



JÖNKÖPING UNIVERSITY  
*Jönköping International Business School*

PROGRAMME SYLLABUS  
**Economic Analysis, 120 credits**

Programmestart: Autumn 2019



## PROGRAMME SYLLABUS

### **Economic Analysis, 120 credits**

*Economic Analysis, 120 högskolepoäng*

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Programme code: JAUR7

Confirmed by: Dean 2017-12-20

Version: 3

Programmestart: Autumn 2019

Education Cycle: Advanced level

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#### **Title of qualification**

Degree of Master of Science (120 credits) with a major in Economics

#### **Programme overview**

The master programme in Economics, “Economic analysis”, provides a comprehensive education in the field of economics for those who hold a bachelor degree and have a substantial amount of economics education in their undergraduate studies. The programme aims to build students’ core competencies to work with economic issues at various spatial levels; international, inter-regional, and local. The programme includes several method courses which give the students the tools and skills to analyse and process data and draw conclusions. This programme combines theoretical knowledge with useful practical skills. Thus, the education prepares students for positions demanding specialised analytical and methodological skills in economics. As a result, you will have the skills to work closely with decision making within companies/ organizations. You will be able to process and analyse data and pass on these results to your colleagues and managers. These skills are important both in the private and public sector. After completing the programme you will be well prepared for positions requiring practical and scientific knowledge and will have the ability to utilise this knowledge in new situations.

During the first year, students learn theoretical and quantitative analytical skills. Strengthening econometric competencies is at the core of first-year’s courses. In the second year the programme aims to further deepen the students’ competencies in the area of economics with a focus on regional development. The last term is devoted to writing a comprehensive thesis (30 credits), which is conducted in close collaboration with faculty. This gives the opportunity for the students to establish links with the research faculty and also gain insight into the academic milieu and knowledge about how to conduct research. In addition, many researchers within the economics faculty specialise within the field of regional economics, creating an excellent match.

#### **Objectives**

##### **General aims**

Second cycle education shall essentially build on the knowledge students acquire in first cycle education or corresponding knowledge. Second cycle education shall involve a deepening of knowledge, skills and abilities relative to first cycle education and, in addition to what applies to first cycle education, shall

1. further develop the students’ ability to independently integrate and use knowledge,
2. develop the students’ ability to deal with complex phenomena, issues and situations, and
3. develop the students’ potential for professional activities that demand considerable

independence or for research and development work.

### **Programme specific learning goals**

#### *Knowledge and understanding*

Graduates of the programme will have a broad knowledge and understanding of economics and a specialised and considerably deep knowledge in certain areas of the field.

Corresponding Objectives:

Graduates of the programme will be able to

1. demonstrate knowledge and understanding in economics, including both broad knowledge in the field of economics and a considerable degree of specialised knowledge in the field of regional economics;
2. develop an in-depth knowledge and understanding of economic dynamics in local, regional and global contexts;
3. demonstrate specialised methodological knowledge used in economics;
4. demonstrate in-depth knowledge about the implications of interactions in the geographical space.

#### *Skills and abilities*

Graduates of the programme will have acquired the skills to integrate knowledge critically and systematically and to analyse complex issues encountered for a career in economics, and be effective communicators of activities associated with these skills. These skills are assessed and trained in several courses where students get the opportunity to present and defend their research and also critically assess other students' work.

Corresponding Objectives:

Graduates of the programme will be able to

5. demonstrate the ability to integrate knowledge critically and systematically and analyse, assess complex phenomena, issues and situations associated with economics;
6. demonstrate the ability to identify and formulate issues critically, independently and creatively as well as to plan and, use appropriate research methods, undertake advanced tasks within predetermined time frames so as to contribute to the development of knowledge and evaluate this work;
7. demonstrate the ability in speech and writing both nationally and internationally to clearly report and discuss his or her conclusions and the knowledge and arguments on which they are based in dialogue with different audiences
8. demonstrate the skills required for participation in research and development work or to pursue a career independently in other advanced contexts, including academic research related to economics.

#### *Judgement and approach*

Graduates of the programme will understand the scientific, social, ethical, and personal responsibility aspects of practical work and research in economics. This includes the role, use, and development of knowledge and the ethical aspects and possibilities of scientific endeavor.

Corresponding Objectives:

Graduates of the programme will be able to

9. demonstrate an ability to make assessments in economics, taking into account relevant scientific, societal and ethical issues and also demonstrate awareness of ethical aspects in research and development work;
10. demonstrate insight into the possibilities and limitations of science/research, its role in society and people's responsibility for how it is used; and
11. demonstrate the ability to identify their personal need for further knowledge and to take

responsibility for developing their knowledge.

### **Mission driven**

Graduates of the programme will be equipped to contribute to the advancement of business practice in a global environment, with particular emphasis on aspects of Ownership, and/or Entrepreneurship and/or Renewal.

### *Corresponding Objectives:*

Graduates of the programme will be able to

12. Elaborate economic renewal with regards to causes and effects of firm dynamics.

The above is in accordance to the intended learning outcomes for a three-year Master's degree set by the Swedish Higher Education Ordinance and JIBS mission.

### **Contents**

The education is meant to prepare students for positions demanding specialised analytical and methodological skills in economics, especially those related to regional economics. Such positions may be found in both the public sector and the private sector. Students will be prepared for positions that deals with the impact of globalisation and structural change. This comprises elements such as mobility, knowledge supply, innovation and job creation. The students will thus be well prepared for positions involving practical and scientific knowledge and the use of this knowledge in new models and methods. The teachers connected to this programme are senior faculty in Economics and Statistics. Their research is in line with the topics they teach in each course giving the students access to their expertise knowledge given each topic. The faculty includes well-recognized and cited researchers.

The programme includes eight mandatory courses held in the autumn and spring semesters of the first year and one mandatory course (thesis in economics) in the spring of the second year. The autumn semester of the second year consists of 30 elective credits. Completing the degree successfully enables graduates to pursue an academic carrier. In this regard, writing the master thesis in a close connection to the research environment in the Economics discipline would enhance the students' ability of performing independence research.

### **First semester**

During the first semester the students of this programme will learn the core knowledge needed for a master programme in Economics including advanced level of micro-economic ( *Microeconomic Foundations of Economic and Financial Analysis*), macro-economic (*Advanced Macroeconomics and Growth*), mathematical methods (*Mathematical Methods for Economics and Financial Analysis*), and related to this specific programme knowledge about regional economics (*Economics of Cities and Spatial Methods*).

The course *Microeconomic Foundations of Economic and Financial Analysis* provides an introduction to the economic analysis of the behavior of economic agents and institutions. The main topics covered are the methodology of economic analysis, formal representations of the behaviour of consumers and firms, investment decisions, games and strategic behavior, competitive market analysis, analysis of oligopolistic markets and markets with asymmetric information and contracts and their incentive properties. The coverage of the analytical tools enables the students to immediately apply such tools to concrete problems, and provides the foundations for further studies in Economics.

In parallel, the course *Mathematical Methods for Economics and Financial Analysis* gives student knowledge concerning mathematical tools for economic and financial analysis including matrix algebra and dynamic mathematical systems. It focuses on mathematical concepts useful

for economics- or finance-focused statistics courses at the master's level or above. The contents of this course include (i) set theory and functions, (ii) matrix algebra: addition, multiplication, and inversion of matrices, eigenvalues, (iii) constrained optimisation with inequality constraints, (iv) the envelope theorem, (v) difference equations, and (vi) differential equations.

The second part of the first semester students take the course *Advanced Macroeconomics and Growth* that builds on knowledge covered in intermediate macroeconomics and has the objective to provide the student with theories and methods for analysing macroeconomic growth, including endogenous economic growth - especially related to human capital and R & D. The student also learns how to model, analyse, and forecast the development of aggregate variables, such as consumption, investment, unemployment, and inflation by considering economic trends, economic fluctuations, and business cycles. Critical remarks on the accuracy of model-based predictions form an essential part of the course. The course presents neoclassical models of economic growth and more recent models of endogenous economic growth. It also presents a model of "real business cycles", Keynesian and "New Keynesian" economic models, fixed-price models, and real "Non-Walrasian" models.

*Economics of Cities and Spatial Methods* explores the role of cities, and their role in the processes of economic and social evolution. During the last decades we have witnessed a rapid change from traditional manufacturing into a society primarily based on input from the human mind. Despite predictions of human activity decentralization, creativity and innovation are unevenly distributed geographically and highly concentrated. This course explores the geography of technology, creativity, innovation and the role of cities - the factors that shape the uneven geographic distribution across space. The course includes professional skills in processing, analyzing and describing data and different patterns using maps.

## Second semester

During the second semester students learn more about economic geography (*Advanced Geographical Economics*) and econometric modelling (*Analytical Methods for Economic and Financial Analysis and Advanced Econometric Analysis*). The second semester also includes a preparatory thesis-course focusing on writing and conducting literature reviews (*Critical Analysis and Academic Writing*).

The course *Analytical Methods for Economic and Financial Analysis* teaches students advanced statistical techniques, especially those relevant for microeconomic and trade analysis. The content of the course includes panel data regression models, and qualitative response models, and various time series methodologies. One large part of the course consists of an assignment where student can practice their analytical and statistical knowledge.

The focus of the course *Advanced Econometric Analysis* is to learn about advanced statistical techniques, especially those relevant for the economic sciences such as in finance, economics and to some extent business administration. The content of the course includes e.g. panel data regression models, and qualitative response models, and various time series methodologies. A large part of the course consists of computer labs using econometric software packages. An important element of the course is to prepare the student for writing their master thesis.

The objective of the course *Advanced Economic Geography* is to give students knowledge about location aspects of innovation and trade, on the basis of various forms of scale economies as well as proximity and network externalities. The course will provide the student with a capacity to critically analyse economic problems relating to location, specialisation and trade for regions of different types. It will establish competences in penetrating the reasons for how regions specialise and how they develop in a perspective of a global economy.

*Critical analysis and Academic writing* aim to train and develop the ability of students to independently analyze various economic problems within a selected field of research. The student learns and develops, in particular, the knowledge and analytical skills in a way that is valuable both for identifying topics for future thesis writing as well as for a scientific career. The course is further designed to train and improve the ability and skills of students to understand and relate different theories to one another, and the ability of students to identify the research frontier within a selected field and communicate this in writing. Students also train and improve the ability to engage in an academic discourse with established academic faculty.

### **Third Semester**

The third semester consists of elective courses and gives the opportunity for students to build a custom-made profile with respect to the choice of university and course package. Students who go abroad during this semester are recommended to take the equivalent of 22,5 credits Economics at A1N-level and 7.5 credits in statistics or econometrics. The recommendation is to select courses within the specialisation but some complementary topics might be relevant, given students' personal preferences and career plans. Students are limited to choose courses within the fields of economics, statistics, economic geography, business administration, commercial law and language. Students choose the courses at a partner university in coordination with JIBS faculty, and accreditation of the courses is also conducted by JIBS faculty.

An option to international exchange is to stay at JIBS, with the same limitation on types of courses as there are for students studying abroad. The elective semester at JIBS can include an academic internship of 7.5 or 15 credits as part of the course package. If the student decides to stay at JIBS a package of default courses is offered. The default courses are *Internship in Economics, Innovation, Entrepreneurship and Growth and Applied Econometrics*. The internship course is of special interest as JIBS guarantees several students to get an internship in one of the organisations in the local community (the actual number is announced in December each year). The students that get the internship are those that decide to stay at JIBS during the third semester and are those that have high academic performance. The students apply for the internship positions during the end of the first semester, parallel to the going abroad selection. The objective of the internship course in economics is to give the student experience in applying his/her theoretical knowledge in practical work concerning economics, thereby allowing the student to further develop skills in applying the theoretical approaches which have been treated in the various courses of the programme. The students that do not get any of the fixed positions are encouraged to also find an internship. If students fail to find an internship they will take the course at the advanced level at JIBS.

### **Fourth Semester**

During the fourth semester the student take the course: *Master Thesis in Economics*. The course includes the course moments: active participation in four research seminars, thesis writing under supervision, thesis presentation and defense at a seminar, opposition on another master thesis, and active participation in the master theses' seminars during the semester and in the end of the semester. The purpose of this course is to (i) train and develop the ability of students to independently analyze various economic problems by applying economic theory and scientific methods, (ii) develop, in particular, the analytical skills of students in a way that is valuable both for a scientific career and for a career in private enterprises, public administration, or international organizations, (iii) train and improve the stylistic ability of the students, (iv) develop the ability and skills of students to search and to evaluate information, and (iv) develop the ability of students to critically and constructively review the analyses of other students. In order to infuse practice in the programme and by this prepare students for their future career the thesis

course is structured so that the students have a close contact with the research department in Economics. In addition, real-life research questions from organizations in the local community are given to students for them to solve and answer. In addition, the solid statistical background gives the students useful professional skills and abilities in their future career.

All courses are taught in English. Due to the fact that JIBS has an exchange programme including a large number of partner universities, and the fact that this master programme and a number of other masters programmes at JIBS are open to students from around the world, the courses have a diverse international participation of students. The international diversity of the participants in this programme means that you will gain knowledge and experience in working with individuals from different cultures, giving the students important skills in their future careers. The international atmosphere is reinforced with international subject matter in this programme.

The following table shows an overview over the mandatory and elective courses in the programme.

#### Courses

##### *Mandatory courses*

Course Name	Credits	Main field of study	Specialised in	Course Code
Advanced Econometric Analysis	7.5	Statistics	A1N	JAAR26
Advanced Geographical Economics	7.5	Economics	A1N	JAGR24
Advanced Macroeconomics and Growth	7.5	Economics	A1N	ECWR23
Analytical Methods for Economic and Financial Analysis	7.5	Statistics	A1F	FSSS23
Critical Analysis and Academic Writing	7.5	Economics	A1N	ECOR23
Economics of Cities and Spatial Methods	7.5	Economics	A1N	JESR25
Master Thesis in Economics	30	Economics	A2E	JTEV27
Mathematical Methods for Economic and Financial Analysis	7.5	Economics	A1N	ECTR23
Microeconomic Foundations of Economic and Financial Analysis	7.5	Economics	A1N	JMFR27

##### *Elective courses*

Course Name	Credits	Main field of study	Specialised in	Course Code
Applied Econometrics <sup>†</sup>	7.5	Statistics	A1N	JAER26
Innovation, Entrepreneurship and Growth <sup>†</sup>	7.5	Economics	A1N	JIGR25
Internship in Economics - Master level <sup>†</sup>	15	Economics	A1F	JIES28

#### Elective credits

\*For all 2-year master programmes, in the autumn of the second year students have the options for courses either at JIBS or through exchange. The courses noted during this period are default courses at JIBS if the students do not participate in exchange or internship. The default courses in the optional semester are subject to change. During the third semester students are recommended to take 15 credits in economics at A1N and 7,5 credits in statistics/econometrics.

Students are recommended to choose similar courses as the default courses (or equivalent) offered at JIBS. Students are choosing their courses in coordination with faculty at JIBS, and accreditation of courses is also done through JIBS faculty.

\*\*JIBS guarantee a fixed number of internship positions. Other students are encouraged to also find an internship but it is not provided by JIBS. If students fail to find an internship they will take the course at the advanced level at JIBS.

1) Optional 30 credits (During the elective courses the student are recommended to take 22,5 credits in economics at AIN and 7,5 credits in statistics/econometrics) study abroad

#### Programme overview

##### Year 1

Semester 1		Semester 2	
Period 1	Period 2	Period 3	Period 4
Mathematical Methods for Economic and Financial Analysis, 7.5 credits	Advanced Macroeconomics and Growth, 7.5 credits	Advanced Geographical Economics, 7.5 credits	Advanced Econometric Analysis, 7.5 credits
Microeconomic Foundations of Economic and Financial Analysis, 7.5 credits	Economics of Cities and Spatial Methods, 7.5 credits	Analytical Methods for Economic and Financial Analysis, 7.5 credits	Critical Analysis and Academic Writing, 7.5 credits

##### Year 2

Semester 3		Semester 4	
Period 1	Period 2	Period 3	Period 4
Optional credits, 30,00 credits		Master Thesis in Economics, 30 credits	
<i>Applied Econometrics<sup>1</sup>, 7.5 credits</i>	<i>Internship in Economics - Master level<sup>1</sup>, 15 credits</i>		
<i>Innovation, Entrepreneurship and Growth<sup>1</sup>, 7.5 credits</i>			

#### Teaching and examination

To pass a course, the student needs to fulfill all the course requirements. Examination will be executed by written exam, oral exam or term papers. Different methods of examination can be used within a single course. The student will be offered examination opportunities in accordance with document: Regulations and Guidelines for first, second and third cycle education at Jönköping University. Mandatory workshops and assignments can figure within the frame of the course.

All courses offered by JIBS will be graded according to the following six levels: A-E constitutes a pass and FX or F is equal to a fail. The grades Pass or Fail can also be used for selected examinations.

#### Prerequisites

The applicant must hold the minimum of a Bachelor's degree (i.e the equivalent of 180 ECTS credits at an accredited university) in economics, or equivalent. The students must have at least 60 credits in Economics. Furthermore, a minimum of 15 ECTS credits in statistics/econometrics is required. Proof of English proficiency is required.

#### Continuation Requirements

To be eligible for study abroad, the student should, at the time of the study abroad application, have completed a minimum of 15 credits of the programme course credits scheduled prior to the study abroad selection process.

The following requirements need to be met for students to proceed to the second academic year



within the programme: within the programme the student must not fall behind by more than 30 credits.

### **Qualification Requirements**

To obtain the Master of Science (120 Credits) with a major in Economics, the student must have (i) 120 completed credits in economics with at least 60 credits in economics (or equivalent) used for entering into the programme, and (ii) at least 120 completed credits that were not used for the bachelor degree, with at least 90 credits overall in second-cycle courses and at least 60 of those second-cycle credits in economics.

To obtain the Master of Science (120 credits) with a major in Economics, with a focus on Economics Analysis, the student must complete: (1) the requirements for the Master of Science (120 Credits) with a major in Economics, (2) all mandatory programme courses as listed in the above Contents section, or their equivalent, and (3) a Master thesis in Economics (30 credits) that covers a topic relevant for the programme's specialisation.

### **Quality Development**

Our cooperation with JSA (the student organization) is crucial. This work is conducted on two levels, programmes and courses.

#### **Programme level**

On the programme level students elect student representatives for the programme and each study year of the programme. The student representatives and the programme managers meet regularly to discuss courses and the progress of the programme. The representatives stay in contact with course coordinators to share the overall impression and student experiences from course; in addition, the programme manager, student representatives, JSA and faculty meet annually to discuss the entire program.

#### **Course level**

On the course level, programme developers and the course leader meet shortly after the course has started. The purpose is to ensure that the course is working well and if necessary make minor changes. After each course is finished all students perform course evaluations in PingPong, and programme developers evaluate the course on the aggregate level and communicate with programme manager and the course leader

### **Other Information**

Additional information, regarding the programme, will be presented on JIBS homepage before each application period.