



## Spatial, Transport and Environmental Economics (MSc)

Vrije Universiteit Amsterdam - Fac. der Economische Wet. en Bedrijfsk. - M Spatial, Trans and Environmental Ec - 2013-2014

The Master's programme in Spatial, Transport and Environmental Economics is a high-quality one-year programme designed for the professional economist with an interest in spatial, transport or environmental economics. The Master is firmly grounded in economics, but allows the students to have a relatively strong multidisciplinary orientation. It addresses highly relevant and strongly interrelated policy issues in today's modern societies, such as regional development, urban problems, transport policies and environmental degradation. As such, it is concerned with virtually every aspect of our society in which factors such as space, distance and networks are critical issues. Illustrative questions that will be addressed are: How effective are pricing schemes in fighting congestion? How can typical urban problems such as poverty, crime and segregation be understood and tackled? How effective are European Cohesion Funds in fostering regional economic development? How can sustainable climate change policies be developed? What are the impacts of climate change on safety and risks of flooding? The programme will equip students with the essential tools of economics and other disciplines to study such questions both from a theoretical viewpoint and in an applied context.

Read the full description of the programme or use the schedule below for information on the individual courses in the programme.

## Inhoudsopgave

<a href="#">M Spatial, Transport and Env Ec</a>	1
<a href="#">Vak: Advanced Methods for Applied Spatial Economic Research (Periode 1)</a>	1
<a href="#">Vak: Airline Business (Periode 4)</a>	2
<a href="#">Vak: Applied Spatial Economics (Periode 4)</a>	3
<a href="#">Vak: Applied Transport Economics (Periode 2)</a>	4
<a href="#">Vak: Economics of Climate Change (Periode 4)</a>	5
<a href="#">Vak: Environmental Economics (Periode 2)</a>	6
<a href="#">Vak: Geographic Information Systems (Periode 2+3+4)</a>	8
<a href="#">Vak: Microeconomics for Spatial Policy (Periode 1)</a>	9
<a href="#">Vak: Network Analysis (Periode 2)</a>	11
<a href="#">Vak: Real Estate Management (Periode 5)</a>	12
<a href="#">Vak: Regional and Urban Economics (Periode 2)</a>	13
<a href="#">Vak: Research Project Spatial Economics (Periode 3)</a>	14
<a href="#">Vak: Thesis (Ac. Jaar (september))</a>	15
<a href="#">Vak: Transport Economics (Periode 4)</a>	15

# M Spatial, Transport and Env Ec

Vakken:

Naam	Periode	Credits	Code
Advanced Methods for Applied Spatial Economic Research	Periode 1	6.0	E_STR_AMASER
Airline Business	Periode 4	6.0	E_BA_AIRB
Applied Spatial Economics	Periode 4	6.0	E_STR_ASE
Applied Transport Economics	Periode 2	6.0	E_STR_ATE
Economics of Climate Change	Periode 4	6.0	E_STR_ECC
Environmental Economics	Periode 2	6.0	E_STR_EEC
Geographic Information Systems	Periode 2+3+4	6.0	E_STR_GIS
Microeconomics for Spatial Policy	Periode 1	6.0	E_STR_MESP
Network Analysis	Periode 2	6.0	E_BA_NA
Real Estate Management	Periode 5	6.0	E_BA_REM
Regional and Urban Economics	Periode 2	6.0	E_STR_RUE
Research Project Spatial Economics	Periode 3	6.0	E_STR_RPSEC
Thesis	Ac. Jaar (september)	18.0	E_STR_THS
Transport Economics	Periode 4	6.0	E_STR_TREC

## Advanced Methods for Applied Spatial Economic Research

<b>Vakcode</b>	E_STR_AMASER (60412080)
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. J.A. Bolhaar
<b>Docent(en)</b>	dr. J.A. Bolhaar
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	400

### Inhoud vak

Public policies need to be evaluated in order to understand their effectiveness; economic theory should be tested on data before it can be applied. The main objective of this course is to provide an overview of micro-econometric research methods in spatial economics and to teach you how to apply these methods to real-world data. After following this course, you will:

- have an advanced understanding of the mathematical and statistical concepts underlying regression analysis
- understand the importance of and difficulties in estimating causal effects as opposed to correlations in spatial economics problems
- know how to appropriately interpret regression results of various estimators and know which one to apply in particular situations, dependent on the nature of the data (cross-sectional / panel / duration / qualitative data) and the task at hand (evaluation of public policies, testing economic theories and estimating parameters derived from theory)
- understand and know how to apply techniques that are commonly in use in urban, regional, environmental and transport economics and policy: Spatial econometrics; Spatial interaction models and the gravity model; revealed and stated preference methods (including design of studies).
- be able to apply these methods independently to typical datasets in spatial economics and other domains (including labour economics and public economics) using the software package STATA

### Onderwijsvorm

lecture tutorial

### Toetsvorm

written examination (75 percent): some questions on the theoretical prerequisites but mainly interpretation of regression outputs and sketches of solution strategies for the estimation of particular parameters in well-defined situations. assignment (25 percent): group assignments to be handed in before the tutorials and discussed there: Some derivation of theoretical results relating to estimators and their properties, but mostly hands-on computer exercises applying the theoretical concepts to real-world data using the software package STATA and interpreting the results.

### Overige informatie

Students are strongly(!) advised to follow the Math Refresher course that is given from August 26 to 30, during the last week before the courses start officially

## Airline Business

<b>Vakcode</b>	E_BA_AIRB (61452050)
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. A.J.H. Pels
<b>Docent(en)</b>	dr. M.G. Lijesen
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	400

### Doel vak

The aviation sector is a popular topic in the media. Airport noise, airport expansion, airport privatization, airline alliances, airline bankruptcies, new aircraft design etc. etc. frequently are the topic of heated debate. This course looks at recent developments in the airline industry from a scientific perspective. The deregulation of the aviation

markets in 1978 (in the U. S. ) and in the 1980s and 1990s (E. U. ) led to some drastic changes in airline strategies and management styles. The origins and consequences of these changes are considered in this course.

### **Inhoud vak**

Why did you pay more (or less) for your ticket than the person sitting next to you in the aircraft. Why do KLM and easyJet have different network types? Why was it so important for KLM to enter an alliance agreement? By the end of this course, the student can answer such questions, and explain recent developments in the airline industry using basic economic knowledge on pricing, cost structures, and network design. Furthermore, the insights can be used to explain developments in other transportation sectors as well. Airline pricing, airline cost and network design are three important aspects that will be discussed throughout the course each of these aspects will return in a number of lectures. The lectures specifically deal with the following topics:

- Airline markets
- Airline pricing
- Airline output and market structure
- Airline cost
- Network design
- Network competition
- Airport systems
- Network management
- Revenue management
- Emissions trading

### **Onderwijsvorm**

lecture

working group

A network competition game is played, in which students compete with each other in a network setting. A short paper is written following this game this is part of the examination (20%).

### **Toetsvorm**

paper written interim examination

### **Literatuur**

Holloway, S., 2008, Straight and Level, Practical Airline Economics, Ashgate (later edition allowed) and lecture slides

### **Vereiste voorkennis**

The course 'Transport Economics and Management' is highly recommended. Students that did not follow this course have to contact the coordinators in advance.

## **Applied Spatial Economics**

<b>Vakcode</b>	E_STR_ASE (60422130)
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. J. Rouwendal
<b>Docent(en)</b>	prof. dr. J. Rouwendal, H.R.A. Koster

<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	400

### Doel vak

The aim of this course is to introduce the students to applications of spatial economics in the context of (policy) evaluation. After following this course, students should be able to judge the strengths and weaknesses of using various economic evaluation procedures in concrete policy situations.

### Inhoud vak

The course starts with a discussion of the welfare economic foundations of economic policy evaluation. Subsequently, we provide in-depth analyses of topics that are relevant in spatial economic policies. Subjects discussed include the current state-of-the art practice of hedonic price method for non-market goods, the application of sorting models to urban policy questions, the study of social interactions in an urban context, clustering of firms within cities and the spatial structure of contemporary cities. Special attention is paid to state-of-the-art econometric methods, such as sorting models and semi-parametric regressions, which are applied in two assignments. Several guest lecturers will illustrate the relevance of the economic approach to spatial problems.

### Onderwijsvorm

Lectures, guest lectures and tutorials

### Toetsvorm

Written exam (75%) and 2 assignments (2×12.5%)

### Literatuur

Scientific papers and lecture notes

## Applied Transport Economics

<b>Vakcode</b>	E_STR_ATE (60422140)
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. J.N. van Ommeren
<b>Docent(en)</b>	prof. dr. J.N. van Ommeren, dr. E.P. Kroes, J.S.A. Knockaert
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	400

### Doel vak

This course covers key topics in contemporary empirical transport research and policies. Key issues are

- discrete choice demand analysis
- applied panel data analyses and instrumental variables approach
- competition, concentration and market power
- regulation, deregulation and efficiency

- transport investment
- welfare effects of public- sector pricing and investment
- congestion pricing transport and land use
- parking policy (on-street, employer)
- cruising for parking
- company car policy

### Onderwijsvorm

lecture

tutorial

There will be two lectures each week in which the emphasis is on the teachers's explanation of the essential material. Active participation of the students is, however, expected in all lectures: class discussions will be part of all lectures. The tutorials will be devoted to econometric analysis and interpretation of transport data, which will be provided (e. g. data on speed of passenger travel, shipping).

### Toetsvorm

assignment

25 percent

written examination

75 percent

### Literatuur

McCarthy, Patrick, Transportation Economics: Theory and Practice – A Case Study Approach. Oxford: Blackwell.

About 4 to 6 empirical articles about parking and company car (which will be provided)

## Economics of Climate Change

<b>Vakcode</b>	E_STR_ECC ()
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. S. Poelhekke
<b>Docent(en)</b>	prof. dr. R.S.J. Tol, dr. S. Poelhekke
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	400

### Doel vak

Environmental problems can be of a local, a regional or a global nature. This course focuses on global issues. Two of the most important global environmental problems are the enhanced greenhouse effect and the relationship between international trade and the environment. This course aims to provide the student with a deeper insight in these issues, with a focus on environmental policy making in a globalizing world.

After having completed this course, you

- have a deep understanding of the fundamental difficulties and complexities of environmental policy making in an international context
- have gained insights in the economics of international agreements and



international trade

- are able to apply to theory to cases such as climate change, acidification and ozone depletion
- have sharpened your economic analysis in the group discussions and improved your presentations skills

### **Inhoud vak**

The course consists of lecturers teaching the state- of- the- art, and students giving presentations on seminal papers in the literature.

The lectures cover the following topics (provisional scheme)

- Introduction: Externalities and environmental policy
- Trade the environment: pollution havens versus factor endowments
- International environmental agreements
- Economic impacts of climate change
- Climate change policy making: instruments and costs
- The economics of acidification and ozone depletion

The first six classes are on the relationship between trade and the environment. Common wisdom is that trade is the source of many environmental problems. One of the main reasons for this is that governments are afraid that domestic environmental policies will reduce the home economy's international competitiveness and hence environmental policies are set too lax. In the first four lectures we analyze to what extent this fear is correct, both theoretically and empirically. We compare how the trade- off between international competitiveness and the environment depends on the type of pollutant (local pollutants such as PM10, or transboundary pollutants, such as SO2) as well as on the size of the domestic economy. In lectures 5 and 6 we turn to the issue of international agreements. Writing down a protocol which requires countries to reduce their emissions of CO2 or SO2 is easy (see for example the Kyoto Protocol and the Sofia Protocol), but what are the incentives for countries to actually join the coalition? And what is the role of trade sanctions therein?

The last eight lectures are on the economics of climate change and climate policy, and also on the problems of acidification and ozone depletion. The following subjects are analysed. What is climate change, and what are its causes and consequences? What are the economic impacts of climate change? What are the costs of emission reduction? How can emission reductions be achieved? What lessons do acidification and ozone policy hold for climate policy? What is optimal and equitable climate policy? How likely is this in reality? Are there effective and acceptable alternatives to optimal climate policy?

### **Toetsvorm**

written interim examination

### **Literatuur**

Articles (tba).

### **Vereiste voorkennis**

Microeconomics.

## **Environmental Economics**

<b>Vakcode</b>	E_STR_EEC (60442040)
----------------	----------------------

<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. S. Poelhekke
<b>Docent(en)</b>	dr. G.C. van der Meijden, dr. S. Poelhekke
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	400

### Doel vak

The aim of this course is to provide students with key insights regarding the nature of environmental problems and how environmental policy should be designed. This course consists of two parts. The first part comprises lectures by the teacher based on journal articles and on five chapters of an advanced textbook (Perman et al., 2011). The second part is devoted to group discussions based on readings of classical articles, which are presented by the students. Moreover, there will be two homework assignments, which will be discussed in class.

The lectures offer a treatment of modern economic theories and methods to study the relationship between natural resources, environmental quality, economic structure, and environmental policy. The student is expected to develop a thorough understanding of key economic, environmental and ethical aspects of environmental problems, and of the link between theory, methods and empirical analysis. The goal of the homework assignments is to practice working with economic models to analyze some important mechanisms in the field of environmental economics. The presentation/discussion sessions are intended to improve the participants' economic reasoning and communication skills.

After following this course, you:

- have a profound understanding of the fundamental factors why environmental problems materialize (positive and negative externalities);
- have a profound understanding about the strengths and weaknesses of the various environmental policy instruments (taxes, quotas, voluntary agreements);
- have a good understanding about the linkages between production technology, natural resources, and sustainability;
- are able to work with simple economic models to analyze the dependence between natural resource and the economy, and to study the effects of environmental policy;
- have a good understanding of the economic challenges faced by resource-rich economies;
- have sharpened your economic reasoning and intuition, and have improved your presentation skills.

### Inhoud vak

The following topics will be dealt with in the lectures:

- biological and physical aspects of environmental processes and problems;
- the economics of non-renewable and renewable resources;
- advanced topics in the economics of resource-rich economies;
- advanced topics in environmental policy theory (including instrument choice and the so-called 'Green Paradox');
- advanced theory and methods of monetary valuation of environmental

change;

- models for the analysis of environmental policy and natural resource use.

The topics for the group discussions and student presentations can be chosen by the participants. A list of key journal articles is available for a broad range of topics, but if students wish to present on a topic that is not on the list, that is possible too.

### Onderwijsvorm

Lectures, assignments, student presentations, and group discussions.

### Toetsvorm

Written exam (60%), presentation (20%), two assignments (10%), and class participation (10%) conditional on the exam grade being 5.0 or higher

### Literatuur

- Chapters 5-7, 11-12, 14-15 and 17 from Perman, P., Y. Ma, M. Common, D. Maddison, and J. McGilvray (2011), Natural Resource and Environmental Economics. Addison Wesley, Longman Ltd, 4th edition.

- Additional articles from the economics literature (available via BlackBoard)

### Aanbevolen voorkennis

A thorough understanding of microeconomics.

## Geographic Information Systems

<b>Vakcode</b>	E_STR_GIS (60452030)
<b>Periode</b>	Periode 2+3+4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. J.E.C. Dekkers
<b>Docent(en)</b>	dr. J.E.C. Dekkers, prof. dr. H.J. Scholten
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	400

### Doel vak

For economists, the spatial-economic market model of Von Thünen (1780-1850) was a major breakthrough in their spatial thinking. During this course, we will see how this spatial thinking has evolved from Von Thünen's time to the world of today.

The aim of this course in Geographical Information Science is to make students understand the importance of space and distance as key factors in applied research, in particular in the fields of regional, urban, transport and environmental economics. The students will be introduced into the theoretical and methodological issues of GIScience and GISystems and they will be trained in how GIS can assist and extend research. At the end of the course students will carry out an economic analysis, in which:

- can carry out an economic analysis in which they apply relevant theories and concepts as discussed during the lectures

- know how to use GIS software in their analysis
- will be able to explain what GIS is and how it can be used in business processes, in government policy planning and in scientific analysis

### **Inhoud vak**

This course introduces students to the role of location in (spatial) economics. It focuses on the informational value of location and on how to use the factor location when doing analysis.

The following list of core issues will be discussed during the lectures and practiced with during the tutorial/practical hours and the GIS assignment:

- Introduction to GIS
- Spatial data and spatial databases
- Setting up GIS research
- Types of spatial analysis
- Visualisation of results using GIS

### **Onderwijsvorm**

There will be two lectures each week in which the focal point is on the teachers' explanation of the essential material. Active participation of the students is, however, expected in all lectures. The tutorials will be devoted to empirical exercises, applying spatial concepts using GIS-software and spatial data, discussion of problem sets and assignments.

### **Toetsvorm**

Written interim examination: 70 percent

Assignments: 30 percent

(Each to be completed with a minimum score of 5.0)

### **Literatuur**

Academic papers (a list of papers will be distributed via Blackboard before the course)

### **Aanbevolen voorkennis**

This course provides explicit links with the core courses Regional and Urban Economics (period 2), Transport Economics and Environmental Economics (period 4), and with the course Advanced Methods (period 1), for instance by discussing empirical research from these fields during the lectures and using spatial data from these fields during the tutorials.

### **Overige informatie**

Teaching period 2 and 4 instead of 2, 3 and 4

## **Microeconomics for Spatial Policy**

<b>Vakcode</b>	E_STR_MESP (60412090)
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. A.J.H. Pels
<b>Docent(en)</b>	prof. dr. E.T. Verhoef
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	400

## **Doel vak**

The aim of this course is to equip the student with the microeconomic toolbox that is required to be able to structure and analyze economic and policy questions in the fields of urban, regional, transport and environmental economics from the economic viewpoint. These tools are indispensable to successfully follow the remainder of the program.

By the end of the course the student will:

- be familiar with the main microeconomics principles, and know how to analyze microeconomic problems using mathematical tools
- be familiar with the theory of spatial competition
- be familiar with the theory of cost functions for network sectors
- know the main concepts of consumer choice and firm behavior, and their relevance for economic and welfare analysis
- be able to evaluate economic policy with regard to efficiency, and know of the limitations to economic policy
- know possibilities and limitations in applied policy fields, such as welfare analysis, regulation of industry, cost benefit analysis, and policy coordination and competition

## **Inhoud vak**

The first three weeks the lectures coincide with the lectures of Microeconomics for policy, code E\_EC\_MEP. During these weeks, the following topics are discussed: consumer choice and demand, market structure, partial and general equilibrium analysis, welfare theory, market failure, and equity issues. The last three weeks differ between the two courses. This course will deal with topics that are of special interest in urban, regional, environmental and transport economics and policy.

The following topics are addressed:

- Applied welfare analysis: Cost
- Benefit Analysis
- Cost functions: economies of scale, scope, density and networks
- Market structures in network sectors
- Product and price differentiation (including spatial competition)
- Market failures and public policy
- Government failures: Policy coordination and competition

## **Onderwijsvorm**

There will be two lectures each week in which the emphasis is on the teacher's explanation of the essential material. Active participation of the students is, however, expected in all lectures: class discussions and making small exercises to better comprehend the material will be part of all lectures. The tutorials will be devoted to discussion of problem sets and exercises, where active participation of students is again required.

## **Toetsvorm**

take- home interim examination 20 percent written interim examination 80 percent

## **Vereiste voorkennis**

Participants are expected to have a basic understanding of microeconomic theory (bachelor level, e. g. Varian's Intermediate Microeconomics).

### Aanbevolen voorkennis

Students wishing to refresh their math skills are encouraged to attend the course "Math Refresher", starting August 27 (10.30am at 6A-04).

For more information about Math Refresher, see Blackboard.

### Overige informatie

Students wishing to refresh their math skills are encouraged to attend the course "Math Refresher", starting August 26 (10.30am at 6A-04).

For more information about Math Refresher, see Blackboard.

## Network Analysis

<b>Vakcode</b>	E_BA_NA (61422100)
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. T. de Graaff
<b>Examinator</b>	dr. T. de Graaff
<b>Docent(en)</b>	dr. T. de Graaff
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	400

### Doel vak

Firms and consumers typically operate in various types of networks. These can be both physical networks (such as transport and communication networks) and non-physical networks (such as information networks). The main objective of this course is to give you a basic understanding of economic network theory, which enables you to identify the relevance and consequences of networks for firms as well as for consumers.

After following this course, you:

- have a basic understanding of the fundamental economic principles underlying applied network theory;
- understand the role and behavior of various agents (government, consumers and firms) within network sectors;
- are able to understand the economic impacts that various forms of networks (i.e., transport networks, consumer networks, information networks, clustering of firms) have on the nature, size and behavior of firms;
- are able to determine optimal firm and consumer behavior conditional on the nature of the network;
- and have used applied network theory with (stylized) cases studies, in order to determine optimal firm or consumer behavior in combination with the nature of the network.

### Inhoud vak

The economic principles behind networks and their consequences for both firms and consumers form the backbone of this course. The lectures specifically deal with the following topics:

- basic applied network theory;
- government interventions in network sectors;
- clustering and spill-over effects between firms; - network

sectors (e.g. telecom, transportation, energy);

- information and communication goods;
- switching costs and lock-in effects;
- network externalities.

### Onderwijsvorm

Lectures and working groups concentrate on the application of network theory on stylized case studies

### Toetsvorm

- written interim examination
- assignments

### Literatuur

- Syllabus
- Selected papers

### Vereiste voorkennis

Transport Economics and Management (or knowledge of microeconomics at a bachelor level)

## Real Estate Management

<b>Vakcode</b>	E_BA_REM (61452040)
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. J. Rouwendal
<b>Docent(en)</b>	prof. dr. J. Rouwendal, dr. F. Hamelink
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	400

### Doel vak

The course provides an introduction to the understanding and the analysis of real estate markets and the investment alternatives available to both debt and equity investors. A large part of the focus will be on residential real estate. We study both the owner occupied and rental markets and pay particular attention to financial aspects, in particular the mortgage market. The secondary market for mortgages, where institutional investors invest in "pools" of mortgages, is analyzed in detail, in particular in light of the recent financial crisis. The last part of the course deals with other forms of real estate that institutional investors may invest in. This part will cover other property types (offices, commercial real estate, etc.) and investment vehicles, such as REITS. Although the course takes an international perspective, special attention is given to the Dutch situation.

### Inhoud vak

We study the characteristics of mortgage loans used by households to finance the purchase of a house, the functioning of the Dutch housing market including the role of policy interventions (notably mortgage interest deductibility and spatial planning), and the role of housing corporations. The 'secondary market' for debt related to this financing

is analyzed with a focus on the various instruments (such as CDO's and CMO's) that have played an important role in the current financial crisis. Finally, we also look at 'the other side' of the financing of real estate, namely, we take the perspective from an (institutional) investor, such as a pension fund, who considers real estate as one of many available asset classes. We will study the main characteristics in terms of risk and returns of the different forms of real estate available to the investor (such as investing in mortgage pools, investing in buildings, securitized real estate, etc), as well as by property type (such as residential versus commercial real estate).

After following this course you should be able to understand:

- the main characteristics of the most popular types of mortgage loans
- the pros and cons of fixed rate and adjustable rate mortgages
- the impact of fiscal measures on mortgage payments
- the role of the housing corporations on the Dutch rental housing market
- the importance of the secondary market in mortgages, as well as the available instruments for institutional investors such as pension funds
- the risk and returns characteristics of the main investment vehicles in real estate available to an institutional investor.

Real Estate Management is a joint effort of the departments of Spatial Economics and Finance and Financial Sector Management.

### Toetsvorm

written examination

### Literatuur

- Andrew E. Baum, David Hartzell, "Global Property Investment: Strategies, Structures, Decisions", December 2011, Wiley-Blackwell, ISBN: 978-1-4443-3528-6, Paperback, 576 pages.
- Additional course material will be provided on Blackboard

## Regional and Urban Economics

<b>Vakcode</b>	E_STR_RUE (60442140)
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. H.L.F. de Groot
<b>Examinator</b>	prof. dr. H.L.F. de Groot
<b>Docent(en)</b>	prof. dr. H.L.F. de Groot, prof. dr. J. Rouwendal
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	400

### Doel vak

The aim of this course is to provide students with an advanced introduction in the field of regional and urban economics. Students learn the theoretical and empirical methods applied in the field, and get a good understanding of the fundamental questions that are addressed in the field and the current state of affairs in the literature. They are trained to critically read and properly understand contributions in the leading journals in the field. At a more specific level, after having taken this course, students have a good understanding of the New Economic Geography Model, are familiar with the theoretical foundations



of agglomeration economies and their empirical evidence, understand the theoretical foundations of and can apply spatial interaction modelling, are familiar with regional growth theories, understand the function of regional labour and housing markets, and have a good understanding of the determinants of urban structures.

### Inhoud vak

This course covers advanced topics in theoretical and empirical research on regional and urban economics. Key issues are location and potential reasons for clustering of economic activity, spatial interaction (migration, trade, FDI and commuting), patterns of regional economic convergence and divergence, the role of geographic factors in explaining regional economic growth performance, the impact of (spatial) externalities of knowledge production, urban size and growth, urban land use, housing markets and the functioning of regional labour markets. The topics are addressed from a theoretical as well as an empirical perspective.

### Onderwijsvorm

lecture  
tutorial

### Literatuur

Steven Brakman, Harry Garretsen and Charles van Marrewijk (2009): The New Introduction to Geographical Economics, Cambridge University Press, Cambridge, MA (second edition)

## Research Project Spatial Economics

<b>Vakcode</b>	E_STR_RPSEC (60432070)
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. H.L.F. de Groot
<b>Docent(en)</b>	prof. dr. H.L.F. de Groot
<b>Lesmethode(n)</b>	Werkgroep
<b>Niveau</b>	400

### Doel vak

The ultimate goal of this course is to strengthen essential practical skills that characterize a good economist. One of the learning objectives of the Research Project is to provide you with hands-on experience on how to conduct a literature search and how to properly report on it. These are skills for which there are no standard recipes and can only be 'learned by doing'. At a lower, more pragmatic level, another goal is to allow you to make a head start with your Master's Thesis.

After following this course, you:

- are able to master a certain field of literature
- can identify the relative contributions of different articles to this field
- can identify remaining blind spots in the field that provide fertile

soil for further research

- have the ability to present this knowledge in a structured way, both as a written report and in the form of an oral presentation

### **Inhoud vak**

A critical attitude towards scientific papers is essential for a professional economist. During this research project, you are asked to identify a topic and review a coherent set of around 10 key scientific papers (approximately 250 pages) around this topic. You formulate a research question that allows you to reflect on the papers and put them into perspective. You write a critical and coherent evaluation (of around 10 pages in normal print) in which you present the essence of the papers studied, discuss the relatively strong and weak aspects of the different papers, where relevant compare and confront the different insights from the different papers with respect to the research question, and identify issues for possible further analysis. The evaluation should be written in a paper format, viz. it should contain an introduction with a clear problem statement, a proper structure, a clear and well- founded conclusion, list of references, etc.

### **Onderwijsvorm**

Group meetings with presentations. Students will be assigned the role of discussant of one fellow student during the process of the research project. These group meetings are complementary to the daily supervision of each student.

### **Toetsvorm**

report

written report + oral presentation

### **Literatuur**

No required literature. Suggested literature:

- Hart, Chris, Doing a literature review: releasing the social science research imagination. Sage: LA, London 2008, ISBN 978 0 7619 5975 5.

- Brett Davies, Martin: Doing a succesful research project: using qualitative or quantitative methods. Palgrave MacMillan: New York, 2007, ISBN 1 4039 9379 3.

- Hall, G.M. (ed.) How to Write a Paper. BMJ Books, London, 2003, ISBN 0 7279 1728 5.

## **Thesis**

<b>Vakcode</b>	E_STR_THS ()
<b>Periode</b>	Ac. Jaar (september)
<b>Credits</b>	18.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. J. Rouwendal
<b>Niveau</b>	500

## **Transport Economics**

<b>Vakcode</b>	E_STR_TREC (60432050)
----------------	-----------------------

<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. A.J.H. Pels
<b>Docent(en)</b>	dr. A.J.H. Pels
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	400

### **Doel vak**

The aim of this course is to provide students with an advanced knowledge of contemporary transport economics, considering both intra-city transport (e.g. congested road traffic, urban transit) and inter-city transport (notably aviation). Students

- learn theoretical and empirical methods applied in the field of transport economics and in related fields, such as transport planning.
  - get a good understanding of the fundamental policy questions that are addressed in the field, and the methods with which these are addressed.
  - learn the current state of affairs in the literature.
- are trained to critically read and properly understand contributions in the leading journals in the field.

### **Inhoud vak**

This course covers advanced topics in theoretical and empirical research on urban transport economics. Key issues are demand analysis; cost functions and scale economies for various modes; congestion analysis in static and dynamic formulations; network equilibrium and optimum for deterministic and stochastic network models; first-best and second-best pricing in static and dynamic networks; investment analysis under first-best and second-best pricing; and industrial organization aspects of intra-city (e.g. roads and transit) and inter-city (e.g. airports and airlines) transport. The topics are addressed from a theoretical as well as an empirical perspective.

### **Toetsvorm**

written interim examination: 70 percent  
 assignments: 30 percent (paper review tutorial 10 percent, network optimization tutorial 10 percent, methods tutorial 10 percent)

### **Literatuur**

- Small, K.A. and E.T. Verhoef, The Economics of Urban Transportation. Routledge, 2007.
- Additional literature for more specialized topics will be announced at the start of the course.

### **Aanbevolen voorkennis**

Microeconomics for spatial policy or a similar course