Universität Duisburg-Essen – Fakultät für Wirtschaftswissenschaften

Vorabprüfung des Learning Agreements (ERASMUS) / Learning Agreement (FREEMOVER)　　　**Datum:**

Name des Studierenden:		Ausländische Universität:	
Matrikelnr.:		Land:	
E-Mail:		Semesterbeginn:	
Studiengang:		Programm:	

Tabelle A: Studienprogramm im Ausland			Tabelle B: Anerkennungen in Essen	
Code	Titel der Vorlesung	Credits	Anerkennung für …	ECTS
	Gesamt-Credits:		Gesamt-ECTS:	

1. Student	**2. Koordinator** Das Learning Agreement wird genehmigt	**3. Prüfungsausschuss** Das Learning Agreement wird genehmigt
Datum / Unterschrift Student	Datum / Unterschrift Programmverantwortliche/r	Datum / Unterschrift Prüfungsausschussvorsitzende/r

Herr
Max Mustermann
Heidestraße 17
51147 Köln

Transcript of Records

Name: Max Mustermann

Geburtsdatum und -ort: 12.08.1964 Berlin

Matrikelnummer: 0123456

Abschluss: Master of Science

Fach (Fachsemester):   Gesundheitsökonomik (2. FS)

Bezeichnung der Leistung	Semester	Datum	CP	Note	Status
Märkte und Unternehmungen	WiSe 2020	24.12.2020	5	1,0	BE
Mathematik für Ökonomen	SoSe 2021	03.06.2021	5	2,7	BE
Grundlagen der Mikroökonomik	WiSe 2020	29.02.2021	10	1,7	BE
Statistik 1	WiSe 2020	31.12.2020	5	2,0	BE
Anwendung wirtschaftliche Kenntnisse	SoSe 2021	24.05.2021	10		BE

Die Bachelorprüfung ist noch nicht bestanden. Das Studium kann fortgesetzt werden.

12.07.21

_____   _____
Datum   Unterschrift und Stempel

NHH

ECN431 Applied Data Driven Business Analysis

Autumn 2021

- As an analyst, manager or economist, there are many important problems and questions you can only address by analyzing data. For instance, "if we increase the price of one product by 5%, what is the likely effect on demand for this and other products in our portfolio, as well as competitors' products?", "what are the consequences of high concentration in grocery retailing?", or "how does regulation change firm and consumer behavior?"

  Quantitative analysis of problems in business strategy, competition policy and market regulation requires both *knowledge* of the specific market, appropriate *models* to account for important mechanisms and structure the analysis, and ability to choose and correctly use *empirical methods* to estimate relevant unknown quantities.

  In this course, you will learn about the main features of several central markets in the economy, while being introduced to methods and models that will allow you to analyze important problems related to competition, consumer behavior, regulation and evolution of business. You will be equipped with sufficient knowledge to interpret empirical results and convey the information in professional settings.

  We plan to cover the following markets, with accompanying models and empirical

methods:

- ○ Electricity markets
  - ▪ Competitive supply and demand
  - ▪ Instrumental variables and estimating systems of equations
- ○ Grocery retailing
  - ▪ Product differentiation and pricing of product portfolios
  - ▪ Discrete choice methods
  - ▪ Machine learning for demand prediction
- ○ Banking and local competition
  - ▪ Market structure and sunk costs
  - ▪ Entry cost estimation
- ○ Pharmaceuticals
  - ▪ Innovation, intellectual property rights and patents
  - ▪ Differences-in-differences and value of patents
- ○ Production and distribution of beverages
  - ▪ Efficiency gains and competition loss in mergers and acquisitions
  - ▪ Merger simulation and analysis

- After completing the course, you will:

  Knowledge:

  - ○ acquire sound knowledge of economic models of market behavior and imperfect competition
  - ○ understand the relationship between economic models, data, and econometric analysis
  - ○ be familiar with the competitive environment and market structure in several central industries

  Skills:

  - ○ be able to choose the relevant economic model to answer questions related to market structure, entry, effects of mergers, pricing and technological change
  - ○ be capable of applying economic theory and suitable econometric methods to

make sense of market- and firm-level data

- ○ have learned to use statistical software to conduct relevant analyses, produce professional tables and figures, and replicate results at a later time

General competence:

- ○ be able to carry out an independent analysis, for instance as part of a master thesis, or in your future professional career
- ○ have the ability to present and communicate results of data driven projects in a professional context

- Lectures and computer labs. Lectures will be streamed and recorded. Lab sessions can be held on Zoom.

- Econometrics equivalent to ECN402.

  Familiarity with basic calculus will be assumed.

  In some cases, familiarity with the concepts introduced in BUS441 or ECO427 will be helpful; however, such knowledge is not assumed, and the important points will be covered in class.

- Oral presentation of term paper in English.

- The final grade will be based on two individual assignments (50%) and one group-based term paper (50%).

  The first assignment will be handed out early February, and the second assignment towards the end of February/beginning of March with two-week deadlines. The topic for the term paper should be decided by mid-February, and the deadline for the term paper will be in mid-April. The assignments and term paper must be written in English.

- Grading scale A-F

- We will use R in the lab. It will also be possible to use STATA to complete the assignments.

- Textbook:

  - Peter Davis & Eliana Garcés (2009): Quantitative Techniques for Competition and Antitrust Analysis, Princeton University Press

  Selected academic articles and chapters from:

  - Aguirregabiria, V. (2019). Empirical industrial organization: Models, methods, and applications (freely available online).
  - Tirole, J. (1988). The Theory of Industrial Organization. MIT Press.
  - Train, K. E. (2009). Discrete Choice Methods with Simulation. Cambridge University Press (freely available online).

Overview

ECTS Credits
    7.5
Teaching language
    English
Semester

    Spring. Offered Spring 2021.

Part of studies

- MSc in Economics and Business administration

Course responsible

Associate Professor Morten Sæthre, Department of Economics

Assistant Professor Mateusz Mysliwski, Department of Economics

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Jump to content

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MBM433 Customer Analytics in a Digital World

Autumn 2021

Spring 2022

- Many firms collect massive amounts of data about the digital behavior of customers in addition to targeted marketing research on perceptions and evaluations of products and services. The question is how to use these individual-level data to produce valuable customer insights and use them to acquire, retain, and satisfy customers? These are core elements of *customer analytics*. In this course, students will learn how to find answers to important questions asked by managers, such as:·

    - Which customers should we target?·
    - Why do customers choose one brand over another?·
    - How likely is it that a customer will drop out?·
    - Which customers should we try to keep/let go?·
    - What is the "life-time" value of a customer?

    The taught topics include:

    1. Introduction to Customer Analytics and Model Building Process
    2. Recency-Frequency-Monetary (RFM) analysis
    3. Logistic Regression

4. Decision Trees
5. Multinomial and Ordered Logit
6. Conjoint Analysis
7. Introduction to Advanced Topics in Customer Analytics
8. Introduction to Web and Social Media Analytics

- This course will cover the basic knowledge about customer analytics and the relevant concepts, as well as some of the most commonly used types of model to analyze customer behavior. After completing the course, students will be able to:

  Knowledge:

  - understand the basics of customer analytics and relevant concepts such as customer lifetime value and customer heterogeneity·
  - understand important customer behaviors and know how to collect data to analyze them·
  - understand when a given type of customer model should be used and why is that

  Skills:

  - perform some commonly used customer models using R·
  - interpret and give intuitive explanation for the results of different customer models·
  - perform model evaluation and model selection·
  - adjust the specification of different models to fit real-world data

  General Competence: ·

  - use analytical thinking to solve real-world business problems·
  - differentiate between different types of customer models and know when and how to use them properly·
  - communicate key results/insights from customer models to general audience·
  - make informed decision based on customer analytics

- The course format: Lectures and lab sessions/tutorials where students work on

group-based exercises/assignments.

In case on-campus teaching is not possible , all lectures will be conducted online (with no in-classroom teaching and with no on-campus activities). All necessary information will be provided on Canvas and it is assumed that students are aware of all course-related information posted in Canvas. Lab sessions/tutorials will also be conducted digitally.

Lectures provide students with theoretical knowledge about customer analytics concepts and a basic understanding of different customer models. Practical/modeling skills will be gained through a set of group-based hands-on exercises and assignments. Students are required to work in groups in this course and it is students' responsibility to find and join a group of 2-4 persons. Students can search for group members through Canvas or using their own ways.

- Group based written term paper. Group size 2-4 students. (Approved / not approved)

  Course approval only valid in the semester the student attends the lectures.

- The course assessment will be a final group-based term paper (group size 2-4). One final grade will be given. The term paper must be written in English. For students who wish to retake the course, the final group-based term paper must be retaken.

- A-F

- R (and RStudio), a working laptop for lab sessions.

- Leeflang, P., Wieringa, JE, Bijmolt, THA, Pauwels, KH (2015). Modeling Markets: Analyzing Marketing Phenomena and Improving Marketing Decision Making

  And a list of selected journal articles.

Overview

ECTS Credits

7.5

Teaching language

English

Semester

Spring. Offered spring 2021.

Part of studies

- MSc in Economics and Business administration

Course responsible

Assistant Professor Nhat Quang Le, Department of Strategy and Management.

NHH Norwegian School of Economics

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NHH

ECN402 Econometrics

Autumn 2021

Spring 2022

- The course introduces regression analysis applied to cross-sectional data, panel data and time-series data. Instrumental variables and differences-in-differences techniques to solve potential endogeneity problems will also be taught. The course will focus on applications of the econometric techniques and on practical and empirical examples.

  - The simple regression model, and regression with multiple regressors
  - Potential outcomes, causality and correlations
  - Panel data techniques and differences-in-differences
  - Time-series analysis
  - Instrumental variable techniques

- Upon completion of the course, students will

  Knowledge

  - understand what assumptions econometric models are based on
  - understand the necessary assumptions to interpret our estimates as effects relevant for policy and decision making
  - know the central concepts and terminology of econometrics

Skills

- be able to interpret the results of empirical analyses
- be able to choose between regression models, appropriate control variables and potentially important non-linearities and functional forms
- be able to assess the validity of causal claims, and to disentangle correlations and causality
- be able to conduct quantitative analysis where several factors can affect an outcome variable simultaneously
- be able to use STATA for doing econometric analysis, produce do-files and log-files, import data in different formats, and produce tables and figures
- be able to choose and apply an appropriate scientific method for analysing the research question

General competences

- be able to interpret and critically assess empirical work in applied econometrics
- know the structure and requirements for a master thesis, and be able to develop a research question
- understand the ethical issues in collecting, storing and using data
- have a good background for more advanced econometric courses

- The course consists of 15 lectures/classes and 5 practical computer sessions where the students learn the use of the econometric software STATA. The first computer session introduces STATA, and in the 4 remaining sessions the students will receive assistance in solving assignments. Students need to bring their own computer. Two of the four assignments must be submitted in order to get course approval. Assignments may be submitted in groups, and feedback on the assignments will be given. Assignments must be written in English.

  We follow NHH guidelines related to the COVID 19 health crisis regarding teaching during autumn 2021.

  Lectures will be held in the auditorium and will be filmed or supplemented by

videos. If teaching in the auditorium is not possible then we move to zoom or alternative platforms.

The 5 practical computer sessions will be offered in the auditorium or smaller group rooms. They are supervised by teaching assistants. Depending on capacity and demand, we offer in addition computer sessions on zoom.

- Basic knowledge in statistics.

- ECN402 is a renaming of the previous ECO402, and students cannot get credit for both courses.

  ECN402 can not be combined with BUS444, BUS444E, BAN431, FIE401/FIE401A /FIE401B or FIE449, due to similarities - and students will not get credit for both courses.

- Two out of four assignments must be submitted and approved in order to get course approval. Assignments may be submitted in groups of maximum 3 students. Feedback will be given on the assignments. Assignments must be written in English.

- The final grade is based on an individual four (4) hours digital home exam. The exam answer must be in English.

- A-F

- Econometric software package STATA.

- Main textbook:

  Jeffrey M. Wooldridge (2019): Introductory Econometrics: A Modern Approach, 7th edition

  Supplementary literature:

  Joshua D. Angrist and Jörn-Steffen Pischke (2014): Mastering 'Metrics: The Path from Cause to Effect.

Overview

ECTS Credits

　7.5

Teaching language

　English.

Semester

　Autumn and Spring. Offered Autumn 2021.

Part of studies

- MSc in Economics and Business administration

Course responsible

Professor Øivind A. Nilsen, Department of Economics (hovedemneansvarlig).

Professor Astrid Kunze, Department of Economics.

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ECN431 „Applied Data Driven Business Analysis"

https://www.nhh.no/en/courses/applied-data-driven-business-analysis/

MBM433 „Customer Analytics in a Digital World"

https://www.nhh.no/en/courses/customer-analytics-in-a-digital-world/

ECN402 „Econometrics"

https://www.nhh.no/en/courses/econometrics/