1. COURSE DESCRIPTION

Content. The course will provide understanding of macroeconomic forecasting methods. Hands-on examples and training of economic forecasting using real data and the econometrics software EViews will be provided.

Relevance. Determining the state of the economy in the business cycle and having expectations of the future path of the economy is of high importance for the design of monetary and fiscal policies, but it is also relevant for the decisions of companies and households.

2. LEARNING OUTCOMES

Key outcomes. By the end of the course, students will be able to
- interpret economic data
- understand the components of economic time series (trend, cycle, irregular component)
- generate macroeconomic forecasts with time series models, VAR models, ECMs, structural macroeconomic models
- understand the merits and limitations of economic forecasts
- evaluate different forecast methods

Other outcomes. The course will also help develop skills in the following areas.

<table>
<thead>
<tr>
<th>Learning Area</th>
<th>Learning Outcome</th>
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<tbody>
<tr>
<td>Critical Thinking</td>
<td></td>
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<tr>
<td>Quantitative Reasoning</td>
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<tr>
<td>Technology Skills</td>
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<tr>
<td>Interpersonal Communication Skills</td>
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<tr>
<td>Management Knowledge and Skills</td>
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</table>
3. READING LIST


4. TEACHING METHOD AND LEARNING ACTIVITIES

The course will involve a mix of. specifically, learning objectives will be achieved through
- Face-to-face lessons
- Practical analysis of the time series properties real macroeconomic data
- Practical generation of forecasts using the EViews software
- Evaluate forecasts generated with different methods

5. ASSESSMENT

Grading will be based on the total score out of 100, in line with CEU's standard grading guidelines

1. Interim practical exercise 30 %
2. Final practical exercise 60 %
3. Presence and activity 10 %

1 (30 %). Interim practical exercise: in the interim practical exercise, students will examine macroeconomic time series and create forecasts of these time series with different methods.
**2 (60 %). Final practical exercise:** at the end, students are expected to analyze the properties of real-world data, generate forecasts with more methods than in the interim exercise, and evaluate these forecasts.

**3 (10 %). Active participation:** students are expected to regularly attend classes and participate actively in discussions.

As an alternative to a grade, students have the option of auditing. To get an audit, students have to attend the class regularly and complete a practical exercise, comparable to the interim practical exercise.

### 6. TECHNICAL REQUIREMENTS

EViews software

### 7. TOPIC OUTLINE AND SCHEDULE

<table>
<thead>
<tr>
<th>Session</th>
<th>Topics</th>
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<tbody>
<tr>
<td>1-2</td>
<td>Data issues</td>
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<tr>
<td>3-4</td>
<td>Definition and measuring of reference cycles: starting point, length, turning point of the business cycle</td>
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<tr>
<td>5-6</td>
<td>Estimating potential GDP</td>
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<tr>
<td>7-8</td>
<td>Indicators: identification, classification (lagging, coincident, leading); bridge equations</td>
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<tr>
<td>9-10</td>
<td>Forecasting with time series methods and structural models</td>
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<tr>
<td>11-12</td>
<td>Forecast evaluation</td>
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</tbody>
</table>

### 8. SHORT BIO OF THE INSTRUCTOR

Klaus Weyerstrass is a researcher at the Institute for Advanced Studies (IHS), Vienna, Austria, in the research group “Macroeconomics and Business Cycles”. He is also a lecturer at the Vienna University for Economics and Business (Wirtschaftsuniversität Wien), where he teaches International Macroeconomics. Klaus Weyerstrass obtained his PhD in economics as well as his venia docendi in economics from the University of Klagenfurt, Austria. His research interests include macroeconometric modeling, business cycle analysis and forecasting, fiscal policy including multiplier analyses, productivity analyses, and the future economic governance of the EU and the Eurozone. He published several papers in refereed journals and book chapters on these topics.