Teaching Statement

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As a lecturer and teaching assistant at Central European University, I have had the opportunity to teach graduate students, managers, and other professionals in small or moderate classes (20 to 40 students). I taught or assisted a range of courses, including mathematics, coding, and data analysis (statistics). I received consistently high student evaluations in all courses. I attribute this to the successful implementation of my teaching philosophy, which encourages and guides students to master the technical skills taught in class through real-life examples.

Teaching Philosophy

Economics is a discipline that relates to many aspects of our daily lives. Through its systematic approach, economics offers insights into the organization and complex dynamics of our society. Even though there are increasingly many educational resources available on the internet, I believe that the personal contact afforded by classroom teaching is a major strength that helps guide students through the learning curve. This personal interaction not only enables me to deliver well-established course materials more efficiently but also allows me to introduce new and incoming pieces of information and tools into the classroom environment. Unfortunately, covid forced many teaching activities to take place online in the past year, so I used this opportunity to incorporate multiple channels into my teaching activities such as 'slack' or the extensive use of our online university platform 'ceulearning'.

My approach to classroom teaching builds on two principles: i) engaging and encouraging students and ii) offering them tools that they can apply to real-life situations. I invite students to use the material covered in class to answer questions related to current issues such as the covid-19 pandemic. Using seminars or short assignments throughout the semester, I can gauge their understanding of the material, often in real-time. Depending on the topic, I often prefer to use a blackboard over slides, as this ensures a more consistent pace and allows students to directly ask specific questions. Nevertheless, I always provide written materials as well (in the form of lecture notes or slides) as a study aid for students. The purpose of these written notes is to help students prepare for the exam or they can use them as a starting point for the assignments.

I also find it important to understand the overall level of the class as well as the student-specific variations. The overall level will influence the emphasis on the different topics covered in the lectures, seminars, or the difficulty of the assignments. I believe that a good lecturer should also assess and take into account the differences in students' knowledge. For those who are struggling more with the material, I find extra office hours very important, and encourage them not to be afraid of not understanding the topic instantly. Throughout my teaching carrier, my door has always been open, providing all students with an open environment where they can freely ask questions. I also stop and ask questions related to the topics and offer the class extra practice opportunities if I see that somebody is falling behind. This way, I can engage those students who are less active in a large audience. On the other hand, I had the privilege to meet many excellent students with interesting and important questions about the subject taught. I have learned a lot from them and I have always tried to encourage them to search for answers and to provide them with extra material and opportunities which was out of the scope of the standard course. Finally, I find it important to grade students consistently and rigorously, setting equal and fair rules of assessment before the course starts and not to alter it unless there is a very good reason for it.

Teaching Interests

I am particularly familiar with teaching Statistics, Econometrics, Data Analysis, Coding, Math, and Machine Learning related courses. However, I have a broad set of teaching interests and I am more than willing to teach courses that extend beyond my core research focus.

Teaching Experience

- In 2018, I served as a teaching fellow for Prof. Gábor Békés's "Data Analysis: Prediction and Introduction to Machine Learning" and "Data Analysis: Causal Analysis" courses. These were masters level courses with approximately 30 students, many of them professionals. Professor Békés taught the lectures in both classes while I was responsible for conducting seminars (100 minutes each), where we covered case studies and used the statistical software R to master applied data analysis skills. The first course covered various topics in time-series analysis (such as ARIMA and VARs), panel data, basic and advanced machine learning methods. The second course gave an introduction to the potential outcome framework, experimental designs, instrumental variables, difference-in-differences, event-studies, and other quasi-experimental designs.

- From 2019, I have been a lecturer for the "Mathematics and Advanced Excel" pre-session course for master students in the Finance program at CEU. The course is designed to teach and set the required mathematical and Microsoft Excel skills for the incoming students. These classes are held at the beginning of each year and take two weeks, each day with a 200 minute session. During this time, we cover elementary algebra, functions of one variable, calculus (limits, continuity, differentiation, constrained and unconstrained optimization and integration), linear algebra, and probability theory. The Microsoft Excel topics include functions, creating charts, pivot tables, macros, optimization with solver, and the data analysis toolpak. During the three years, I have developed specific material for Finance students with examples and exercises that they can use later on in their professional careers as well.

- In 2020, I was the sole instructor for the Data Analysis 1&2 and coding courses in the Business Analytics masters program at CEU (about 30 students per cohort). The program was ranked #1 Central Europe (Switzerland, Austria included) and #50 in the world in 2019. In Data Analysis 1, I covered data collection, preparing data for analysis, explanatory analysis, comparison, and correlation, generalizing from a dataset, and carrying out hypothesis testing. In Data Analysis 2, I covered topics on single variable regression, generalization with regression, multiple linear regressions, probability models, and introduction to time series analysis. I also taught a coding class where we implemented all methods covered in the Data Analysis courses in R, showing students how to solve actual real-life problems. As I have been responsible for these core courses, I had the opportunity to integrate the theory, the case studies, and the coding into one big picture and let the students analyze the current covid situation with the learned skills. Also, at the end of the semester, each student had to carry out a complete (predictive or causal) analysis project, using their data and writing their report using R.
  - The textbook for the courses was the recently published book: Data Analysis for Business, Economics, and Policy by Gábor Békés and Gábor Kézdi, endorsed by two recent Nobel laureates in Economics, David Card and Joshua Angrist.
  - The course materials for the coding are openly accessible on the CEU department's GitHub page for each cohort by a new branch.

- In Fall 2020, I was a joint lecturer with Professor Anand Murugesan for a Data course in the Executive Master of Business Art program at CEU (30-35 students). In this program, we taught firm leaders and managers the basics of data analysis. The course covered basic concepts in statistics, introduced simple techniques to analyze data, explained how data analysis can help firms to flourish, and even showed how programming is used for this purpose. The course took place in a difficult environment, as CEU was moving to Vienna, and due to sudden changes in covid regulations and other administrative burdens, Professor Murugesan could not join the sessions in-person, only online. This hybrid teaching was a challenging task and needed flexible adjustments, which taught me a lot about engaging with and teaching such a demanding audience.

Teaching Evaluations

For most of my courses, my teaching evaluations have exceeded the department mean in many categories. Moreover, they have also improved over time. In Fall 2019, I received an overall score of 9.1 out of 10, while in 2021 the same overall score was 9.6 as a lecturer in the Mathematics and Advanced Excel Pre-session for incoming graduate students. Below I provide a sample of comments from each course that I taught, providing further confirmation of students' favorable views of my teaching effectiveness as well as references to my teaching philosophy.

- "The progression of the mathematics concepts was as smooth as can be. Some very useful mathematical techniques were covered." (Mathematics and Advanced Finance Pre-Session, MS in Finance, Fall 2021)

- "I liked the progression of the course and the clear structure. The teacher made sure that students are engaged in the discussion and understood the issues raised during class." (Coding 1: Data Management and Analysis with R, MS in Business Analytics, Fall 2020)

- "He ran Data Analysis 1, Data Analysis 2, and Coding 1 without any problems, even when we had to move online He was one of the most prepared teachers I have ever met in my life. Thanks for the knowledge given to us." (MS in Business Analytics student, Fall 2020)
- "The instructor arranged various ways to enhance our comprehension of this course. The pre-class quizzes inspired me to review every session before learning something new. Also, the group assignment helped forge co-operation between classmates." (Data Analysis 1, MS in Business Analytics, Fall 2020)
- "It was the first time for me studying regression and I'm really enjoying it. For me, this course gave me a passion to go further with statistics and econometrics as it is a very deep field and focuses on data analysis instead of data engineering, which was my original plan. I also liked that we practiced the theory on coding 1 simultaneously" (Data Analysis 2, MS in Business Analytics, Fall 2020)
- "I really like your help: answering to questions in email, Slack, personally and in-office hours, making quizzes, providing feedback for assignments, and professionally answering my questions during class. I think your enthusiasm about this topic is sticky, I definitely get the idea to learn more about econometrics instead of just passing the course, so I think you are an inspiring teacher." (MS in Business Analytics student, Fall 2020)
- "Taken into consideration the extremely difficult circumstances, Agoston did very well. He tried his best to deliver an interesting class. He managed to introduce us to some specialist software and raise our curiosity. He was very helpful." (Data Course in Executive Master of Business Art, Fall 2020)
- "Agoston really did his best and has good skills to explain to students. I'd prefer him for the future courses, regardless of being a Ph.D. student." (Data Course in Executive Master of Business Art, Fall 2020)