

Syllabus  
**ECO5023 European Financial Markets (MBA and IMEP)**  
Prof. Dr. habil. Dirk Wentzel and Dr. Alexander Del Toro Barba (Google)  
Winter Semester 2021/22

<b>Level</b>	Master
<b>ECTS-Credits</b>	3
<b>Students Contact Hours</b>	2 <b>(fast track)</b>
<b>Workload</b>	90 hours, 30 hours within class and 60 hours for self-study (term paper) Virtual visit to the European Central Bank in Frankfurt and Frankfurt stock exchange (Deutsche Börse), field trip Munich (optional)
<b>Prerequisites</b>	Microeconomics and Macroeconomics
<b>Time</b>	Wednesday, 3.30 pm – 6.45 pm
<b>Room</b>	W3.2.04
<b>Start date</b>	October 6, 2021
<b>Lecturer(s)</b>	<b>Prof. Dr. habil. Dirk Wentzel and Dr. Alexander Del Toro Barba (Google)</b> <b>Jean Monnet Chair in European Economic Integration</b> <b>Office W4.1.05</b> <b>Virtual Office</b> <a href="#">Internet Office Wentzel</a> <b>Office Hours</b> Monday, 1.45 – 3.15 pm <b>Phone</b> 07231-286293 <b>Email</b> <a href="mailto:dirk.wentzel@hs-pforzheim.de">dirk.wentzel@hs-pforzheim.de</a>

## Short Description

This class is addressing international master students from our partner universities (IMEP) and local students from our MBA program.

The seminar is co-taught with Dr. *Alexander Del Toro Barba* from Google who is an expert in Machine Learning, Artificial Intelligence, and Quantum computing. His PhD thesis dealt with AI and finance.

Dependent of the group size, we will have several topics for a small term paper (max. ten pages) and a ppt presentation. Dr. *Del Toro Barba* will supervise some topics in this expertise. He is available online (Zoom) and he will give several presentations in hybrid settings with Dr. *Wentzel* in classroom.

## Outline of the Course and topics for seminar papers/presentations:

Professor *Wentzel* will give an introduction into finance and explain the scope of the research papers. Topics No. 4 and 5 (QC and ML) will be presented, supported and supervised by Dr. *Del Toro Barba* from Google.

1. The European project for a digital Euro: Just another currency?
2. The stability performance of the EURO after 15 years: A comparative approach to world currencies.
3. The ECB's "Creative monetary policy": A contradiction to its stability promise?
4. Quantum Computing in Finance: Challenges, risks and opportunities.
5. Machine Learning in Finance: Challenges, risks and opportunities.
6. The evolution and performance of krypto currencies: Opportunities, challenges and risks.

## Course contributions to the MBA program goals / learning outcomes

Goal	Learning Objectives	Course Contributions to Goal	Assessment
<b>1 Responsible leadership in organizational contexts</b>	1.1 Knowledge of leadership principles 1.2 Application of leadership principles 1.3 Critical reflection of leadership concepts	Leadership in finance requires a deep knowledge of the latest trends and technologies in finance.	Term paper and presentation in class
<b>2 Creative problem solving skills in a complex business environment</b>	2.1 Ability to identify, differentiate and classify problems 2.2 Ability to analyze problems (instrumental competence) 2.3 Ability to find creative solutions (systemic competence)  2.4 Ability to present problems (communicative competence)	Term paper and presentation in AI and QC require analytical skills, empirical tools and creativity.	Presentation in class and discussion with Professor, external lecturer and other students.
<b>3 Research Skills</b>	3.1 Methodological knowledge (extending knowledge) 3.2 Competence in applying relevant state of the art research methods (instrumental competence) 3.3 Ability to collect innovative results by using relevant research methods (systemic competence)	Highest standards in academic paper writing, applying modern tools like econometrics, AI, QC	Discussion with Professor, feedback during preparation of the term paper.
<b>4 Management of Innovation</b>	4.1 Fundamental knowledge of operational innovation processes 4.2 Ability to assess a company's innovation potential 4.3 Ability to develop complex technological strategies	Financial Innovation, analysis of a complex market connecting different business cultures	Presentation in class and discussion with Professor, external lecturer and other students.
<b>5 Management of the challenges of global sustainability and awareness for social and corporate responsibilities</b>	5.1 Fundamental knowledge of sustainability issues 5.2 Ability to identify and analyze sustainability issues and its causes 5.3 Development of sustainability strategies	All topics in finance are confronted with their ethical and sustainability impact	Presentation in class and discussion with Professor, external lecturer and other students.

## Teaching and Learning Approach

Usually, this class is taught in an interactive approach with lecture elements, discussions, case studies and a field trip to the European Central Bank in Frankfurt and the German Stock Exchange (Deutsche Börse).

This semester, we are pleased to introduce Dr. Alexander Del Toro Barba as an additional instructor for this expert seminar. Dr. Del Toro Barba is machine learning specialist with Google. He will be available online and in hybrid meetings.

Due to the special circumstances of the Corona pandemic, the visits to the European Central Bank and to the German Stock Exchange will be virtual (see time table).

The final assessment will be based on a short term paper (max. ten pages) and a presentation. The class ends before Christmas.

## Literature and Course Materials

- ***De Haan, Jacob; Oosterloo, Sander; Schoenmaker, Dirk (ed.) (2015): Financial Markets and Institutions – A European Perspective, Cambridge University Press.***
- *De Grauwe, Paul* (latest edition): Economics of Monetary Union, Oxford
- *European Central Bank* (2017): The ECB, Frankfurt.
- *Moussis, Nicholas* (2008): Access to European Union law, economics, policies, European Study Service.
- *Neal, Larry* (latest edition): The Economics of Europe and the European Union, Cambridge.
- ***Wentzel, Dirk (2021): Updated reader in European Financial Markets will be provided online (based on the book of De Haan, Oosterloo and Schoenmaker).***

**Further materials from the European Union will be provided in class!**

## Assessment

The final assessment is based on a term paper (max ten pages) and a presentation in class including discussion.

## Schedule

October 6, 2021	First meeting, discussion of materials, websites, lecture list, introduction and motivation
October 13 until December 15	Regular class
<b>Oktober 20</b>	<b>Online presentation Dr. Del Toro Barba: Quantum Computing and Finance</b>
<b>Oktober 27</b>	<b>Online presentation Dr. Del Toro Barba: Machine Learning and Finance</b>
<b>November 3</b>	<b>No class</b>
<b>November 23</b>	<b>12.00 o'clock (noon) Virtual visit to the German Stock Exchange (Deutsche Börse)</b>
<b>November 30 – December 1</b>	<b>Field trip to Munich Allianz Arena (optional)</b>
<b>December 7</b>	<b>12.00 o'clock (noon) Virtual field trip to the European Central Bank</b>
December 15, 2021	Presentations in a hybrid setting (Dr. Wentzel in class, Dr. Del Toro Barba online)

### Availability of the Professor

Prof. Wentzel is available during his office hours (Monday 1.45 pm – 3.15 pm), after class and by appointment. **Prof. Wentzel is also available by appointment through digital communications channels (Zoom, Alfaview).**

### Academic Integrity and Student Responsibility

I fully trust my students concerning academic integrity and standards. This class is based on mutual trust and multi-cultural respect.

### Rules of Conduct for Online Teaching/Hybrid Meetings

If the technical requirement and the internet bandwidth allow, I prefer my students to use both audio and video. I appreciate to see the full first and last name. I always keep the chat function open and respond directly.

If students are in completely different time zones (US or Asia), I respect if they might have special challenges and reduce their videos.

[Link to the Rules of Conduct for Online Teaching](#)

### Additional Information

We are planning a field trip to Munich to visit the Allianz Arena as part of the seminar in sport economics. Details will be provided by the ISP team at the beginning of semester. May be it could be opened also to IMEP students.