Syllabus

Course description

<table>
<thead>
<tr>
<th>Course title</th>
<th>Econometrics for Finance</th>
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<tbody>
<tr>
<td>Course code</td>
<td>27348</td>
</tr>
<tr>
<td>Scientific sector</td>
<td>SECS-P/05</td>
</tr>
<tr>
<td>Degree</td>
<td>Bachelor in Economics and Management</td>
</tr>
<tr>
<td>Semester and academic year</td>
<td>2nd semester 2022/2023</td>
</tr>
<tr>
<td>Year</td>
<td>3</td>
</tr>
<tr>
<td>Credits</td>
<td>6</td>
</tr>
<tr>
<td>Modular</td>
<td>No</td>
</tr>
<tr>
<td>Total lecturing hours</td>
<td>36</td>
</tr>
<tr>
<td>Total lab hours</td>
<td>18</td>
</tr>
<tr>
<td>Total exercise hours</td>
<td>-</td>
</tr>
<tr>
<td>Attendance</td>
<td>Suggested, but not required</td>
</tr>
<tr>
<td>Prerequisites</td>
<td>Probability and Statistics course strongly suggested</td>
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<td>Course page</td>
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Specific educational objectives

The course refers to the complementary educational activities and belongs to the scientific area of Economics.

The course provides the fundamentals of econometrics, statistical modelling and time series analysis to study economic and financial phenomena. In particular, the course covers three main topics: (1) The linear regression model; (2) ARIMA models; (3) GARCH models

The aim is to develop specific skills in applied econometric research by a mixture of lectures and computer classes

Lecturers

Greta Goracci

Office: BZ I3.06
e-mail: greta.goracci@unibz.it

Scientific sector of the lecturer

SECS-P/05

Teaching language

English

Office hours

18 hours
Cockpit – students’ zone – individual timetable

Lecturing assistant

Andrea Menapace

Teaching assistant

- 

Office hours

none

List of topics covered

1. The linear regression model
| Simple/Multiple linear regression  
| Estimation and inference on the regression coefficients  
| Goodness of fit and multicollinearity  
| Residual Analysis and Diagnostics  
| 2. ARIMA models  
| AR models  
| MA models  
| ARMA models  
| Forecasting  
| 3. GARCH models  
| Volatility analysis  
| Tests for ARCH effects  
| ARCH/GARCH models  

<table>
<thead>
<tr>
<th>Teaching format</th>
<th>Frontal lectures</th>
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| Learning outcomes  
Knowledge and understanding:  
- Advanced knowledge and understanding of statistical methods related to common types of financial and business data.  
Applying knowledge and understanding:  
- Ability to apply statistical methods to real financial data sets using statistical software.  
- Ability to interpret the results of the analyses in the context of common finance and business problems.  
Making judgments  
- Ability to think critically and make effective decisions based on appropriate statistical analyses.  
Communication skills  
- Ability to communicate effectively the results from statistical analyses, even to a non-specialised audience. |
| Assessment  
Final Exam (60% of the final grade in the subject):  
Written exam  
Assignment (40% of the final grade in the subject):  
Analysis of a real dataset through the R software  
The final exam assesses the understanding of the theoretical concepts introduced during the course. The assignment measures the student’s ability to apply the methods to real datasets and to interpret the results. |
| Assessment language | English |

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### Evaluation criteria and criteria for awarding marks

<table>
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<tr>
<th>Final exam: 60%</th>
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<td>Assignment: 40%</td>
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Students must pass the final exam (i.e. answer correctly at least 60% of the questions in the exam) to receive a passing grade in the course.

### Required readings


### Supplementary readings

Further references will be given in class.