theory and auction rules for single-unit and combinatorial auctions. This is the main focus of the lecture. ▪ *The IS infrastructure*. This area contains issues concerning the implementation of electronic markets, such as computational complexity. ▪ *The business structure*. This area outlines how the electronic market is offered to its customers and covers issues such as enforcement, trust, and monitoring. Students learn to comprehend, to enhance, and to evaluate the design potentials of electronic market platforms. The participation in the exercise sessions is highly recommended. During the exercise sessions, students will get hands-on experiences with game-theoretical experiments and different auctions formats.		
Examination type	Written Examination		
Literature	▪ Roth, A. The Economist as Engineer: Game Theory, Experimental Economics and Computation as Tools for Design Economics. Econometrica 70(4): 1341-1378, 2002. ▪ Weinhardt, C. ,Holtmann, C., Neumann, D. Market Engineering. Wirtschaftsinformatik 45(6): 635-640, 2003. ▪ Wolfstetter, E. Topics in Microeconomics - Industrial Organization, Auctions, and Incentives. Cambridge: Cambridge University Press, 1999.		
Additional information & links	For further information, please see the chair home page: http://www.is.uni-freiburg.de		

4.4. Elective Courses

Elective courses are open to students from all profiles. If the profile is indicated as one of the areas of study / profiles, the course will be considered “internal elective”. If the profile is not indicated, the course can be taken as “external elective”.

Module	**Advances in Empirical Finance**		
Area of study / Profiles	► Finance ► Information Systems and Network Economics		
Recommended semester	3rd semester	Mandatory/elective	Elective
Module coordinator	Prof. Dr. Roxana Halbleib	Work load	Approx. 180 hours
ECTS (credit points)	6 ECTS	Contact hours (SWS)	2 SWS
Course type	Seminar	Language	English
Frequency taught	Irregular		
Requirements	**Basic** requirements: • Successful completion of the classes Intermediate Econometrics **and** Time Series Analysis • Sound knowledge in a programming language (R, Python, Matlab, etc.). **Recommended** requirements: • Parallel enrollment in ”Financial Econometrics” and/or “Advanced Topics in Econometrics” is highly recommended. It is highly recommended and desired that two students work on a topic jointly.		
Learning/qualification target	The goal of this seminar is to acquaint master students with advanced and modern econometric methods and their applications to research questions related to financial econometrics, quantitative risk management, high-dimensional and high-frequency finance as well as machine learning in empirical finance.		
Content	The seminar addresses advanced topics in applied financial econometrics. The topics vary each year. They are announced in the first meeting at the beginning of the semester. On each topic, students (single or in a group of two) have to write a term paper, in which they apply a novel and/or advanced econometric method to solve real economic problems by undergoing a complex empirical analysis on real (usually big) financial data and by self-programming the codes for the empirical study. The topics can be individually adapted to allow for being pursued further in a subsequent master thesis..		
Examination type	Term paper, classroom (or online) presentation and discussion of one fellow’s paper		
Literature	The list of literature is provided for each topic during the first meeting at the beginning of the semester.		
Additional information & links	A preliminary registration is required! For further information about the seminar, please visit the homepage of the chair: http://www.econometrics.uni-freiburg.de/.		

Module	Advanced Topics in Econometrics		
Area of study/Profile	► Economics and Politics ► Finance ► Information Systems and Network Economics		
Recommended Semester	3rd semester	Mandatory/Elective	Elective
Module Coordinator	Prof. Dr. Roxana Halbleib	Workload	Approx. 180 hours
ECTS (credit points)	6 ECTS	Contact Hours (SWS)	2h Lecture 2h Exercise Session
Course type	1 Lecture 1 Exercise Session	Language	English
Frequency taught	Irregular		
Requirements	Statistics, Mathematics, Econometrics (the level of Intermediate Econometrics)		
Learning/ qualification target	This course aims at endowing students with advanced knowledge in econometric techniques necessary for sound empirical analyses.		
Content	The course builds up on the course Intermediate Econometrics and provides deeper knowledge on econometric fundamental concepts and on the econometric techniques related to non-linear modelling and estimation (such as maximum likelihood, generalized method of moments, non-parametric techniques, Monte Carlo simulations, bootstrapping, Kalman filter, etc.). Thus, the course provides students with the necessary theoretical background in undergoing elaborate empirical research in economics, but also in other fields. The exercise sessions cover theoretical exercises and empirical applications by using the programming language Python.		
Examination type	Final Exam (90 minutes)		
Literature	▪ Cameron A. C. and P. K Trivedi (2005): Microeconometrics Methods and Applications, Cambridge University Press. ▪ Gourieroux, C. and A. Monfort (1995)]: Statistics and Econometric Models, Vol. 1 and 2, Cambridge University Press. ▪ Hamilton (1994): Time Series Analysis. Princeton University Press. ▪ Hansen, B. (2021): Econometrics, current manuscript, https://www.ssc.wisc.edu/~bhansen/econometrics/Econometrics.pdf ▪ Hansen, B. (2021): Probability and Statistics for Economists, current manuscript, https://www.ssc.wisc.edu/~bhansen/probability/Probability.pdf ▪ Hayashi, F. (2000): Econometrics, Princeton University Press. ▪ Mittelhammer, R. C., G. G. Judge, and D. J. Miller (2000): Econometric Foundations, Cambridge University Press.		
Additional information & links	Website: http://www.econometrics.uni-freiburg.de/teaching The course material, updates and all relevant information is available on ILIAS. Students have to sign in for this course in HISinOne. The registration in ILIAS will be carried out automatically.		

Module	Algorithm Design and Software Engineering		
Areas of Study / Profiles	► Information Systems and Network Economics		
Recommended Semester	► 1-4		
Module Coordinator	Prof. Dirk Neumann	Mandatory / Elective	Elective
ECTS (credit points)	4	Work load	Ca. 120 hours
Course type	▪ Lecture ▪ Tutorial	SWS	1 (L) 1 (T)
Frequency taught	▪ Irregular	Language	English
Requirements	This course covers the concepts of software engineering and algorithm design. Students will acquire basic knowledge of software engineering, software testing and IT management. This knowledge serves as a lever for creating new software applications or for changing the functionality of existing ones. While the aforementioned concepts address the "big picture", we also focus on the underlying programming. A short-introduction to control flows will enable students to design algorithms for various purposes. Here, we introduce the most relevant ones from the literature, e.g. for sorting, searching, and graph operations. Basic knowledge of the statistical software "R" is necessary.		
Content	Software has become an integral part of every successful business. Software systems help to detect, solve, and organize problems in a reliable and efficient manner. Common examples include systems for customer relationship management (CRM) or ticketing, which distribute tasks across stakeholders. Moreover, analyzing big data or even simple office programs are just a few examples for prevalent applications of software. Nowadays, tailored software exists for almost all common business sectors. Software engineering has thus evolved as the handcraft of the 21th century. At the heart of any software is the programmed code with its different algorithms. In that context, an algorithm is a clearly defined and logical step-by-step operation. It sets certain standards of quality; nevertheless, it is still flexible enough to solve a broad variety of problems in short time. Furthermore, it is easy to retrace the result of such a step-by-step operation. In our daily life, algorithms are omnipresent, as they play important roles in search engines, stock trading, social networking etc. **Tentative Topics** ▪ Organization and Motivation ▪ Introduction to Logic ▪ Control Structures ▪ Recursion and Dynamic Programming (DP) ▪ Data Structures ▪ Trees ▪ Graphs ▪ Sorting and Searching ▪ Object Oriented Programming (OOP) ▪ Unified Modelling Language (UML) ▪ Software Testing ▪ IT Management		
Examination type	▪ Written Exam		
Literature	▪ Wickham: *Advanced R* (CRC Press, 2014) Sedgewick: *Algorithms* (Addison-Wesley, 2011)		
Additional information& links	For further information, please see the chair home page: http://www.is.uni-freiburg.de		

Module	**Basic Income and Social Justice in the Social Contract Laboratory [SoCoLab] (Seminar)**		
Area of study / Profiles	► Economics and Politics ► Finance ► Information Systems and Network Economics		
Recommended Semester	1 to 4 semester	Mandatory/Elective	Elective
Module Coordinator	Prof. Bernhard Neumärker	Workload	120 hours
ECTS (credit points)	6 ECTS	Contact hours (SWS)	Block course (further information is available on the homepage)
Course Type	Blockcourse	Language	English
Frequency taught	Irregular		
Requirements	no special requirements		
Learning/ Qualification Target	▪ Becoming familiar with experimental logic and design and its application to social contracting, collective action and economic policy. ▪ Designing, conducting and analyzing own experiments ▪ Experiencing experimental approaches, especially with respect to social contracting, basic income, and income redistribution. ▪ Deepening the understanding of social contracts and rules of redistribution. ▪ Enhancing analytical thinking and understanding of contract and social justice theories. ▪ Experiencing and analyzing (experimental) consequences of different degrees of inequality and social immobility for the choice of social justice principles, tax rules and redistributive economic policy		
Content	SoCoLab seminar, winner of a University teaching award 2012, deviates from a usual seminar setting. The students, after reading the necessary papers and finishing the required assignments, will be welcomed during class to participate and discuss the elements of the theories and their ideas with Prof. Neumärker and his co-workers. The seminar consists of an introduction, two blocked meetings, a day of experiments with the participants, and a concluding session for the team experiments. In the first sessions (Part I), the theoretical foundations and political problems are laid out. After the introduction to experiment settings (Part II), participants follow the presentations and critical discussion on design and conduct team experiments (Part III). Participation in all the classes is obligatory in order to achieve maximum participation and understanding of the subjects. After the classes and experiments for seminar participants are over, teams are given a sufficient amount of time to develop an experiment on the topic. In the team experiments, the participants are expected to critically reflect on one of the issues tackled in the seminar. The experiment design formalities and more specific information on the content will be provided to all participants.		

	Content: ▪ Introductory Session ▪ Learning sessions: - 3 x 2 Hour Sessions on Social Contract, Basic Income Theories and Economic Problems of Inequality and Social Immobility - 3 x 2 Hour Sessions on Experimental Logic and Design and its application to Social Contracting on Basic Income and Public Inequality Regulation - 2 x 3 Hour Experimental Sessions - 2 x 2 Hour Feedback Sessions on Critical Discussion of the Theoretical Underpinnings and Experimental Outcomes
Examination Type	The overall grade is the weighted as a sum of all three elements of the seminar with the following weights: ▪ Team Experiment and Paper/Report on a Experiment: 60%, ▪ Assignments: 20%, ▪ Class Participation: 20%. The teams will be built, at the latest, after the “Experimental Sessions for Participants”.
Literature	Provided in the Introductory session
Additional Information &Links	For further information please see the chair home page http://www.wipo.uni-freiburg.de/Lehre

Module	Behavioral Economics		
Area of Study / Profiles	► Economics and Politics ► Finance ► Information Systems and Network Economics		
Recommended Semester	1st / 3rd semester	Mandatory/Elective	Elective
Module Coordinator	Prof. Dr. Dr. h.c. Lars P. Feld	Workload	Ca. 120 - 180 hours
ECTS (credit points)	4 or 6 ECTS	Contact Hours (SWS)	2h Lecture 2h Tutorial
Course type	▪ Lecture ▪ Tutorial	Language	English
Frequency taught	Irregular (Winter term)		
Requirements	No special requirements		
Learning/ Qualification Target	Students shall become familiar with the basic insights of the subject, the cutting-edge empirical methods used in this realm, and the latest research findings.		
Content	The area of “Behavioral Economics” studies the actual behavior of agents. It explicitly takes into account human emotions (e.g., perception of fairness, risk aversion) and attempts to model systematic deviations from standard economic theory with respect to human behavior. This lecture gives an introduction to “Behavioral Economics”, its main theories and implications. We will discuss models of human behavior and related studies that test these theories in an empirical way (mainly using experiments). It is expected that all participants in the lecture participate actively by reading the relevant papers. In the first lecture we will assign 10 papers to students who will give a short presentation of a paper (motivation, research design, findings) of max. 15 minutes over the whole semester. All relevant materials will be uploaded on ILIAS in October.		
Examination Type	PL (Written Exam) ▪ 4 ECTS: 60 min. ▪ 6 ECTS: 90 min.		
Literature	Cartwright, E. (2014). Behavioral Economics. Routledge.		
Additional Information & Links	For further information please see the chair home page https://www.ordo.uni-freiburg.de/en/teaching?set_language=en		

Module	Business Analytics		
Area of study / Profiles	► Finance ► Information Systems and Network Economics		
Recommended semester	2-4	Mandatory/Elective	Elective
Module cordinator	Prof. Dirk Neumann	Workload	Ca. 120 hours
ECTS (credit points)	4	SWS	2
Course type	Lecture	Language	English
Frequency taught	Irregular		
Requirements	The module builds upon the lecture “Business Intelligence” from the Bachelor program, but sets a different focus. Hence, having attended the Bachelor lecture is not a prerequisite, but an affinity for working with and analyzing data is recommended.		
Learning/ qualification target	The lecture aims at training students in the following methodologies: ▪ Clustering – the automated separation of large data sets into meaningful clusters ▪ Associations – pattern recognition based on the relationships between observations in the data set ▪ Prediction – using relationships between observations to predict future developments - Decision Trees - Support Vector Machines - Kernels - (Logistic) - Regression - Linear Discriminant Analysis - Bootstrapping		
Content	Data mining is becoming increasingly important to interpret the vast amounts of data that are accumulated today. In this lecture students are introduced to several techniques that allow them to extract previously unknown information from these enormous data sets. The gained insights can subsequently be used to support decision making in business or public administration.		
Examination type	Written Exam (60 min)		
Literature	▪ C.M. Bishop, *Pattern Recognition and Machine Learning*, Springer, New York, 2006. ▪ G. James, D. Witten, T. Hastie, R. Tibshirani, *An Introduction to Statistical Learning,* 4th edition, Springer, New York, NY, 2013. ▪ F. Provost, *Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking,* O’Reilly Media, 2013. ▪ J. Friedman, T.Hastie, R. Tibshirani, *The elements of statistical learning*, Springer, Berlin: Springer series in statistics, 2001.		
Additional information& links	For further information, please see the chair home page: http://www.is.uni-freiburg.de		

Module	Business Analytics (Seminar): Business Intelligence with R and Python		
Area of study / Profiles	► Information Systems and Network Economics		
Recommended Semester	2. to 4. semester	Mandatory/Elective	Elective
Module Coordinator	Prof. Dirk Neumann	Workload	Ca. 180 hours
ECTS (credit points)	6 ECTS	Contact Hours (SWS)	
Course Type	Seminar	Language	English
Frequency taught	See additional information		
Requirements	No special requirements. However, basic programming experience is recommended.		
Learning/ Qualification Target	Work on an individual scientific topic. Acquire programming & data mining skills.		
Content	Prior to the start of the Information Age in the late 20th century, companies were forced to collect data from non-automated sources manually. Companies lacked the computing capabilities necessary for data to be analyzed, and as a result, decisions primarily originated not from knowledge but from intuition. With the emergence of ubiquitous computing technology, company decisions nowadays rely strongly on computer-aided **"Data Mining"**. **Business Intelligence** refers to technologies that target how business information (or sometimes information in general) is collected, analyzed and presented. Combining these features results in software called Business Intelligence systems. These systems serve the purpose of providing better decision support. In this seminar, we will focus on what distinguishes the varying capabilities across Data Mining – namely the underlying methods. We will review different strategies for data collection, data analysis, and data visualization. Sample approaches include dimension reduction of big data, data visualization, model selection, clustering and forecasting. In particular, the seminar will answer the following questions: • **Forecasting:** Based on historical values, how can businesses predict future developments ahead of time? Given the current stock market prices, can we predict tomorrow's values? • **Data analysis:** How does weather impact electricity prices? Which parameters of second-hand cars correlate with their value? • **Clustering:** How can businesses group consumers into distinct categories according to their purchase behavior? Can businesses group job applicants into groups of similar characteristics? • **Dimension reduction:** How can businesses simplify a large amount of indicators into a smaller subset with similar significance? Can the huge set of features characterizing		

	supermarkets (e.g. gas station, discounts, service) be combined into groups? Individual assignments will consist of a specific problem from Data Mining. Each participant will be provided with a dataset to which a certain method should be applied to using the programming languages Python or R.
Examination Type	Usually a presentation and a written paper
Literature	Among others, we will cover material from the following books: - Wickham, Hadley, and Garrett Grolemund. R for data science: import, tidy, transform, visualize, and model data. O'Reilly Media, Inc., 2016. - Friedman, Jerome, Trevor Hastie, and Robert Tibshirani. The elements of statistical learning. Vol. 1. New York: Springer series in statistics, 2001.
Additional Information & Links	For further information, please see the chair home page: http://www.is.uni-freiburg.de

Module	Business Analytics (Seminar): Webscraper Development and Data Analysis using R and Python		
Area of study / Profiles	► Information Systems and Network Economics		
Recommended Semester	2 - 4		
Module Coordinator	Prof. Dirk Neumann	Mandatory/Elective	Elective
ECTS-Points	6	Workload	Ca. 120 - 180 Stunden
Course Type	Seminar	SWS	
Frequency taught	See information	Language	Deutsch / Englisch
Requirements	There are no formal requirements. However, basic programming skills are recommended (preferably, you will work in R and/or Python). For students who are less familiar to programming, it is also possible to work with a precollected dataset and focus on the data mining part. Please indicate in your application if you would prefer this setup. Please also indicate your level of programming expertise.		
Learning and Qualification Target	In this seminar, students will acquire two kinds of skills. First, students will learn to build a web scraper to collect their own dataset from the web. Second, students will review different strategies for data analysis, and data visualization.		
Content	Prior to the start of the Information Age in the late 20th century, companies were forced to collect data from non-automated sources manually. Companies lacked the computing capabilities necessary for data to be analyzed, and as a result, decisions primarily originated not from knowledge but from intuition. With the emergence of ubiquitous computing technology, company decisions nowadays rely strongly on computer-aided “Data Mining”. In this seminar, students will acquire two kinds of skills. First, students will learn to build a web scraper to collect their own dataset from the web. Second, students will review different strategies for data analysis, and data visualization. Students are asked to describe and visualize the content of their dataset. Optionally, committed students can pick a statistical method / data mining algorithm of their choice and perform a descriptive or predictive data mining task on their dataset.		
Examination Type	Usually a presentation and a written paper		
Literature	Among others, we will cover material from the following books: - Wickham, Hadley, and Garrett Grolemund. R for data science: import, tidy, transform, visualize, and model data. O'Reilly Media, Inc., 2016. - Friedman, Jerome, Trevor Hastie, and Robert Tibshirani. The elements of statistical learning. Vol. 1. New York: Springer series in statistics, 2001.		
Additional Information & Links	Every semester there is at least one Seminar on Business Analytics covering one specific topic. More information at the website of the Chair (http://www.is.uni-freiburg.de/).		

Module	Computational Finance		
Area of study / Profiles	► Finance ► Information Systems and Network Economics		
Recommended semester	2nd year	Mandatory/elective	Elective
Instructor	Dr. Ernst August v. Hammerstein	Work load	120 hours
ECTS (credit points)	6	Contact hours (SWS)	2 Lecture 2 Tutorial
Course type	▪ Lecture ▪ Computer Course	Language	English
Frequency taught	Irregular		
Requirements	▪ Principles of Finance ▪ Futures and Options. Programming knowledge in other languages/software packages is *not* required resp. expected, but may be helpful of course.		
Learning/ qualification target	Introduction to the R programming environment and its application to calculate and visualize interest rates, option prices, loss distributions, and risk measures.		
Content	In this course, we first give a concise introduction to the R programming environment. With help of the provided tools, we then develop some programs for bootstrapping zero rates, pricing vanilla options in binomial trees and exotic options in time-continuous models via Monte Carlo methods. We also regard some aspects of hedging and convergence in this context. Further we discuss the implementation of risk measures, the sampling of loss distributions in elementary credit risk models. Depending on the time left, we may additionally discuss the simulation of (approximate) solutions to stochastic differential equations.		
Examination type	90 min. computer-based exam (some small programming exercises) at the end of the semester.		
Literature	▪ Hull, J.C.: *Options, Futures, and other Derivatives*, 7th ed., Prentice Hall, 2009 ▪ Lai, T.L., Xing, H.: *Statistical Models and Methods for Financial Markets*, Springer, 2008 ▪ Seydel, R.U.: *Tools for computational finance*, 4th ed., Springer, 2009 ▪ Any introductory book to the R programming environment, e.g. ▪ Braun, J., Murdoch, D.J.: *A first course in statistical programming with R*, Cambridge University Press, 2007 See also the documentation on the official R homepage		
Additional information & links	For more information: https://www.stochastik.uni-freiburg.de/lehre		

Module	Credit Risk		
Area of study / Profiles	► Finance ► Information Systems and Network Economics		
Recommended semester	2nd year	Mandatory/elective	Elective
Module coordinator	Prof. Eva Lütkebohmert-Holtz	Work load	120 hours
ECTS (credit points)	6	Contact hours (SWS)	2 Lecture 2 Tutorial
Course type	▪ Lecture ▪ Tutorial	Language	English
Frequency taught	irregular		
Requirements	▪ Principles of Finance ▪ Futures and Options		
Learning/ qualification target	Introduction to single name and portfolio credit risk models and pricing of credit derivatives		
Content	Credit risk represents by far the biggest risk in the activities of a traditional bank. In particular, during recession periods financial institutions lose enormous amounts of money as a consequence of bad loans and default events. In the last two decades, a multitude of credit-linked derivatives has been developed to manage and transfer credit risks in an efficient and standardized way. These allow banks to shape their risk profile according to regulatory standards. In this lecture, we introduce some of the most popular single name- and portfolio credit models and show how these are used to quantify credit risk and to price credit derivatives like credit default swaps (CDS), basket default swaps and collateralized debt obligations (CDO).		
Examination type	120 min. written examination at the end of the semester		
Literature	▪ Bielecki, T.R., Rutkowski, M.: Credit Risk: Modeling, Valuation, and Hedging. Springer, 2002 ▪ Bluhm, C., Overbeck, L.: Structured credit portfolio analysis, baskets & CDOs. Chapman & Hall/CRC Press, 2006 ▪ Duffie, D., Singleton, K.F.: Credit Risk: Pricing, Measurement, and Management. Princeton University Press, 2003 ▪ Lando, D.: Credit Risk Modeling: Theory and Applications. Princeton University Press, 2004 ▪ Lütkebohmert, E.: Concentration Risk in Credit Portfolios. Springer, 2009 ▪ Schönbucher, P.J.: Credit Derivatives Pricing Models. Wiley, 2003		
Additional information & links	For further information please see the chair home page: https://www.finance.uni-freiburg.de/		

Module	**Digital and Network Economics**		
Area of study / Profiles	► Specialization Information Systems and Network Economics ► Elective Economics and Politics ► Elective Finance		
Recommended semester	2nd	Mandatory/elective	Mandatory (for ISNE profile) Elective for E&P and ISNE
Module coordinator	Prof. Germain Gaudin	Work load	180 hours
ECTS (credit points)	6	Contact hours (SWS)	2 Lecture 2 Tutorial
Course type	▪ Lecture ▪ Tutorial	Language	English
Frequency taught	Every summer semester		
Requirements	• Strong command of intermediate/advanced microeconomics. The following texts are suitable for preparation: M. J. Osborne and A. Rubinstein: Models in Microeconomic Theory, Open Book Publishers, 2020 (electronic version freely available on the publisher's website), and G. A. Jehle and P. J. Reny: Advanced Microeconomic Theory, FT Prentice Hall / Pearson, 3rd Edition, 2011. • The courses Advanced Microeconomics I is strongly recommended as a prerequisite. • Good command of industrial organization. The following text is suitable for preparation: P. Belleflamme and M. Peitz: Industrial Organization: Markets and Strategies, Cambridge University Press, 2nd Edition, 2015. • The courses Industrial Organization is recommended as a prerequisite. • Strong notions in mathematics		
Learning/ qualification target	• Provide students with a solid foundation in microeconomic theory applied to network industries and digital markets, using mathematical techniques. • Provide students with a deeper knowledge in the relevant economic effects of digital technology. • Provide students with a deeper knowledge in the relevant economic effects that prevail in network industries.		
Content	This course will cover various microeconomic aspects that are particularly relevant to network industries and the digital economy. The first part of the course will cover "Network economics," i.e. the economic analysis of so-called network industries such as telecommunications, energy, railways, utilities, etc. 1. Introduction to Network Economics 2. Decision-relevant costs and pricing 3. Compatibility standards in networks 4. Universal service 5. Market power regulation in network industries The second part of the course will cover "Digital Economics," i.e. the economic analysis of the changes in economic activity stemming from digital technology. It will build on the notions introduced in the first part of the course.		

	6. Introduction to Digital Economics 7. Online prices and platforms 8. Digital goods and Piracy 9. Online advertising and Privacy 10. Regulation in digital markets Note: Other aspects relevant to the digital economy (including mechanism design, auctions, or reputation mechanisms) are addressed in the course “Electronic Markets.”
Examination type	Written examination at the end of the semester
Literature	• Goldfarb, A., and Tucker, C., “Digital Economics,” *Journal of Economic Literature*, 2019, 57(1), 3-43. • Knieps, G., *Network Economics: Principles – Strategies – Competition Policy*, Springer, 2015. • https://www.cambridge.org/core/books/economics-of-platforms/1465A930513786676D369128B0AF9D21
Additional information & links	https://www.competition.uni-freiburg.de/

Modul	Dynamic Fiscal Policy		
Area of study / Profiles	► Economics and Politics ► Finance ► Information Systems and Network Economics		
Recommended Semester	1. to 4. semester	Mandatory/Elective	Elective
Module Coordinator	Prof. Bernd Raffelhüschen	Workload	180 Hours
ECTS (credit points)	6 ECTS	Contact Hours (SWS)	2h Workshop
Course Type	Workshop (Lecture plus computer sessions)	Language	English
Frequency taught	Every summer term		
Requirements	Students should have passed lectures “Öffentliche Ausgaben” and “Öffentliche Einnahmen” or introductory public economic courses at their home universities. In addition, students should have some basic knowledge of Microsoft Excel or any other spreadsheet software.		
Learning/ Qualification Target	The course is designed to provide students with an in-depth understanding of the dynamic macroeconomic effects of fiscal policy, general equilibrium theory, neoclassical growth theory and the model of overlapping generations.		
Content	The course is structured in four case studies, including the introduction of a pay-as-you-go social security scheme, a deficit-financed tax cut, the incidence of capital income taxation and generational accounting in general equilibrium. Each case study consists of two parts. A lecture providing students with the theoretical background of the case study at hand and an accompanying computer session devoted to the analysis of the dynamic macroeconomic effects by means of a numerical simulation.		
Module Courses	Lecture and computer sessions (compulsory attendance)		
Examination Type	▪ four graded worksheets ▪ participation during the computer sessions ▪ oral exam		
Literature	▪ Auerbach, A. J. und L. J. Kotlikoff (1987), Dynamic Fiscal Policy, Cambridge: Cambridge University Press. ▪ Raffelhüschen, B. (1989), Alterssicherung und Staatsverschuldung, Finanzarchiv, 47, 60-76. ▪ Raffelhüschen, B. (1993), Funding Social Security Through Pareto-optimal Conversion policies, Journal of Economics, 7, 105-131. ▪ Raffelhüschen, B. und A. E. Risa (1997), Generational Accounting and Intergenerational Welfare, Public Choice, 93: 149–163.		
Additional Information & Links	Further information about the application process is available on the homepage of the department: http://www.fiwi1.uni-freiburg.de/lehre/veranstaltungen.html		

Module	Econometric Risk Management in Finance		
Area of study / Profiles	► Economics and Politics ► Finance ► Information Systems and Network Economics		
Recommended semester	3–4	Mandatory/elective	Elective
Module coordinator	Prof. Sevtap Kestel	Work load	Approx. 120 hours
ECTS (credit points)	4	Contact hours (SWS)	2 (L) + PC tutorial
Course type	Block course	Language	English
Frequency taught	Irregular		
Requirements	Knowledge in Principles of Finance, Econometrics will be an advantage to follow the theoretical part of the course. The quantitative part of the lecture requires background in Econometrics.		
Learning/ qualification target	This course provides an overview on the risk management techniques, especially, on finance by using econometric and statistical techniques. The main parts of the course are quantitative analysis and the components of risks related to financial markets. The quantitative part contains characterizing random variables, linear transformation of random variables and their distributions, simulation technique, simulation of Markov processes and yields, VaR methods, linear models, time variation at risk, GARCH, EWMA, Risk adjusted performance measures, risk and risk aversion with utility functions and expected values, stress testing and back testing. Risk management practices introduce the analyses of market, credit, operational and investment risk in general. Case studies discussing current examples of the lack of proper risk management in world-wide known companies in last decade constitute the application part of the lecture which will be covered during the lectures and tutorials. The targets proposed will be achieved through the interactive classwork and assignments given through the semester. A term project may be given to enable students to practice the topics covered.		
Content	Highly changing demand and supply structure in the market, increasing effect of globalization, economic fluctuations, environmental disasters are just some of the challenges that economies have to consider. For these reasons Risk Management became one of the vital steps to be taken as an important part of the economic policy. ▪ Introduction Risk management definition, steps and major techniques; risk aversion, utility and expectation, Jensen's inequality, Example: Determination of optimal insurance premium by utility theory ▪ Quantitative Analysis: Random variable, linear transformation of random variables, sum and portfolios of random variables and their distributions, Simulation techniques ▪ Risk Management practices: Market risk management, credit risk management, operational risk management, investment risk management, Basel II. ▪ VaR, Simulating VaR, Markov process, yields, Risk adjusted performance measures, The mean-variance criterion, stress testing, back testing		

	▪ Linear models, time variation at risk, GARCH, EWMA ▪ Case studies
Examination type	Assignments and Final Exam
Literature	▪ Financial Risk Manager Handbook by Philippe Jorion, 6th Ed., John Wiley and Sons, 2009. ▪ Risk Management by Michel Crouhy, Dan Galai, Robert Mark, McGraw Hill, 2000. ▪ Investment Risk Management by Yen Yee Chong, John Wiley, 2004.
Additional information & links	For further information please see the chair home page: http://www.macro.uni-freiburg.de/news/home

Module	**Economic policy during the Eurocrisis: Evidence-based policy analysis of the EMU**		
Area of study / Profiles	► Economics and Politics		
Recommended Semester	1. - 4. semester	Mandatory/Elective	Elective
Module Coordinator	Prof. Dr. Dr. h.c. Lars P. Feld	Workload	Ca. 120 – 180 Hours
ECTS (credit points)	4 or 6 ECTS	Contact Hours (SWS)	2h Lecture 2h Tutorial
Course Type	▪ Lecture ▪ Tutorial	Language	English
Rotation	Irregular		
Requirements	no special requirements		
Learning / Qualification Target	By the end of the course, students are able to • Formulate hypotheses informed by theory and test them with empirical methods on a medium level of macroeconometrics with STATA. Inference is tested with econometrics from the domain of time series and panel time series for macropanels. • Assess fundamental macroeconomic models in advanced macroeconomics. • Apply empirical test strategies for hypothesis testing based on theoretical models.		
Content	Over the past decade the European Union has faced a series of economic crises connected to debt in the private and public sectors. Specific policy measures have been applied to the Eurozone economies with varied success. The policy prescriptions, rules and institutional organization of the European Monetary Union (EMU) have themselves become a focus for constant debate. Taking the theoretical and institutional framework of the EMU as its basis, this course will focus on two research questions: to what extent does the theoretical and institutional framework of the EMU explain its strengths and weaknesses? And, what effects do interventions in the EMU's fiscal and monetary framework have on key macroeconomic variables? The overall aim will be to understand how prescribed policy measures have affected the Eurozone economies. The course is structured in two parts. Part 1 provides a general institutional background of the EMU, and the working properties for monetary and fiscal policy. In Part 2, based on these models and using a medium level of macroeconometrics, students will formulate hypotheses and test them. Applied economic models will be put under close empirical scrutiny. In this course, students will use the data analysis tool STATA – a data analysis program employed in data related businesses, governments and academia – in order to obtain and analyze economic data. Students will receive an intensive tutorial on STATA. They will thus learn how Economists (and specifically the Council of German Economic Experts, but also the German Ministry of Finance, the European Central Bank, and the European Commission) measure the effects of monetary and fiscal policy interventions within the EMU.		

	This is a course conducted in cooperation with the Walter Eucken Institute, a German economic research institute rated among the top 5 policy-oriented research institutions in Germany. The Walter Eucken Institute evaluates monetary and fiscal policy interventions.
Examination Type	Written Exam ▪ 4 ECTS: 60 min. ▪ 6 ECTS: 90 min.
Literature	**REQUIRED READINGS:** • Checherita-Westphal, C., Zdarek, V. (2017) Fiscal reaction function and fiscal fatigue. Evidence for the euro area, ECB working paper No. 2036. • Council of Economic Experts (2017/18) Annual Report 2017 (in preparation) • Council of Economic Experts (2016/17) Annual Report 2016 • https://www.sachverstaendigenrat-wirtschaft.de/fileadmin/dateiablage/gutachten/jg201617/kurzfass_eng_2016_17.pdf • De Grauwe, P., The Economics of Monetary Union, Oxford, 2012. • Drazen, A., Political Economy in Macroeconomics, Princeton, 2000. • Greiner, A., Koeller, U. and Semmler, W. (2007), `Debt sustainability in the european monetary union: Theory and empirical evidence for selected countries', Oxford Economic Papers 59(2), 194-218, 2007 • Wooldrige, J.M. (2013) Introductory Econometrics. A Modern Approach, 5th edition, South-Western.
Additional Information & Links	www.ordo.uni-freiburg.de

Module	Economics of Social Justice		
Area of study / Profiles	► Economics and Politics ► Finance ► Information Systems and Network Economics		
Recommended semester	1-4	Mandatory/elective	Elective
Module coordinator	Prof. Bernhard Neumärker	Work load	120 - 180 hours
ECTS (credit points)	4 or 6	Contact hours (SWS)	2 (L) 2 (T)
Course type	▪ Lecture ▪ Tutorial	Language	English
Frequency taught	Winter term		
Requirements	Lectures in “Advanced Microeconomics” and “Economic Policy and Public Choice“ are recommended		
Learning/ qualification target	▪ understanding the role of justice and fairness in economics analysis and collective decision-making ▪ learning how to apply theories and norms of justice to specific problems of economic policy ▪ assessing social justice as a part of positive economic analysis ▪ assessing social justice as a part of normative economic analysis ▪ approaching the development and determination of just constitutional rules for a society		
Content	Practical policy choices involve sacrificing the well-being and the means of some for the benefits of others, as compared with alternatives that could have been chosen. Even if it is not the only thing that matters, the problem of distributive justice is essential, omnipresent and inevitable. Economists not only have failed to answer the questions of the just distribution, but have tried harder to avoid the problem than to solve it. They have a great deal to say about efficiency and potential compensation, but they are nearly silent concerning meaningful principles of justice and their effects on economic policy. One has to integrate the following normative and positive aspects of justice into the analysis of economic policy: Is social justice equality? Why (or why not)? Among whom? Is equality to each according to her abilities, her work or her consumption? Or else is it equality of opportunities, liberties, powers and/or rights? Do we need a just process or a just outcome of policy making? What are the most important elements of a just constitution? How is the reason of just rules applied to daily economic policy?		
Examination type	▪ 4 ECTS: Written exam (60 min) ▪ 6 ECTS: Written exam (90 min)		
Literature	▪ Kolm, S.-C.: Modern theories of justice, Cambridge et al. 1996. ▪ Konov, J.: Which is the fairest one of all? A positive analysis of justice theories, in: Journal of economic literature 41 (2003),1188-1239. ▪ Moulin, H.J.: Cooperative microeconomics, Princeton 1995. ▪ Mueller, D.C.: Public choice III, Cambridge 2003. ▪ Roemer, J.E.: Theories of distributive justice, Cambridge et al. 1996. ▪ Schotter, A.: Free Market Economics, 2nd Ed., Oxford et al. 1990. ▪ Silver, M.: Foundations of Economic Justice, Oxford et al. 1989. ▪ Zajac, E.E.: Political economy of fairness, Cambridge/MA 1995.		
Additional information & links	For further information please see the chair home page: http://www.wipo.uni-freiburg.de		

Module	Electronic Markets		
Area of study / Profiles	► Specialization Information Systems and Network Economics ► Elective Economics and Politics ► Elective Finance		
Recommended Semester	1-4	Mandatory / Elective	Elective
Module coordinator	Prof. Dirk Neumann	Work load	180 hours
ECTS (credit points)	6	SWS	2 (L) 1 (E)
Course type	▪ Lecture ▪ Exercise	Language	English
Frequency taught	Summer term		
Requirements	No special requirements		
Learning/ qualification target	Electronic markets are an essential building block of today's networked service economy. We face them in automated stock exchanges, auctions at ebay and Google, as well as in industrial contracting. By enabling the trade and allocation of frequencies for wireless communication (UMTS, LTE) and emission certificates, electronic markets shape the future of our planet, our economies, and our societies. However, the design and implementation of market mechanisms is highly complex. Markets need to be protected from cheating by individual agents or full-blown market failures. The lecture "Electronic Markets" seeks to provide students with an understanding of how electronic market platforms are analyzed, designed, and introduced.		
Content	The topics covered in the lecture can be divided into three broad areas: ▪ *The microstructure*. This area includes rules that define how markets operate and covers, for instance, a recap of game theory and auction rules for single-unit and combinatorial auctions. This is the main focus of the lecture. ▪ *The IS infrastructure*. This area contains issues concerning the implementation of electronic markets, such as computational complexity. ▪ *The business structure*. This area outlines how the electronic market is offered to its customers and covers issues such as enforcement, trust, and monitoring. Students learn to comprehend, to enhance, and to evaluate the design potentials of electronic market platforms. The participation in the exercise sessions is highly recommended. During the exercise sessions, students will get hands-on experiences with game-theoretical experiments and different auctions formats.		
Examination type	Written Examination		
Literature	▪ Roth, A. The Economist as Engineer: Game Theory, Experimental Economics and Computation as Tools for Design Economics. Econometrica 70(4): 1341-1378, 2002. ▪ Weinhardt, C. ,Holtmann, C., Neumann, D. Market Engineering. Wirtschaftsinformatik 45(6): 635-640, 2003. ▪ Wolfstetter, E. Topics in Microeconomics - Industrial Organization, Auctions, and Incentives. Cambridge: Cambridge University Press, 1999.		
Additional information & links	For further information, please see the chair home page: http://www.is.uni-freiburg.de		

Module	Empirical Research Seminar in Institutional Economics		
Area of study / Profiles	► Economics and Politics		
Recommended semester	1-4	Mandatory/elective	Elective
Module coordinator	Prof. Tim Krieger	Work load	180
ECTS (credit points)	6	Contact hours (SWS)	2h Seminar, 2h Tutorial
Course type	Seminar	Language	English
Frequency taught	Every second semester (winter term)		
Requirements	Statistics and econometrics		
Learning/ qualification target	The aim of the seminar is twofold: A specific topic will be covered in depth so that students gain a thorough understanding of this topic. At the same time, students will be trained in applying empirical methods using the statistical program Stata in the tutorial. Students will learn how to critically discuss, replicate and extend empirical scientific studies and apply this in their seminar paper and presentation.		
Content	Seminar topics change every semester. The Stata tutorial will include sessions on managing data, linear regression models and further techniques related to the respective topic.		
Examination type	▪ Seminar paper ▪ Presentation ▪ Participation in the discussion ▪ Stata Do- and log-files		
Literature	Changes every semester		
Additional information & links	For further information, please see the chair home page: http://www.wguth.uni-freiburg.de/aktuelles		

Module	Finance, climate change, and the global energy transition		
Area of study / Profiles	► Finance		
Recommended semester	3rd	Mandatory/elective	Elective
Module coordinator	Prof. Eva Lütkebohmert-Holtz, Dr. Mirko Schäfer	Work load	180 hours
ECTS (credit points)	6	Contact hours (SWS)	30h attendance in class
Course type	Seminar	Language	English
Frequency taught	irregular		
Requirements	none		
Learning objectives	After successful completion of the course, the student is able to… • Describe scenarios for climate change and for the transformation to a low-carbon economy • Discuss current global trends for the investment in low-carbon energy systems • Relate climate risks and policy risks to systemic risk in financial systems • Communicate key points from current reports and scientific articles covering the global energy transition, climate risks, and their relation to the financial system		
Content	• Scenarios for climate change and for the transition to a low-carbon economy • The role of climate change and the energy transition for financial stability • The interplay between policy, investment dynamics, and technological development • Classification of sustainable investments and assessment of climate-related risks • The impact of the energy transition on capital markets • The fossil fuel divestment movement		
Examination type	Written report and oral presentation		
Literature	▪ „A call for action – Climate change as a source of financial risk", Network for Greening the Financial System (NGFS), 2019 ▪ „Annual Review 2018-2019", Carbon Tracker, 2019 ▪ „World Energy Investment 2020", International Energy Agency (IEA), 2020 ▪ "Climate change challenges for central banks and financial regulators", E. Camiglio et al., Nature Climate Change 8, 462-468, 2018 Further literature will be announced in the course.		
Additional information & links	For further information please see the Chair's home page: https://www.finance.uni-freiburg.de		

Module	Financial Econometrics		
Area of study/Profile	► Finance ► Information Systems and Network Economics		
Recommended semester	3rd semester	Mandatory/elective	Elective
Module coordinator	Prof. Dr. Roxana Halbleib	Work load	Approx. 180 hours
ECTS (credit points)	6 ECTS	Contact hours (SWS)	2h Lecture 2h Exercise Session
Course type	• Lecture • Exercise Session	Language	English
Rotation	Every Winter Term		
Requirements	Statistics, Mathematics, Econometrics, Time Series Analysis, Principles of Finance		
Learning/ qualification target	This course aims at endowing students with the necessary econometric knowledge and tools for undergoing empirical research on financial data.		
Content	The course covers the fundamentals of financial econometrics and empirical finance with emphasis on both theoretical foundations and empirical applications. The course aims at sharpening students' view on the limitations of the theoretical models and their empirical applications as well as at equipping students with a profound knowledge of financial data handling and programming skills in Python. The main topics covered are: 1. Empirical Properties of Financial Data 2. Univariate GARCH Models 3. Univariate Stochastic Volatility Models 4. Application: Value at Risk and Expected Shortfall 5. Multivariate GARCH Models 6. Application: Portfolio Analysis 7. High-Frequency Finance 8. Realized (Co)variance Models		
Examination type	Final Exam (90 minutes)		
Literature	Campbell, J. Y., A. W. Lo and A. C. MacKinlay (1997): *The Econometrics of Financial Markets,* Princeton University Press. Francq, C. and Zakoian J. M. (2011): *GARCH models: structure, statistical inference and financial applications,* Wiley.com. Franses & van Dijk (2000): *Nonlinear Time Series Models in Empirical Finance,* Cambridge University Press Cambridge. Gourieroux C. and J. Jasiak (2001): *Financial Econometrics,* Princeton University Press. Hayashi, F. (2002): *Econometrics,* Princeton University Press. McNeil, A. J., R. Frey and P. Embrechts: *Quantitative Risk Management: Concepts, Techniques and Tools,* Princeton University Press.		

	Tsay, R. S. (2005). *Analysis of financial time series* (Vol. 543). John Wiley & Sons. Andersen T., Davis R., Kreiß J. and Mikosch T. (2009): Handbook of Financial Time Series, Springer.
Additional information & links	Website: http://www.econometrics.uni-freiburg.de/teaching The course material, updates and all relevant information is available on ILIAS. Students have to sign in for this course in HISinOne. The registration in ILIAS will be carried out automatically

Module	Futures and Options		
Area of study / Profiles	► Finance		
Recommended semester	3rd	Mandatory/elective	Elective
Module coordinator	Prof. Eva Lütkebohmert-Holtz	Work load	120 hours
ECTS (credit points)	6	Contact hours (SWS)	2 Lecture 2 Tutorial
Course type	▪ Lecture ▪ Tutorial	Language	English
Frequency taught	Every winter semester		
Requirements	Principles of Finance		
Learning/ qualification target	Introduction to basic principles of risk-neutral valuation of futures, standard and exotic options as well as interest rate derivatives.		
Content	This course covers an introduction to financial markets and products. Besides futures and standard put and call options of European and American type we also discuss interest-rate sensitive instruments such as swaps. For the valuation of financial derivatives we first introduce financial models in discrete time as the Cox-Ross-Rubinstein model and explain basic principles of risk-neutral valuation. Finally, we will discuss the famous Black-Scholes model which represents a continuous time model for option pricing.		
Examination type	120 min. written examination at the end of the term		
Literature	▪ Chance, D.M., Brooks, R.: *An Introduction to Derivatives and Risk Management*, 8. ed., South-Western, 2009. ▪ Hull, J.C.: *Options, Futures, and other Derivatives*, 7. ed., Prentice Hall, 2009. ▪ Shreve, S.E.: *Stochastic Calculus for Finance I: The Binomial Asset Pricing Model*, Springer Finance, 2005. ▪ Strong, R.A.: *Derivatives. An Introduction*, 2. ed., South-Western, 2004.		
Additional information & links	For further information please see the Chair's home page: https://www.finance.uni-freiburg.de		

Module	Global Economic Governance		
Area of study / Profiles	► Economics and Politics ► Finance		
Recommended semester	1-4	Mandatory/elective	Elective
Module coordinator	Prof. Tim Krieger	Work load	180 hours
ECTS (credit points)	4 or 6	Contact hours (SWS)	2 (L) 2 (T)
Course type	▪ Lecture ▪ Tutorial	Language	English
Frequency taught	Every winter term		
Requirements	Recommended: good working knowledge of microeconomics and trade theory		
Learning/ qualification target	In this lecture, students acquire a solid knowledge of the institutions of global economic governance. Furthermore, they will learn in a systematic manner how the international economic order evolves in an environment without supranational government, i.e., how mechanisms and processes of self-enforcement shape the international order.		
Content	Closed economies can be governed within the national institutional framework. This is no longer the case in a globalized world with strong transnational linkages, e.g., through trade or factor mobility. Under these circumstances, there is a need to establish international rules that guarantee smooth operation of the global economy. Since there is no global government, issues such as the enforcement of property rights in the international arena, the provision of global public goods or the internalization of cross-border externalities are difficult to resolve. Setting up a global economic order is therefore a major challenge because it requires not only the coordination of several independent actors (i.e., countries), but the establishment of a coordination mechanism as a first step. Hence, in the course self-enforcing mechanisms and institutions of global governance will be discussed and formal economic analysis is applied to the genesis and functioning of the most important institution of global economic governance, the World Trade Organization (WTO/GATT).		
Examination type	Written Exam: ▪ 4 ECTS: To earn 4 ECTS a 60 minutes exam based on the lecture material has to be passed. ▪ 6 ECTS: Written exam (90 minutes)		
Literature	▪ Bagwell, K.; Staiger, R.W. (2002): The Economics of the World Trading System. MIT Press: Cambridge/MA and London. ▪ Hoekman, B.M.; Kostecki, M.M. (2008): The Political Economy of the World Trading System, Oxford University Press, Oxford. Further readings will be provided before and during the class		
Additional information & links	For further information, please see the chair home page: http://www.wguth.uni-freiburg.de/aktuelles		

Module	Industrial Organization		
Area of study/Profile	► Economics and Politics ► Finance ► Information Systems and Network Economics		
Recommended semester	1.-4.	Mandatory/elective	Elective
Module coordinator	Prof. Germain Gaudin	Work load	120 hours
ECTS (credit points)	6	Contact hours (SWS)	4
Course type	• Lecture • Tutorial	Language	English
Rotation	Every winter semester		
Requirements	Strong command of intermediate microeconomics and game theory. Preferably: knowledge of the courses “Advanced Microeconomics I” and “Advanced Microeconomics II”		
Learning/ qualification target	This course builds on basic microeconomics concepts to study in detail the strategic interactions between different firms and between firms and consumers form an economic point of view. Students will become familiar with how markets work when perfect competition is not an acceptable assumption on the supply side. This course is recommended for students aiming at deepening their knowledge in Industrial Organization, regulatory or competition economics, with an aim to pursue a career as economists in large firms, public organizations, economic consultancies, or in a Ph.D. program.		
Content	The course first introduces basic concepts in Industrial Organization to study imperfect competition and the determinants of market power, building on the students’ knowledge of microeconomics and game theory. It then proceeds to analyze firms’ pricing or product strategies and their effects. The course will also cover important topics in competition policy, such as cartels and merger policy. Finally, the course will then proceed with an analysis of market features that are common to digital markets, such as network effects and two-sided platforms.		
Examination type	▪ Written examination at the end of the semester		
Literature	▪ P. Belleflamme and M. Peitz, Industrial Organization: Markets and Strategies, CUP, 2nd ed., 2015. ▪ J. Tirole, The Theory of Industrial Organization, MIT Press, 1988.		
Additional information & links	www.competition.uni-freiburg.de		

Module	Introduction to Empirical Economics Using STATA		
Area of study / Profiles	► Economics and Politics		
Recommended semester	3rd - 4th semester	Mandatory/elective	Elective
Module coordinator	Prof. Dr. Günther Schulze Dr. Nikita Zakharov	Work load	Ca. 120 hours
ECTS (credit points)	4 or 6 ETCS	Contact hours (SWS)	2h Lecture 2h Tutorial
Course type	▪ Lecture ▪ Tutorial	Language	English
Rotation	irregular		
Requirements	Good knowledge of Econometrics; the successful completion of Intermediate Econometrics or an equivalent course is strongly recommended (basic statistics is not enough).		
Learning/ qualification target	The course provides the students with the knowledge and programming skills sufficient to undertake empirical research on their own (e.g., for writing their master thesis).		
Content	Today, quantitative analysis is the primary tool of economists. The course will introduce students to the statistical software Stata, which is widely used in empirical research. Participants will master data collection, building datasets, data diagnostics, regression analysis, and production of tabulated and graphical output. The lecture part will introduce primary commands with practical examples. The tutorial part will focus on the coding exercises employing datasets from the existing empirical papers on the political economy and development economics.		
Examination type	Exam		
Literature	Literature will be announced at the beginning of the course		
Additional information & links	The course is taught by Dr. Nikita Zakharov. A preliminary registration is required, please check the information on the homepage of Prof. Schulze's chair at https://www.iep.uni-freiburg.de/teaching.		

Module	Labor Economics and Causal Machine Learning Using R		
Area of study / Profiles/Profile	► Economics and Politics ► Finance ► Information Systems and Network Economics		
Recommended semester	3rd - 4th semester	Mandatory/elective	Elective
Module coordinator	Prof. Dr. Alexander Spermann Prof. Dr. Günther Schulze	Work load	120 hours
ECTS (credit points)	4	Contact hours (SWS)	2 hours
Course type	Block course (lecture style, case studies and complementary learning videos)	Language	English
Frequency taught	Irregular		
Requirements	No special requirements		
Learning/ qualification target	The course covers empirical labor economics and modern econometrics. It will combine lecture style and practical exercises using R in class.		
Content	• Modern approach to Econometrics • Fundamental evaluation problem • Potential outcome approach • Methods: RCT, IV, BAE, DiD, RDD • Introduction to Causal Machine Learning • Labor Market and Education		
Examination type	Exam, 60 min. !!!Students who passed the exam “Labor Economics Using R” or “Modern Econometrics Using R” cannot take the exam in this course!!!		
Literature	- Angrist, J. D., and Pischke, J.: Mastering Metrics, The Path from Cause to Effect, Princeton University Press, current edition. - Boeri, T., and Van Ours, J.: The economics of imperfect labor markets. Princeton University Press, current edition. - Heiss, F.: Using R for Introductory Econometrics, Düsseldorf, current edition. - James, G. et al. (2017): An Introduction to Statistical Learning, Springer, New York. - Klinkhammer, D., & Spermann, A. (2020): Eine Einführung in die empirische Kausalanalyse und Machine Learning mit R, UTB-Lehrbuch, wbv, Gütersloh. - Taddy, M. (2019): Business Data Science, Mc GrawHill, New York. - Wooldridge, J.: Introductory Econometrics, A Modern Approach, Cengage Learning, current edition. - + Selected papers		
Additional information & links	The course is held by Prof. Dr. Alexander Spermann. https://www.iep.uni-freiburg.de/teaching		

Module	Mathematical Methods for Economics and Finance		
Area of study / Profiles	► Economics and Politics ► Finance ► Information Systems and Network Economics		
Recommended Semester	1st year	Mandatory/Elective	Elective
Module Coordinator	Prof. Dr. Eva Lütkebohmert-Holtz	Work load	120 hours
ECTS (credit points)	6	Contact hours (SWS)	2 Lecture 2 Tutorial
Course Type	▪ Lecture ▪ Tutorial	Language	▪ English
Frequency taught	Winter term		
Requirements	Good command of calculus and linear algebra at the undergraduate level		
Learning / Qualification Target	This lecture is aimed at students of the MSc VWL and MSc Economics (all Profiles) who are at the beginning of their studies. Mathematical tools going beyond the undergraduate level are provided. The lecture will cover a range of relevant mathematical tools and techniques that are typically required for further studies in economics. At the end of the course students should be able to understand and apply these tools. The methods discussed in class help students to read current economic research papers and work with economic models. Thus, they might be able to fully concentrate on the economics in their economic courses. During the semester the students demonstrate and exercise the material with the help of problem sets which are discussed in class.		
Content	▪ Topics in Linear Algebra ▪ Multivariate Calculus ▪ Static Optimization ▪ Differential Equations ▪ (Probability Theory) and Numerical Optimization		
Examination Type	120min written exam		
Literature	The lecture makes heavy use of the following book: • Knut Sydsæter et. al., 2008, Further Mathematics for Economic Analysis, 2nd edition, Prentice Hall University Press		
Additional Information & Links	For further information, please see the chair home page: https://www.finance.uni-freiburg.de/		

Module	Microeconometrics Using STATA – Lecture		
Area of study	►Economics and Politics		
Recommended Semester	3. – 4. semester	Mandatory/Elective	Elective
Module Coordinator	Prof. Dr. Günther Schulze, Nikita Zakharov	Workload	Ca. 120 - 180 hours
ECTS (credit points)	4 ECTS	Contact Hours (SWS)	2 h
Course Type	Block course	Language	English
Rotation	irregular		
Requirements	Intermediate Econometrics. If the course is taught in the summer term, parallel enrollment in “Intermediate Microeconometrics” is strongly recommended.		
Learning/ Qualification Target	Together with the accompanying seminar, this course is deliberately designed to impact practical econometric skills and to provide confidence in the capacity to apply them. It thus bridges the gap between a course in intermediate econometrics and an independent research project. It shall enable students to write their own empirical paper and serves as an ideal preparation for an empirical master thesis project.		
Content	The block course is dedicated to learning econometric analysis using STATA, focusing on changing topics (e.g. development economics, violent behavior). We start from the basics of assembling datasets, coding, and regression analysis and then proceed to more sophisticated techniques on data analysis and designing research output. Students will be given data sets, which they will use to carry out their own empirical analysis.		
Examination Type	Take-home assignment. !!!Students who passed the exam “Introduction to Empirical Economics Using Stata” cannot take the exam in this course!!!		
Literature	Selected papers, literature list will be available at the beginning of the course.		
Additional Information & Links	The course is taught by Nikita Zakharov. A preliminary registration is required, please check the information on the homepage of Prof. Schulze’s chair at https://www.iep.uni-freiburg.de/teaching		

Module	Microeconometrics Using STATA - Seminar		
Area of study	►Economics and Politics		
Recommended Semester	3. – 4. semester	Mandatory/Elective	Elective
Module Coordinator	Prof. Dr. Günther Schulze	Workload	Ca. 120 - 180 hours
ECTS (credit points)	4 ECTS	Contact Hours (SWS)	2h
Course Type	Seminar	Language	English
Rotation	irregular		
Requirements	Intermediate Econometrics. If the course is taught in the summer term, parallel enrollment in “Intermediate Microeconometrics” is strongly recommended.		
Learning/ Qualification Target	Together with the block course, this course is deliberately designed to impact practical econometric skills and to provide confidence in the capacity to apply them. It thus bridges the gap between a course in intermediate econometrics and an independent research project. It shall enable students to write their own empirical paper and serves as an ideal preparation for an empirical master thesis project.		
Content	The seminar is a natural extension of the block course. Students will write a short research paper (ca. 2,500) based on the topic and empirical results obtained in their block course assignment. This will allow them to practice their skills in working with literature and scientific writing, as well as in presenting their research.		
Examination Type	Short-term paper and a presentation during the seminar.		
Literature	Selected papers, literature list will be available at the beginning of the course.		
Additional Information & Links	A preliminary registration is required, please check the information on the homepage of Prof. Schulze’s chair at https://www.iep.uni-freiburg.de/teaching		

Module	Migration Economics		
Area of study / Profiles	► Economics and Politics		
Recommended Semester	2nd to 4th semester	Mandatory/Elective	Elective
Module Coordinator	Prof. Tim Krieger	Workload	120 hours
ECTS (credit points)	4 ECTS	Contact Hours (SWS)	2h Lecture
Course Type	▪ Lecture	Language	English
Frequency taught	Every summer term		
Requirements	Intermediate Econometrics, solid knowledge of micro- and macroeconomics		
Learning/ Qualification Target	This lecture gives an introduction to the economics of migration. By the end of the course, students will be able to employ theoretical concepts and empirical methods to discuss a broad array of topics related to migration, such as why people leave, how migration affects destination countries, and how integration works. They will be able to evaluate critically the main arguments regarding consequences and causes of migration from an economic perspective.		
Content	Migration has become an increasingly important topic in the international political arena. Globalization processes make workers and students more mobile, while at the same time domestic and international conflicts as well as humanitarian and environmental catastrophes cause flows of refugees and asylum seekers. We will apply theoretical reasoning to current questions concerning the consequences and causes of migration. Among the questions covered are: Why is it useful to study migration? Why do people migrate? Who migrates? How do migrants do? How does the second generation of migrants perform economically? What are the effects of immigration on the destination country? Participation in the seminar “Research Colloquium on Migration Empirics” is recommended but not mandatory. In the seminar, recent empirical publications in the field of migration economics will be evaluated critically focussing on empirical methods.		
Examination Type	Written exam		
Literature	▪ Borjas, G. J. 2014. Immigration Economics. Harvard University Press. ▪ Bodvarsson, Ö. B. and H. Van den Berg. 2013. The Economics of Immigration: Theory and Policy. 2nd edition. Springer Further readings will be provided before and during class.		
Additional Information & Links	The course will be given by Dr. Renner.		

Module	Modern Econometrics using R		
Area of study / Profiles	► Economics and Politics ► Finance ► Information Systems and Network Economics		
Recommended semester	3rd & 4th semester	Mandatory/elective	Elective
Module coordinator	Prof. Dr. Alexander Spermann	Work load	120 hrs
ECTS (credit points)	4	Contact hours (SWS)	2
Course type	Block course (lecture style, case studies and complementary learning videos)	Language	English
Frequency taught	Irregular		
Requirements	Students should install RStudio before the first session.		
Learning/ qualification target	The course offers a survey of modern econometrics, which is primarily designed to solve the fundamental evaluation problem. It will combine lecture style and practical exercises using R in class.		
Content	- Modern approach to Econometrics - Fundamental evaluation problem - Potential outcome approach - Methods: OLS, IV, Matching, RCT, BAE, DiD, RDD - Labor Market and Education		
Module title	Modern Econometrics using R		
Examination type	Exam		
Literature	Angrist, J.D., & Pischke, J. (2015): Mastering 'Metrics, The Path from Cause to Effect, Princeton University Press. + Selected papers		
Additional information & links	For further information please see the chair home page: http://www.vwl.uni-freiburg.de/iwipol/teaching.htm		

Module	Portfolio Management		
Area of study / Profiles	► Finance		
Recommended Semester	1st or 3rd Semester	Mandatory/Elective	Elective
Module Coordinator	Prof. Dr. Eva Lütkebohmert-Holtz Dr. E. A. v. Hammerstein	Workload	120 hours
ECTS (credit points)	▪ 6 ECTS	Contact Hours (SWS)	2h Lecture 2h Tutorial
Course Type	▪ Lecture ▪ Tutorial	Language	English
Frequency taught	Irregular		
Requirements	Math. Methods for Economics and Finance (can be taken in parallel)		
Learning/ Qualification Target	▪ Introduction to security and portfolio analysis, the problem of optimal allocation of assets into a portfolio, as well as the evaluation of investments.		
Content	▪ Topics which will be discussed in the lecture include: ▪ classical mean-variance portfolio theory (risk and return, efficient frontier) ▪ determination of equilibrium security returns and prices (CAPM, arbitrage pricing models, empirical tests) ▪ analysis and valuation of securities (such as stocks, bonds, options, etc.) evaluation of portfolio performance (performance measurement, diversification, active portfolio management)		
Examination Type	▪ 120 min. written examination at the end of the term		
Literature	▪ Bodie, Z., Kane, A., Marcus, A.J. (2011): *Investments and Portfolio Management*. 9. ed., McGraw-Hill ▪ Chance, D.M., Brooks, R.: *An Introduction to Derivatives and Risk Management*, 8. ed., South-Western, 2009. ▪ Elton E., Gruber M., Brown S., Goetzmann W.: *Modern Portfolio Theory and Investment Analysis*, 9. ed., Wiley ▪ Hull, J.C.: *Options, Futures, and other Derivatives*, 7. ed., Prentice Hall, 2009.		
Additional Information & Links	For further information please visit our website: https://www.finance.uni-freiburg.de/		

Module	Probability Theory for Economics and Finance		
Area of study/Profile	► Economics and Politics ► Finance ► Information Systems and Network Economics		
Recommended semester	First year	Mandatory/elective	Elective
Module coordinator	Dr. Jonathan Ansari	Work load	80 hours
ECTS (credit points)	4	Contact hours (SWS)	1 (lecture) + 1 (tutorial)
Course type	Lecture/Tutorial	Language	English
Frequency taught	Irregular		
Requirements	Good command of calculus and linear algebra at the undergraduate level		
Learning/ qualification target	This lecture is aimed at students of the MSc VWL and MSc Economics (all profiles) who are at the beginning of their studies. The lecture will cover a range of relevant mathematical tools and techniques from probability theory that are typically required for further studies in economics and finance. At the end of the course students should be able to understand and apply these tools. Further, the methods discussed in class will help students to read current research papers in finance and economics. During the semester the students practice the methods which are discussed in class with the help of problem sets.		
Content	▪ Random variables ▪ Conditional probability and conditional expectation ▪ Markov chains ▪ Brownian motion		
Module title	Probability Theory for Economics and Finance		
Examination type	Written exam		
Literature	The lecture makes heavy use of the following book: - Sheldon M. Ross, Introduction to Probability Models		
Additional information & links	Lecture and tutorial take place in the first half of the summer term (between April 19th and June 5th). Course outlines, dates, and further information can be found on the webpage of the department: http://www.finance.uni-freiburg.de/		

Module	Research Colloquium on Migration Empirics (Seminar)		
Area of study / Profiles	► Economics and Politics		
Recommended Semester	2nd to 4th semester	Mandatory/Elective	Elective
Module Coordinator	Prof. Tim Krieger	Workload	120 hours
ECTS (credit points)	4 ECTS	Contact Hours (SWS)	2h seminar
Course type	Seminar	Language	English
Frequency taught	Every summer term.		
Requirements	Intermediate Econometrics, solid knowledge of micro- and macro-economics; participation in the lecture “Economics of Migration” is mandatory		
Learning/ Qualification Target	By the end of the course, students will be familiar with empirical concepts and methods in the area of economics of migration, with a special focus on the identification of causal effects. Students will develop the ability to read and understand the content of scientific empirical papers and write (short) critical academic essays.		
Content	Migration has become an increasingly important topic in the international political arena. Globalization processes make workers and students more mobile, while at the same time domestic and international conflicts as well as humanitarian and environmental catastrophes cause flows of refugees and asylum seekers. This seminar is conducted as a colloquium that relies on active participation and preparation. In the discussion, we will focus on critically assessing empirical methods and assumptions as well as implications. In every class, we will discuss one or two articles that will be announced the week before. Preparing the required readings carefully and participating actively in the discussion in each class is mandatory. The lecture (Migration Economics) complements the seminar as it focuses on underlying theoretical concepts.		
Examination Type	▪ Seminar paper ▪ Presentation in class ▪ Participation in class		
Literature	▪ Borjas, G. J. 2014. Immigration Economics. Harvard University Press. ▪ Bodvarsson, Ö. B. and H. Van den Berg. 2013. The Economics of Immigration: Theory and Policy. 2nd edition. Springer The mandatory readings for every week will be announced in Ilias.		
Additional Information & Links	The course will be given by Dr. Renner.		

Module	**Selected Topics in Industrial Organization and Competition Economics**		
Area of study / Profiles	► Economics and Politics ► Finance ► Information Systems and Network Economics		
Recommended semester	3rd semester	Mandatory/elective	Elective
Module coordinator	Prof. Germain Gaudin	Work load	180 hours
ECTS (credit points)	6	Contact hours (SWS)	2
Course type	Seminar	Language	English
Rotation	Every winter semester Irregularly offered during summer semesters		
Requirements	Very good working knowledge of microeconomics (ideally both theoretical and empirical). This seminar is recommended to students who have followed the courses Advanced Microeconomics II and Industrial Organization.		
Learning/ qualification target	During the seminar, a specific topic in industrial organization and competition economics will be covered in depth, such that students gain a thorough understanding of this topic. They will learn how to approach a specialized field of study and how to write and present a seminar paper. These skills are particularly helpful for writing a Master thesis.		
Content	Specific seminar topics change every semester in order to adapt the seminar to the most recent issues in competition policy and industrial organization. Particular attention will generally be devoted to topics related to competition in major digital markets.		
Examination type	▪ Seminar paper ▪ Presentation ▪ Participation in the general discussion		
Literature	A selected literature is provided every semester, with every specific topic.		
Additional information & links	Seminar topics change every semester. Information about each semester's seminar topic can be found on the homepage of Prof. Gaudin's chair. Due to the limited number of seats available, students willing to participate in the seminar need to register in advance. Relevant information: www.competition.uni-freiburg.de		

Module	**Selected Topics in Institutional Economics and International Economic Policy (Seminar)**		
Area of study / Profiles	► Economics and Politics		
Recommended Semester	1. to 4. semester	Mandatory/Elective	Elective
Module Coordinator	Prof. Tim Krieger	Workload	180 hours
ECTS (credit points)	6 ECTS	Contact Hours (SWS)	2h seminar
Course Type	Seminar	Language	English
Frequency taught	Every semester		
Requirements	Very good working knowledge of theoretical and empirical economics		
Learning/ Qualification Target	During the seminar a specific topic in institutional economics and/ or international economic policy will be covered in depth, so students gain a thorough understanding of this topic. At the same time they learn how to approach a specialized field of study and how to write and present a seminar paper. These skills are particularly helpful for eventually writing the Master's thesis.		
Content	Seminar topics change every semester.		
Examination Type	▪ Seminar paper ▪ Presentation ▪ Participation in the general discussion.		
Literature	Selected readings which change every semester.		
Additional Information & Links	Seminar topics change every semester. There may be other lecturers in addition to or instead of Prof. Krieger. Further information (including each semester's seminar topic) can be found on the homepage of Prof. Krieger's chair: http://www.wguth.uni-freiburg.de/lehre-abschlussarbeiten		

Module	**Selected Topics in International and Development Economics (Seminar)**		
Area of study / Profiles	► Economics and Politics		
Recommended semester	3rd - 4th semester	Mandatory/elective	Elective
Module coordinator	Prof. Günther Schulze	Work load	180h
ECTS (credit points)	4 or 6 ECTS	Contact hours (SWS)	2h seminar
Course type	Seminar	Language	English
Frequency taught	Irregular		
Requirements	Good command of intermediate econometrics Participation in all sessions of the seminar is required,		
Learning/ qualification target	The seminars cover changing topics in the field of international and development economics in depth. Students are introduced to the relevant literature and learn to understand how economic theory and econometric methods can be applied to the context of the respective seminar		
Content	Changing topics, e.g. political economy, corruption…		
Examination type	▪ Seminar paper ▪ Presentation ▪ Participation in the general discussion. ▪ For 6 ECTS: discussion of the presentation held by another student		
Literature	Selected papers, literature list will be available at a first meeting.		
Additional information & links	https://www.iep.uni-freiburg.de/teaching		

Module	**Seminar in Quantitative Finance**		
Area of study / Profile	► Finance ► Information Systems and Network Economics		
Recommended semester	2nd year	Mandatory/elective	Elective
Module coordinator	Prof. Dr. Eva Lütkebohmert-Holtz	Work load	120 hours
ECTS (credit points)	6 ECTS	Contact hours (SWS)	2
Course type	Seminar	Language	English
Frequency taught	Irregular		
Requirements	Principles of Finance, Futures and Options (can be taken in parallel)		
Learning/ qualification target	Seminars on different topics in quantitative finance will be offered every winter term. Topics may include but are not limited to the following fields: - Portfolio management - Derivative pricing - Advanced financial modelling - Credit and liquidity risk - Risk management Participants are expected to be familiar with basic principles of risk-neutral valuation in discrete time as well as with some standard financial derivatives (e.g. through successful participation in the courses Principles of Finance and Futures and Options). Moreover, some knowledge in probability theory is required		
Examination type	Oral presentation and seminar paper		
Literature	Will be announced on ILIAS.		
Additional information & links	https://www.finance.uni-freiburg.de/		

Module	Seminar Series in Finance (Seminar)		
Area of study/Profile	► Finance		
Recommended semester	Current master, diploma and PhD students of the Department of Quantitative Finance	Mandatory/elective	Elective
Module coordinator	Prof. Dr. Eva Lütkebohmert-Holtz	Work load	
ECTS (credit points)	none	Contact hours (SWS)	
Course type	Seminar	Language	English
Rotation	Every semester		
Learning/ qualification target	Presentation and discussion of own research work		
Content	The seminar is intended for current master, diploma and PhD students of the Department of Quantitative Finance. Students have the possibility to present their research work and to discuss potential problems with the other members of the department. Presentations are based on individual invitation only. With a participation in this seminar you cannot earn ECTS. Should you be interested in holding a presentation or joining the audience, please register at the secretariat of the department.		
Literature	Will be discussed individually		
Additional information & links	https://www.finance.uni-freiburg.de/		

Module	The Economics of Corruption		
Area of study	►Economics and Politics		
Recommended Semester	3. - 4. semester	Mandatory/Elective	Elective
Module Coordinator	Prof. Dr. Günther Schulze Dr. Nikita Zakharov	Workload	120 (180) hours
ECTS (credit points)	4 or 6 ECTS	Contact Hours (SWS)	2h Reading Course 2h Tutorial
Course Type	▪ Reading Course ▪ Tutorial (optional)	Language	English
Rotation	Irregular		
Requirements	Prior knowledge of econometrics at an intermediate level is strongly recommended. The course requires intensive reading prior to the reading sessions and active participation in the discussions.		
Learning/ Qualification Target	By the end of the course, the participants are expected to excel at reading, understanding, and interpreting economic papers (not only on corruption) – skills that are essential for any economist.		
Content	At the core of almost every dysfunctional economy lies a primordial disease – corruption. Yet, the discipline of economics has only recently turned its attention to study this dire phenomenon. This reading course invites you to join the most recent developments in empirical research on the causes and consequences of corruption around the world by surveying cutting edge scientific articles. Our primary focus will be on the econometric design and the empirical methods behind the main findings of the literature. In a tutorial, students present additional complementary material is presented by you and discussed.		
Examination Type	4 ECTS: Exam (60 minutes + 30 min. reading time) 6 ECTS: Exam (60 minutes + 30 min. reading time) + presentation in the tutorial		
Literature	Selected papers, literature list will be available at the beginning of the course		
Additional Information & Links	The course is held by Dr. Nikita Zakharov. https://www.iep.uni-freiburg.de/teaching		

Module	The Economics of Terror		
Area of study / Profiles	► Economics and Politics		
Recommended semester	3-4	Mandatory/elective	Elective
Module coordinator	Prof. Schulze	Work load	180 h
ECTS (credit points)	4 or 6 (Topics Course option)	Contact hours (SWS)	2 h Reading course 2 h Tutorial
Course type	Reading Course & tutorial	Language	English
Frequency taught	Irregular		
Requirements	Intermediate Econometrics, solid knowledge of micro- and macroeconomics		
Learning/ qualification target	Students should familiarize themselves with the economic approach to analyzing terrorism. They should be able to understand, evaluate and critically analyze research articles on the economics of terror and understand the methodological concepts used.		
Content	1. Overview 2. Causes of terror, such as poverty, political regime, religious composition 3. Consequences of terror (economic, political, macro, sector and micro) 4. Counterterrorism policies 5. Conclusion		
Examination type	Exam 4 ECTS: 60 minutes + 30 min. reading time 6 ECTS: 90 minutes + 30 min. reading time 6 ECTS, Topics Course: 90 minutes + 30 min. reading time, presentation in the tutorial		
Literature	Selected papers, literature list will be available at the beginning of the course		
Additional information & links	https://www.iep.uni-freiburg.de/teaching		

Module	The Long Term Determinants of Economic Development		
Area of study / Profiles	► Economics and Politics		
Recommended semester	3-4	Mandatory/elective	Elective
Module coordinator	Prof. Günther Schulze	Work load	120 (180) hours
ECTS (credit points)	4 or 6 (Topics Course option)	Contact hours (SWS)	2h Reading Couse 2h Tutorial
Course type	▪ Reading Course ▪ Tutorial	Language	English
Frequency taught	Irregular		
Requirements	Intermediate Econometrics, solid knowledge of micro- and macroeconomics		
Learning/ qualification target	The reading course enables students to understand the fundamental causes of economic growth and the debate about it, to analyze the methodological challenges in addressing the arguably most fundamental question in economics – what fundamentally causes economies to develop and why are some countries falling behind? And to understand the empirical approaches that have been taken.		
Content	Why is North America wealthier than South America? Why is Africa the poorest continent in the world? Why is Northern Europe more prosperous than Southern and Eastern Europe? Is it because of culture? Is it religion? Geography? Is it that some countries have better institutions than others? And if yes, why do not all countries have good institutions? This reading course reviews the empirical evidence on the debate about the long term determinants of economic development. Examples of the hypotheses reviewed are historical changes of institutions, colonialism, slavery, religion, culture, geography, ethnic diversity, artificial borders, or the resource curse.		
Examination type	Exam 4 ECTS: 60 minutes + 30 min. reading time 6 ECTS: 90 minutes + 30 min. reading time 6 ECTS, Topics Course: 90 minutes + 30 min. reading time, presentation in the tutorial		
Literature	Selected papers, literature list will be available at the beginning of the seminar		
Additional information & links	https://www.iep.uni-freiburg.de/teaching		

Module	The Political Economics of Information and Media		
Area of study / Profiles	► Economics and Politics ► Information Systems and Network Economics		
Recommended semester	3rd & 4th semester	Mandatory/elective	Elective
Module coordinator	Prof. Schulze	Work load	180 hours
ECTS (credit points)	4 or 6 ECTS (Topics Course option)	Contact hours (SWS)	2h Reading Course 2h Tutorial
Course type	▪ Reading Course ▪ Tutorial	Language	English
Frequency taught	Irregular		
Requirements	Intermediate Econometrics, solid knowledge of micro- and macroeconomics		
Learning/ qualification target	Students learn about the role of information and the media for the behavior of individuals in the marketplace, in the polity, and in bureaucratic hierarchies. They are familiarized with the empirical approaches that analyze the relationship between the individual behavior and media presence or the availability of information.		
Content	• media and voting behavior • media and resignation probabilities • media and corruption • information and social attitudes • violence against journalists and the media and other topics		
Module title	The Political Economics of Information and Media		
Examination type	Exam 4 ECTS: 60 minutes + 30 min. reading time 6 ECTS: 90 minutes + 30 min. reading time 6 ECTS, Topics Course: 90 minutes + 30 min. reading time, presentation in the tutorial		
Literature	Selected papers, literature list will be available at the beginning of the course		
Additional information & links	https://www.iep.uni-freiburg.de/teaching		

Module	Time Series Analysis		
Area of study/Profile	► Economics and Politics ► Finance ► Information Systems and Network Economics		
Recommended semester	2	Mandatory/elective	Elective
Module coordinator	Prof. Dr. Roxana Halbleib	Work load	Approx. 240 hours
ECTS (credit points)	6	Contact hours (SWS)	Lecture (2 SWS) Tutorial (2 SWS)
Course type	1 Lecture 1 Computer Tutorial	Language	English
Frequency taught	Every Summer term		
Requirements	Statistics, Econometrics		
Learning/ qualification target	This course aims at endowing students with the necessary econometric knowledge and tools for undergoing empirical research on data observed and sampled regularly in time, i.e. time series data.		
Content	The course covers the fundamentals of time series analysis (TSA) with emphasis on both theoretical foundations and empirical applications. The students learn to exploit the correlation (dependency) in time specific to time series economic variable (e.g., GDP growth rate, inflation rate, interest rate, financial returns) in order to provide accurate predictions and/or to detect (time) causalities within each series and among various economic variables. In particular, the course covers topics from univariate and multivariate TSA, such as ARIMA and vector ARMA processes, estimation, forecasting, Granger causality, impulse response functions, etc. Besides a good understanding of the theoretical foundations and their strengths and limitations, students learn to practically apply the econometric tools specific to TSA to real economic problems (e.g., from macroeconomics, finance) during the computer tutorials by using the software Phtyon.		
Examination type	Final Exam (90 minutes)		
Literature	• Enders, W. (2014): *Applied Econometric Time Series*, 4th edition, Wiley • Hamilton (1994): *Time Series Analysis*, Princeton University Press, Princeton. • Hayashi (2000): *Econometrics*, Princeton University Press, Princeton. • Lütkepohl, H. & Krätzig, M. (2004): *Applied Time Series Econometrics*, Cambridge University Press • Lütkepohl (2006): *New Introduction to Multiple Time Series*, Springer, Heidelberg.		
Additional information & links	Website: http://www.econometrics.uni-freiburg.de/teaching Course material can be downloaded from ILIAS (https://ilias.uni-freiburg.de/login.php). For further material, updates, and relevant information, please keep checking ILIAS.		

Module	Topics in Macroeconomics		
Area of study / Profiles	► Economics and Politics ► Finance ► Information Systems and Network Economics		
Recommended Semester	2- 4 semester	Mandatory/Elective	Elective
Module Coordinator	• Dr. Marten Hillebrand, ▪ Markus Epp, M.Sc.	Workload	120 hours
ECTS (credit points)	6 ECTS	Contact Hours (SWS)	2
Course Type	▪ Topics Course ▪ Seminar	Language	English
Frequency taught	Irregular		
Requirements	Advanced Macroeconomics I and II		
Learning/Qualification Target	Familiarization with Advanced Topics and Methods in Macroeconomics		
Content	▪ Current Issues in Macroeconomics ▪ Macroeconomic Methods ▪ Replication of Published Articles		
Examination Type	Presentation plus assignments		
Literature	Research papers (tba)		
Additional Information & Links	For further information please see the chair home page: http://www.macro.uni-freiburg.de/news/home		

5. Exchange and Studying Abroad

Study abroad is a great opportunity for enrichment and personal development. Studying abroad is becoming more and more important for opportunities on the job market. The international exchange programs offered by the faculty and the University of Freiburg offer many opportunities to spend part of your studies in Europe or other areas in the world.

The recommended period for a semester abroad or year depends on the individual study situation. Typically, study abroad takes place in the third semester of the course studies. The preparation and planning period is about 10-12 months (gathering information, planning, making decisions, adhering to application deadlines, etc.).

With the Foreign Office of the Department of Economics, the faculty has an advisor and coordination office for study abroad. With over 30 partners in Europe, the US and Brazil, there is a wide range of exchanges available to students. The International Office is the primary contact for all questions and inquiries. The International Office also has communication and contracts with partner universities worldwide. Further information about exchange programs, current information, events, contact details, are available at http://portal.uni-freiburg.de/vwl-international.

For more information: https://portal.uni-freiburg.de/vwl-international

EUCOR exchange program:

Additionally, all students of the Master of Economics Program can enjoy of the EUCOR program, by which they can take any course at the Universities of three different countries:

- Germany Karlsruher Institut für Technologie (KIT),
- Switzerland: Universität Basel,
- France: Université de Haute-Alsace, Université de Strasbourg

For more information about the EUCOR program: http://www.studium.uni-freiburg.de/en/counseling/exchange-programs-and-studying-abroad/eucor?set_language=en

Partner Universities and exchange places

Country	University	Places	M.Sc.
Belgium	Universität Gent	8 x 10 Months	**X**
Brazil	University of Sao Paulo	3 x 6 Months	**X**
Bulgaria	University of Economics Varna	3 x 6 Months	**X**
Finnland	Hanken School of Economics (1 Platz am Campus Helsinki, 1 Platz am Campus Vasa)	2 x 6 Months	**X**
France	Université Jean Moulin (Lyon III)	2 x 10 Months	**X**
	Institut Catholique de Paris	2 x 10 Months	**X**
	Université des Antilles et de la Guyane	2 x 5 Months	**X**
	Université Pierre Mendès (Grenoble II)	2 x 10 Months	**X**
Greece	Ioannina University	2 x 10 Months	**X**
Italy	Universita degli Studi di Bologna	4 x 10 Months	**X**
	Università degli Studi di Roma	2 x 10 Months	**X**
	Università di Siena	2 x 6 Months	**X**
	Università degli Studi di Torino	2 x 5 Months	**X**
	Universita Cattolica del Sacro Cuore (Mailand)	2 x 10 Months	**X**
Norway	UMB Ås	2 x 10 Months	**X**
Poland	Szkola Glowna Handlowa, Warschau	2 x 10 Months	**X**
Portugal	Universidade de Lisboa	3 x 6 Months	**X**
Romania	Universitatea Iasi	2 x 5 Months	**X**
Sweden	Göteborgs Universitet	1 x 5 Months	**X**
	Karlstads Universitet	2 x 5 Months	**X**
	Lunds Universitet	1 x 5 Months	**X**
Switzerland	Université de Genève	2 x 9 Months	**X**
	Università della Svizzera Italiana, Lugano	2 x 5 Months	**X**
Turkey	Middle East Technical University Ankara	3 x 5 Months	**X**
	Piri Reis University Istanbul	2 x 6 Months	**X**
Hungary	Andrássy Universität Budapest	2 x 10 Months	**X**
	Westungarische Universität Sopron	2 x 5 Months	**X**

6. Master Thesis

The Master Thesis is written at the end of the Masters Degree. The Thesis is a written assignment with 35 pages and 24 ECTS points and will at least take 20 weeks. The Master thesis can be started, when 80 ECTS points are reached.

7. Advisory Services

For further information regarding the M.Sc. Economics Program you can visit our faculty homepage, or you can send us an email.

MEP Coordination Office:

- http://master.econ.uni-freiburg.de/
- Questions about the application process: mep.admission@vwl.uni-freiburg.de
- Questions about the rules and procedures of the program: mep.admin@vwl.uni-freiburg.de
- General counseling and advice about the program: : mep @vwl.uni-freiburg.de

Actual Information of the Department of Economics:

https://portal.uni-freiburg.de/vwl/aktuell/nachrichten

Chairs and Institutes:

https://portal.uni-freiburg.de/vwl/institute

Examination Office:

http://portal.uni-freiburg.de/pa-vwl/willkommen-bei-der-geschaeftsstelle-fuer-wirtschaftswissenschaftliche-pruefungsausschuesse?set_language=en

International Exchange programs of the Department of Economics:

- https://portal.uni-freiburg.de/vwl-international
- Announcement of current exchange places of the Department
- Support of incoming students in the Department of Economics

8. Further Information

International Programs Office:

- International Office of the University: http://www.international.uni-freiburg.de/en?set_language=en
    - Counseling for studies abroad.
    - EUCOR program: http://www.studium.uni-freiburg.de/en/counseling/exchange-programs-and-studying-abroad/eucor?set_language=en

Student Service Center - International Admissions and Services

- https://www.studium.uni-freiburg.de/en/application/international-student-admissions
- Admission and registration of international students
- Advice on opportunities for studying and requisites at the University of Freiburg
- Questions about the equivalence of studies from Universities in other countries
- Legal advice for foreigners.

Student Service Centrer –

https://www.studium.uni-freiburg.de/en/student-services

- Registration Office
- Matriculation (enrollment)
- Leave Of Absence
- Changing Fields/Courses of Study
- Exmatriculation
- Maternity Protection for Pregnant and Nursing Students
- Study Fees
- UniCard
- Offers for Beginning Students
- Certificates of Enrollment
- Dates, Deadlines & Events
- Campus Management
- Student health

Student Service Center - Career Services

- https://www.studium.uni-freiburg.de/en/counseling
- Advice about internships in Germany and abroad
- Check of application materials
- Career advice for students

- EURES: Advice about career entry in countries of the EU
- Scholarship advice

SWFr: Studierendenwerk Freiburg

- https://www.swfr.de/en/
- New in Freiburg
- Housing
- Jobs
- Food and drinks
- International Club for students
- Child care
- Psychotherapy services for services
- Legal advice
- Social advice
- Students with Handicap

See also: https://portal.uni-freiburg.de/vwl/studium/beratung
http://www.studium.uni-freiburg.de/service_und_beratungsstellen