# MET 3590 Methods and Econometrics

**Programme**
Bachelor of Auditing (2. year), Bachelor of Business Administration (2. year)

**Responsible for the course**
Genaro Sucarrat

**Department**
Department of Economics

**Term**
According to study plan

**ECTS Credits**
7,5

**Language of instruction**
Norwegian

**Introduction**
The course provides an introduction to the research methods of the social sciences and to econometrics ( Statistics multivariate analysis of data with regression ).

## Learning outcome
**Acquired Knowledge**
After the course, the students will have knowledge about:
- Important research methodological concepts
- Knowledge of the main approaches (both qualitative and quantitative) to the collection, processing and analysis of data
- Basic econometrics
- Possibilities and limitations of econometric tools for business uses (research, quality control, forecasting, logistic analysis and control, etc.)
- Limitations in the case where statistical assumptions are violated
- The plurality of interpretation and uncertainty associated with econometric analysis

**Acquired Skills**
After the course the students will be able to:
- Understand and assess research based on scientific principles
- Evaluate which approaches that best suit the nature of a research question
- Collect, process and analyse data on the basis of scientific research methods
- Conduct econometric analysis by means of modern econometric software
- Conduct and interpret the results of multiple econometric hypothesis testing, also in the cases where the classical assumptions are not fullfilled
- Undertake model diagnostics and model selection

**Reflection**
The  students should acquire a conscious and critical attitude towards data, towards econometric analysis, and towards the assessment and interpretation of results from applied research

**Prerequisites**
MET 2920 Statistics for economists or MET 3431 Statistics, or the equivalent.

**Compulsory reading**
**Books:**
Johannessen, Asbjørn, Line Kristoffersen og Per Arne Tufte. 2011. Forskningsmetode for økonomisk-administrative fag. 3. utg. Abstrakt forlag
Sucarrat, Genaro. 2015. Metode og økonometri. 1. utg. Fagbokforlaget

**Recommended reading**
**Books:**
Brooks, Chris. 2014. Introductory econometrics for finance. 3rd ed. Cambridge University Press
Bårdsen, Gunnar og Ragnar Nymoen. 2011. Innføring i økonometri. Fagbokforlaget
Hellevik, Ottar. 2002. Forskningsmetode i sosiologi og statsvitenskap. 7. utg. Universitetsforlaget
Wooldridge, Jeffrey M. 2013. Introductory econometrics : a modern approach. 5th ed., international ed. Cengage

Learning

## Course outline
- Research methods and the philosophy of science
- Research questions, hypotheses and types of data
- Variation in research design, plurality of interpretation and the uncertainty of inference
- Simple and multiple regression
- Variation in functional form
- Regression with qualitative right-hand side variables
- Multicolinearity
- Heteroscedasticity
- Autocorrelation
- Specification error and model selection
- Dynamic models and forecasting
- Qualitative left-hand side variables

## Computer-based tools
EViews, Stata, OxMetrics, Gretl or R

## Learning process and workload
The course consists of 42 lecture hours, where the lectures may be combined with the solution of exercises and the use of software

Coursework requirements
As a means towards learning two obligatory exercises have to be solved and handed in during the semester. Both of these are obligatory and must be passed in order to be allowed to do the final exam. Each of the exercises consist of two parts, one case-based part that requires the use of software, and one part that is not case-based. The publication, solution and handing in of the exercises is done via the current learning platform (It's Learning). Feedback is given either via It's Learning and/or lectures.

**Recommended time used**

| Aktivitet | Hours |
|---|---|
| Lectures | 36 |
| Instruction on the use of econometric software | 6 |
| Solution of exercises | 70 |
| Self-study, preparation to lectures and group-studying | 60 |
| Obligatory exercises | 15 |
| Exam case and exam | 13 |
| **Recommended time used in total** | **200** |

## E-learning
In course delivery as online courses or evening classes, will lecturer, in collaboration with the Academic Services Network and evening studies, organize an appropriate combination of digital and class room teaching. Online students are also offered a study guide, which will help progression and overview. Total recommended amount of time for completion of the course also applies here.

## Use of hours

## Coursework requirements
In order to be allowed to enter for examiniation, two obligatory exercises have to be solved and handed in during the semester, see above under learning process and time-use

## Examination
A three-hour individual multiple-choice exam concludes the course.
The questions on the exam will be partially based on a case that is handed out two weeks before the examination date. The results of the case study are not be submitted, but brought to the examination as a support material. In addition to questions from case the case study, the examination will include questions from the entire syllabus.

## Examination code(s)
MET 35901 - Multiple choice exam, which counts for 100% of the grade in MET 3590 Methods and Econometrics, 7.5 credits.

## Examination support materials
All support materials + BI approved exam calculator. Examination support materials at written examinations are explained under examination information in the student portal @bi. Please note use of calculator and dictionary in the section on support materials (https://at.bi.no/EN/Pages/Exa_Hjelpemidler-til-eksamen.aspx).

## Re-sit examination
Re-sit examiniation is offered every term.

**Additional information**