Course syllabus

School of Business and Economics

3FNA025
Applied Production Economics, 7,5 ECTS

Main field of study
Economics

Subject Group
Economics

Level of classification
Third Level

Date of Ratification
Approved by the Dean of the School of Business and Economics 2019-04-03

Prerequisites
Each student should be accepted as a doctoral student in Economics.

Objectives

After completing this course, the student should be able to:

- Get knowledge about the axioms for a production technology
- be able to go from primal to dual production space
- apply mathematical programming approach to solve Data Envelopment Analysis problems
- practically apply statistical software to estimate average and frontier a production function.
- be able to practically derive distance functions for estimation of multi input and multi output production
- compute scale elasticity from an estimated production function
- formulate a research question and develop an empirical strategy to answer this question

Content

The content of the course is the following topics

- The axioms of production, cost, revenue and profit relations
- Duality theory (production to cost)
- Distance functions to represent technology
- Application of mathematical programing to solve DEA
- Statistical foundations for stochastic frontier analysis
- Application of stochastic frontier analysis

Type of instruction

The teaching consists of lectures, exercises and seminars. Mandatory notes are shown in the schedule.

Language of instruction: English

Examination

The examination consists of a written exam and hand-in a written report. The grade is based on assessment of written examination and the hand-in.

For an approved grade on the course it is required:
Attendance and active participation at the seminar, approved results on written examination and approved result on the handed in report.
The course will be graded Fail or Pass.

Course evaluation

During the implementation of the course or in close connection to the course a course evaluation is to be carried out. Result and analysis of the course evaluation is to be presented as feedback both to the students who have completed the course and to the students who are to participate on the course the next time it is offered

Required reading

Kumbhakar, S.C., Wang, H-E. & Horncastle, A.P. (2015) *A Practitioner's Guide to Stochastic Frontier Analysis Using STATA,* Cambridge University Press, page 3-146, other parts reference for exercises and demonstrations

Bogetoft, P. & Otto, L. (2011) *Benchmarking with DEA, SFA and R*, Springer, pages: 3-262, other parts reference for exercises and demonstrations.

Additional Study Material:

Scientific Articles. About 250 pages that illustrates applications
Additional literature is determined by the course responsible in consultation with the participants.