



INSTITUT FÜR HÖHERE STUDIEN
INSTITUTE FOR ADVANCED STUDIES
Vienna

IHS Graduate Programs in Economics

2011 – 2012

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Chapter 1

The Program

1.1 History of the IHS Economics Program

The Institute for Advanced Studies, Vienna, is one of Austria's premiere research centers in the social sciences and was founded in 1963 by Paul Lazarsfeld and Oskar Morgenstern with the goal of reinvigorating scientific inquiry in this field of endeavor. Crucial initial funding for the Institute was provided by, among others, the Ford Foundation. From the beginning, a key part of the Institute's mission has been the advanced education and training of economists at an internationally competitive level. In this regard, the Institute has an outstanding record of success, with many of the graduates of our program in economics attaining professorships at leading universities throughout the world. Indeed, approximately 100 professors of economics have passed through the Institute's Program since it was instituted.

The Program's challenging content is enhanced by the low ratio of students to in-house faculty, and is defined by its outstanding visiting faculty, who teach the entire set of field courses. The department's faculty for the 2011–2012 academic year is listed in the Faculty section of this handbook. The Department of Economics and Finance is very well known for its strength in economic theory and applied economics. The two Fellows of the Econometric Society who work in Austria are both members of our Department.

1.2 Degrees Offered

1.2.1 Master, Economics

The Master in Economics has been started in 2008 in cooperation with the Vienna University of Technology and evolved from the Program in Economics offered at IHS from 1964 until 2007. This MSc program requires the full-time concentration of students for the entire two year period. Graduates are equipped to succeed in an ever more competitive academic environment. The curriculum emphasizes analytic competence, economic intuition and solid empirical work. Students are expected to perform on a level with their peers at top-ranked departments (e.g. Princeton, Stanford, LSE, and UPF). The aim of the program is to prepare students for admission to a top PhD program.

These goals are achieved by attending a carefully designed sequence of courses and through an overall preparation in subject matter and techniques that goes beyond course work. Work in teams and the acquisition of advanced mathematical skills are the key to a successful completion of the program. Most core courses will be completed by the end of the fourth term, the fifth and sixth term are mostly dedicated to field courses and to independent research that leads to the master's thesis which is prepared under the direction of a faculty member.

The faculty is always available for consultation; students are strongly encouraged to discuss their ideas and concerns with their teachers and advisors. The department is flexible to accommodate particular circumstances of individual students. Academic achievements are regularly reviewed by the Director of Graduate Studies and the entire Department. Failure to maintain good standing may necessitate withdrawal from the Program.

1.2.2 PhD, Economics

Starting in September 2010 our Department cooperates with the University of Vienna in the *Vienna Graduate School of Economics* which offers a PhD degree in Economics. The program starts at the dissertation writing stage, i.e. a previous Master education is necessary. Further information is available at: <http://vgse.ac.at>.

1.2.3 PhD, Finance

The Department cooperates in the *Vienna Graduate School of Finance* and offers a PhD program in Finance. Further information is available at: <http://vgsf.ac.at>.

1.3 Admission to the Master in Economics

To be admitted into the graduate program, a student must hold a bachelor's degree or its equivalent from an accredited university. It is not essential that the previous education be in economics. Aside from economics, previous graduate students have had a variety of quantitative backgrounds from computer science to mathematics.

1.3.1 Prior Preparation

The ideal applicant has a strong analytical mind and good mathematical skills as well as sound knowledge of economics. Students with limited prior knowledge of economics are strongly encouraged to catch up on undergraduate economic theory at the upper-division level. Furthermore, a strong working knowledge of calculus is essential. The department offers an optional intensive course, Introductory Mathematics, which covers calculus, analysis, and optimization.

1.3.2 Application Procedure and Requirements

The department accumulates a file on each applicant for admission. A *complete file* contains the following:

- A completed IHS graduate application;
- A concise motivation letter;
- Certified Transcripts of *all* previous university or college work;
- A sample of written work (ideally bachelor's thesis);
- Three letters of recommendation from people familiar with your academic achievements should be sent to us directly by the recommenders or be provided in sealed envelopes;
- A photocopy of your passport's main page.

The Department does not require GRE or TOEFL results. However, we strongly encourage our applicants to provide this extra information. Official score reports must be received by the application deadline. For these tests our designated institution code (DI Code) is 8929. Please use it to have your scores reported to us. Information on the GRE and TOEFL may be obtained online at <http://www.ets.org>.

The applicant's file must be complete by the deadline in order to be considered for admission and financial aid. It is the *responsibility of the applicant* to ensure that all application and supporting materials arrive by the deadline. If an application is incomplete by the final deadline, it will not be considered for admission.

Decisions regarding admission are the responsibility of the Departmental Graduate Admissions Committee, which bases its judgment on the previous academic record, the letters of recommendation, the candidate's statement of objectives, the GRE and TOEFL examinations (if available). Shortlisted candidates will be interviewed by the Admissions Committee. Local candidates are invited to the Institute, otherwise interviews will be conducted over the telephone. The purpose of the interview is to assess the applicants' knowledge of basic concepts in mathematics, economics and econometrics, as well as their proficiency in English.

1.3.3 Timeline for Admission 2012

- Application Deadline: March 1. All application materials are due by this date. International students are encouraged to apply early.
- Interviews with selected candidates are conducted in the week starting March 5.
- Notices of acceptance are sent out by March 16.
- Candidates have until March 30 to notify the Department of their decisions.

1.3.4 Midyear Entrance

The first year course sequences start only in the fall and are cumulative. Each course is a prerequisite for the subsequent one. Therefore, a student who tried to start the program later than September would be at a serious disadvantage with respect to his colleagues. For this reason, students are not allowed to start the program in mid-year. Should circumstances require a delayed start, the program admission may be postponed by one year.

1.4 Tuition and Financial Aid

1.4.1 Tuition and Fees

The Institute for Advanced Studies does not charge tuition or fees for participation in the MSc. Program in Economics.

1.4.2 Financial Aid

Every year the Austrian National Bank and the Austrian Federal Ministry of Science and Research provide a limited number of students in the Program with fellowships to help defer living costs and other expenses while studying at the Institute. Currently, the fellowship amount is approximately €20,000 per student over the two-year program (€850 per month), and most of the students who are admitted to the program receive the fellowship. No extra procedures are required to apply for the fellowships. Every applicant for the MSc Program is automatically considered for a fellowship.

In addition to the Austrian National Bank, there is a group of business leaders, enterprises and governmental sponsors who every year decide to fund fellowships for especially qualified applicants.

First Year Excellence Award

For the past several years, the Austrian Lotteries have sponsored a First Year Excellence Award, which is awarded to students who demonstrate exceptional performance in their coursework over the first year. This award is recorded on the student's transcript, but is not necessarily given each year — awarding it is at the discretion of the faculty.

Teaching Assistantships

Second year students in good standing are expected to hold practice sessions in first year core courses as part of their fellowships.

Summer Jobs

Research assistantships may be available during the summer. These positions are scarce, no student is guaranteed summer employment.

Workload and Outside Jobs

In each academic year students are earning approximately 60 ECTS which roughly corresponds to an average workweek of sixty hours! In order to avoid any distractions, fellowship holders are generally prohibited from holding outside employment.

1.4.3 Procedure for Determining Standing

At the end of the first year the Graduate Committee classifies continuing students into four broad groups. Financial aid for the upcoming year is based on this group assignment.

- **Group A:** Students who have a GPA¹ of at least 90.
- **Group B:** Students who have a GPA of at least 80.
- **Group C:** Students who have a GPA of at least 70.
- **Group D:** Any student whose GPA is less than 70.

Members of Groups A and B are in good standing. Members of Groups C and D are not in good standing. The department guarantees financial aid to students in good standing. Students in Group C will not normally receive financial aid. Students in Group D are usually not admitted into the second year and will under no circumstances receive financial aid. Irrespective of their standing, students who fail (< 50%) a course twice will no longer be eligible for financial support.

1.5 Housing

The Institute does not have its own housing facilities but cooperates closely with nearby student residences. Students receive extensive assistance in finding accommodation but should let the Department know their requirements as soon as they have decided to enter the program. We cooperate closely with the conveniently located student dorm Panorama (<http://www.campusbrigittenau.at>). The student office also maintains an extensive list of conveniently located rentals.

1.6 Health Insurance

Students are responsible for their own health insurance. The Institute assists students in obtaining insurance from a Viennese provider. Students should contact the Program Manager before their arrival in Vienna to clarify the exact proceedings.

¹ The Grade Point Average (GPA) is computed as a weighted average of the percentage course grades. Weights are the ECTS credits of each course. Percentage grades can be converted to US-style letter grades according to:

Grade	A+	A	A-	B+	B	B-	C+	C	C-	D+	D	F
Minimum Percentage		93	87	83	77	73	69	64	60	55	50	0

1.7 Facilities

1.7.1 Library

The IHS library is an important component of the Austrian library system. It is a depository library for the World Bank and cooperates closely with the OECD. Included are complete files of many economics journals. Furthermore, all students have full access to the library of the University of Technology, which is one of the largest libraries in Austria. Online access to most academic journals in all relevant fields is available to all students and faculty.

1.7.2 Computing Facilities

The IT department provides state of the art computer equipment to economics graduate students. The computer lab includes 9 PCs and in addition all student offices are equipped with at least one PC. All of these machines have access to the latest versions of key mathematics and statistics software including E-Views, Gauss, Matlab, SPSS, Stata, as well as Microsoft Office and Scientific Workplace for scientific typesetting. Our computing infrastructure also includes a powerful array of UNIX servers, high speed printers and a secure data backup system. These resources are easily accessible from outside the Institute.

Five full time staff members of the IT department support these systems and are available to assist students and faculty.

1.7.3 Data Resources

As one of Austria's leading economic research institutes, IHS has access to a very large data collection that contains major census, financial and survey data sets for Austria, several European countries, the U.S., and the OECD. Our students regularly make use of these data for their empirical research projects and master theses.

Chapter 2

The Master of Science in Economics

2.1 Advisors

In the first year all students are allocated one faculty member as an advisor by the Director of Graduate Studies. Later on the thesis supervisor acts as an advisor.

2.2 Outline of Requirements

The departmental requirements for the Master in Economics are

- successful completion of the course sequences in foundations, econometrics, macroeconomics, and microeconomics;
- completion of the field requirements;
- completion and successful defense of the master's thesis.

There is no foreign language requirement. The language of the program is English.

2.3 Courses and Typical Program

At the start of the first year the department offers a mathematics review and preparation course. The material covered in this course is useful in all of the first year core sequences. Students are not required to attend the course, although everyone is encouraged to participate and typically everybody does. An appropriate textbook is C.P. Simon and L.Blume, "Mathematics for Economists", chapters 1–6, 8–19.

The first year consists entirely of core courses in mathematics, statistics, econometrics, macroeconomics and microeconomics. In the second year students finish the core sequence and take their elective courses. The research groups prepare second year students for the requirements of academic work by reviewing and discussing relevant current literature.

2.4 Field Requirements

The department requires master students to take four elective courses in the second year. All four courses must be taken for a letter grade and a cumulative GPA of 85 or better is highly desirable for these courses. In addition, students are welcome to enroll in further elective courses either for letter grade or on a pass/fail basis to benefit from the wide variety of excellent field courses taught by world class visiting professors each year.

2.5 The Transition from Coursework to Research

It is impossible to overemphasize the importance of the successful transition from coursework to research. Our master program has the key feature of assisting this transition throughout the second year of the program. Electives help students to narrow down their areas for thesis research and to start discussions with professors about potential ideas.

An ideal opportunity to begin on thesis-related work after the first year is the optional summer research project, where students explore an interesting topic under supervision of a faculty member. This summer research is only available to students in good standing and requires approval of the Director of Graduate Studies.

Throughout terms five and six students are required to attend one research group — either in macroeconomics, microeconomics, or econometrics. Each research group prepares students to independently read, understand, present, and discuss influential current research. All research groups are held in cooperation with other Viennese universities and graduate students from all participating institutions attend. As such the research groups provide a unique forum for the interchange of ideas, both among peers and with faculty members, at a very early stage in the research process.

Finally, in spring of the second year students enroll in the mandatory Econometrics IV course which requires that students complete an empirical project. Members of the Institute's Applied Research Group actively participate in this course and contribute their real world consulting experience.

2.6 Master Thesis

Work on the thesis commences in January of the second year, when students meet with in-house faculty to select an advisor. By February 1st the advisor and topic have to be communicated to the Director of Graduate Studies. Throughout the academic year students work closely with the thesis advisor to complete the thesis by the beginning of June. The final step is an oral presentation of the thesis to the whole Department faculty and all students at the Institute in the last week of June. This presentation is open to the public and not only gives students an opportunity to demonstrate the culmination of two-years of hard work in the Program, but also allows them to discuss their research with the Viennese scientific community.

2.7 Plagiarism

The use of somebody else's work, be it text, computations, or computer code, without proper credit is considered as plagiarism. The course in which credit was not properly attributed will be considered as failed. Plagiarism can lead to expulsion from the program.

2.8 Teaching

Teaching is not a required part of the Master program but is regarded by the Department as an important contribution to the graduate experience for students interested in academic careers. As indicated above, the best second year students are expected to assist in the teaching of first year graduate courses up to a maximum extent of one course per term.

2.9 Placement

Our Institute actively and highly successfully assists its graduates in finding suitable placements. Activities are coordinated by the Director of Graduate Studies but the entire faculty is actively involved by making good use of the extensive research network available.

Graduates of our program typically continue their graduate education at top PhD programs or take on jobs in important think tanks, policy making institutions, or the financial sector.

The student cohort finishing in July 2011 had offers to continue their PhD studies with full funding at Chicago, Yale or Princeton; UCSD, Carnegie Mellon, or Northwestern University; UCLA, Stockholm, or Tinbergen Institute; EUI Florence, LSE; UC Davis or University of Geneva. In previous years graduates had the option to continue their education at the following highly regarded PhD programs: Brussels, EUI Florence, Northwestern, LSE, Princeton, State University of New York, Stony Brook, Stockholm, Tilburg, Toulouse, University College, London, University of California, Davis, University of Illinois, Urbana Champaign, and University of Zurich, Vienna Graduate School of Economics, Vienna Graduate School of Finance, Yale University. In the last three years three graduates have also been hired as Economists by the Austrian Central Bank and two by local universities.

Some of our graduates have been or are now professors at Bogazici, Kellogg, Northwestern, LSE, Munich, Princeton, Yale, Zurich, or work in top positions at ECB, EU, IMF, OECD, OPEC, the World Bank, and central banks around the world. The current governor of the Austrian National Bank, Professor Ewald Nowotny, was one of the first students in our program from 1967 – 1969.

Chapter 3

Core Courses in Economics

This is a complete listing of all core courses currently being offered. Contents are changed regularly to reflect the interests of the faculty and the needs of the students.

3.1 Foundation Courses

Mathematics I

Sets, functions and correspondences; Algebraic structures; Construction of real numbers; Polynomials; Vector spaces and subspaces; linear independence; Basis and dimensions; Dual Spaces, Matrices; Determinants; Eigenvalues and Eigenvectors; Bilinear and Quadratic Forms; Singular value decomposition.

Mathematics II, Analysis

Topology and Metric Spaces; Compactness, Connectedness, and Convexity; Differential and Integral calculus.

Statistics

Univariate continuous random variables; Multivariate random variables; Descriptive statistics; Sequences of random variables; Examples of random processes; Tests in i.i.d setting; Estimation; The maximum likelihood paradigm; Generating the test distribution; Density estimation and testing; Bayesian estimation and testing.

Computational Methods

Basics of computer programming; introduction to Matlab or R; finite precision, rounding error and error bounds; numerical differentiation; zero finding and numerical optimization; numerical integration.

Dynamic Optimization I

Optimization; linear quadratic problems; sequential problems and recursive problems, equivalence, Bellman equations, contraction mappings; solution methods, log-linearization.

Dynamic Optimization II

Markov processes; principle of optimality; stochastic Euler equations; applications to partial equilibrium models; search models.

3.2 Macroeconomics

Macroeconomics I

Investment, consumption, asset pricing, labor supply, optimal taxation, overlapping generations economy.

Macroeconomics II

Continuous time tools, exogenous growth, endogenous growth, empirical findings, open economy.

Macroeconomics III

Neoclassical growth models under uncertainty; Dynamic New Keynesian models; optimal fiscal and monetary policy.

3.3 Microeconomics

Microeconomics I

Decision theory; consumer theory; producer theory; partial equilibrium theory.

Microeconomics II

Consumer theory; producer theory; general equilibrium theory.

Game Theory

Representation theory; solution theory; applications.

3.4 Econometrics

Econometrics I

Algebra of least squares; classical and generalized linear regression; likelihood function, distributions and testing principles; asymptotic analysis; estimation and testing in generalized regression models.

Econometrics II

Stationary stochastic processes; integrated univariate processes; stationary VAR processes; cointegration analysis.

Econometrics III

Instrumental variable estimation; generalized method of moments; panel data econometrics.

Econometrics IV

Empirical project.

3.5 Workshops and Seminars

Finally, first year students are strongly encouraged to attend one or more of the various research seminars available at the Institute. Currently, the Institute offers the following throughout the academic year: The Research Seminar in Economic Theory, The Econometrics Research Seminar, The Joint Vienna Macro Seminar, The Applied Research Seminar, The Finance Research Seminar. For second year students regular attendance of and two seminar series is mandatory.

Chapter 4

Faculty 2011–2012

4.1 Permanent Faculty

Walter H. Fisher

Head of Department

Macroeconomics, international finance.

Christian Haefke

Director of Graduate Studies

Product market regulation, unemployment, labor market participation.

Robert Kunst

Time-series econometrics, seasonality, applied macroeconomics.

Martin Meier

Game Theory.

Tamás Papp

Macroeconomics, Bayesian econometrics, numerical methods.

Justinas Pelenis

Bayesian econometrics.

Wolfgang Polasek

Time series econometrics, Bayesian inference.

Michael Reiter

Computational economics, macroeconomics, public finance.

Klaus Ritzberger

Game theory, microeconomics, financial economics.

Leopold Sögner

Financial econometrics, Bayesian econometrics.

S. Derya Uysal

Microeconometrics, Labor Economics.

Martin Wagner

Econometrics, quantitative economics, environmental economics, transition economics.

4.2 Associated Faculty

Larry Blume (Cornell University)

Economics.

Manfred Deistler (TU Vienna, emeritus)

Econometrics, time series, systems theory.

Egbert Dierker (University of Vienna, emeritus)

General equilibrium theory, oligopoly theory, welfare economics.

Ben J. Heijdra (University of Groningen)

Theory of macroeconomics, public economics.

Max Kasy (University of California, Los Angeles)

Econometrics.

Gabe Lee (University of Regensburg)

Macroeconomics, Real estate economics.

Benedikt Pötscher (University of Vienna)

Model Selection, Nonparametric methods.

Wolfgang Scherrer (TU Vienna)

Factor Models.

Jamsheed Shorish (Uberlink Corporation)

Numerical Methods.

Alexander Stomper (Humboldt University)

Corporate Finance, Market Microstructure.

Rudolf Winter-Ebmer (University of Linz)

Labor economics, applied microeconometrics.

4.3 Visiting Faculty 2011 – 2012

John T. Addison

visiting from University of South Carolina.

Camelia Bejan

visiting from Rice University.

Tomas Björk

visiting from Stockholm School of Economics.

Michel Dacorogna

visiting from SCOR.

Steve Durlauf

visiting from University of Wisconsin.

4.4 Staff

economics@ihs.ac.at	Eva-Maria Vogl (Program Manager),
	Elisabeth Potzmann (Department Manager)
hotline@ihs.ac.at	Harald Hutter (IT), Karl Zolles (IT).

Chapter 5

Academic Calendar

Academic Calendar: 2011– 2012

September			
Courses	9/ 1/2011	–	9/21/2011
Exams	9/23/2011	–	9/24/2011
Fall Term			
Courses	9/26/2011	–	12/ 7/2011
Exams	12/14/2011	–	12/21/2011
Winter Term			
Courses	1/09/2012	–	3/23/2012
Ski Break	2/06/2012	–	2/12/2012
Exams	3/28/2012	–	4/04/2012
Spring Term			
Courses	4/16/2012	–	7/06/2012
Exams	7/18/2012	–	7/27/2012

Academic Calendar: 2012– 2013

September			
Courses	9/03/2012	–	9/21/2012
Exams	9/24/2012	–	9/25/2012
Fall Term			
Courses	09/26/2012	–	12/ 7/2012
Exams	12/14/2012	–	12/21/2012
Winter Term			
Courses	1/07/2013	–	3/27/2013
Ski Break	2/04/2013	–	2/08/2013
Exams	4/03/2013	–	4/12/2013
Spring Term			
Courses	4/22/2013	–	7/12/2013
Exams	7/19/2013	–	7/29/2013

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