Syllabus

Use Case Seminars 1.

Department of Economics and Business
CENTRAL EUROPEAN UNIVERSITY

- **Instructor:** Gergely Daroczi (daroczig@ceu.edu – office hours by appointment)
- **Credits:** 1 (2 ECTS)
- **Term:** Fall 2020-2021
- **Course level:** [MA/MS]
- **Prerequisites:**
    - Mathematics and Informatics Pre-session for Business Analytics
    - Data Analysis 1: Exploration – Business Analytics track
- **Course drop:** Course can be dropped free of charge 24 hours after the first session. After this date drop is possible until the course is halfway over (late drop fee applies). No changes are allowed past that date.

1. COURSE DESCRIPTION

This class is a series of guest talks from industry experts followed by Q&A sessions, where you can learn about real-world data-science questions and problems, then the related solutions, products and teams – right from the trenches, featuring senior data scientists, data engineers and data team leads from startups and enterprises as well. The examples demonstrated and discussed in these sessions will not only help you with ideas for the cap/final project, but will also show you the different aspects of real-world data science and give you some ideas on what to expect at your future job.

We invite 1-2 experts each week to deliver a case study of a real data science problem and solution, followed up by Q&A and then R exercises related to the discussed case studies.

2. LEARNING OUTCOMES

Key outcomes.

By the end of the course, students will have a better understanding on how real-life Data Science projects works, how these are structured, the usual pitfalls and strategies to overcome those at different types of businesses.

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

Learning Area	Learning Outcome
Critical Thinking	Going through reviews of actual data science projects, students will learn about the initial goals, how those were achieved or missed, and how to

	avoid similar problems in the future based on learning from the actual mistakes and the resulting best practices.
Quantitative Reasoning	Students get to know what KPIs are used in different industries.
Technology Skills	Get an overview on what technologies are currently used and trending in different industries, also get suggestions from industry experts on what skills students should master to become a data scientist / data engineer etc.
Interpersonal Communication Skills	Experience different presentation styles, ask questions from the invited guest speakers.
Management Knowledge and Skills	Learn about how data science teams are structured in different industries and firms.
Cultural Sensitivity and Diversity	
Ethics and Social Responsibility	

3. READING LIST

Class materials will be available on GitHub.

Databases: The CEU Library boasts a range of databases covering financial and company data, market and industry reports, global news and more. For a full list of databases visit the CEU Library.

- Refinitiv (Thomson Reuters) Eikon for Students + Datastream/Thomson ONE
  - Eikon: Platform used by finance practitioners including market traders to monitor and analyze financial information. Information, analytics and news on all major financial markets including real-time pricing data, financial research, global financial news and commentary, financial estimates, fundamentals analysis, visual analysis through charting. Import/export from Excel.
  - Datastream: Range of economic, securities and company financial data. Excel add-in.
  - Thomson ONE: Global overviews on 55,000 public companies, one million private companies. Reuters News, ownership, deals, private equity, key ratios, company filings, officers and directors. Investext analyst reports, active and historical research from 1,600 independent research firms, brokerages, investment banks.
- Standard & Poor's Capital IQ
  - Web and Excel-based platform combining deep global company information, credit ratings and research, and market research with powerful tools for risk assessments. Real-time and historical information on markets, industries, companies, transactions and people. Tearsheet data.
- Lexis Nexis Academic
  - Global database of news, business, legal and other sources. Full text of 350 newspapers, 300 magazines and journals, 600 newsletters. Wire services including Associated Press, Business Wire and PR Newswire. Company financial information, market research, industry reports.

4. TEACHING METHODS AND LEARNING ACTIVITIES

The course will involve 6 guest lectures from industry experts, followed by a Q&A session. Learning objectives will be achieved through listening to the lectures and actively participate in the Q&A.

5. ASSESSMENT (including minimum pass requirement and grading

Students are required to attend all 3 weeks and actively participate in the Q&A and R exercises sessions.

Grading Policy

This is a Pass / Fail course. Students shall not miss more than 1 session. Failing to do so will yield an administrative fail grade.

6. TECHNICAL/LAPTOP REQUIREMENT

Laptop with R and RStudio installed is required for demos.

7. TOPIC OUTLINE AND SCHEDULE

Session	Topics	Readings
1	Invited experts: Presentations and Q&A	
2	Invited experts: Presentations and Q&A	
3	Invited experts: Presentations and Q&A	

8. SHORT BIO OF THE INSTRUCTOR

Gergely Daroczi has a PhD in Sociology, 15 years of experience with R, founder of the Hungarian R meetup and main organizer of R conferences, authored a book on R and maintains a dozen of R packages, lived and worked in Hungary and USA at market research, fintech and adtech companies as a data scientist and engineer both in individual contributor and management roles.