

Teaching Statement

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Teaching philosophy

Growing up as the son of schoolteachers, I often heard my parents speak about how rewarding teaching was for them. They would tell me that, beyond educating students in the classroom, they were also helping to shape students as individuals and supporting them in building a better future. Even today, although my dad is approaching retirement, he continues to teach in two schools, teaching young students in the mornings and adults in the evenings. Coming from a long and geographically isolated country like Chile, this has always carried particular meaning for me. Through my parents, I have seen that teaching is not simply about delivering knowledge; it is about connecting with students, helping them develop confidence in their abilities, and giving them the tools to pursue opportunities that may otherwise be out of reach.

Once I entered university and had the opportunity to work as a teaching assistant from around 2014, and later as a lecturer at the University of Chile, I came to understand even more clearly the importance of providing students with a high-quality education and, importantly, how that education is delivered. I saw firsthand how education can create social mobility, open doors to new opportunities, and contribute to the development of a more prosperous society. These experiences have shaped my teaching view: I see teaching as a process of helping students develop not only knowledge, but also the ability and confidence to apply that knowledge independently.

The teaching environment has also changed considerably over the decades. Tools that were once central to classroom teaching, such as the chalkboard and printed materials, now sit alongside the internet, specialised software, online resources, and increasingly powerful computational and AI tools. Students today can access information and experiment with ideas in ways that were simply not possible in the same form in the past. I believe teaching should recognise these changes and make thoughtful use of the opportunities they create. This does not mean replacing established teaching methods simply because new technologies are available. Rather, it means using the tools that best help students understand, explore, and apply what they learn. The role of the teacher remains essential in providing structure, intuition, and guidance, and in helping students distinguish between simply obtaining an answer and genuinely understanding it.

My teaching is mainly in finance, with an emphasis on developing students' understanding of the economic intuition behind financial theory and its applications. I want students to understand not only how a model works, but also why it works, what assumptions it relies on, and how it can be used to address financial problems. In my experience, these elements can easily become disconnected: students may learn to derive a model without understanding its practical application, or obtain a result from a computer without understanding the assumptions and reasoning behind it. My teaching is therefore organised around bringing these elements together.

I put this approach into practice differently depending on the course and the students. I believe in building a foundation before moving to more advanced tools. In a programming or quantitative course, this may mean working directly with code and building methods from the ground up. In courses such as investments or derivatives, the same ideas may instead be developed through analytical exercises, simulations, visualisations, or existing software, without requiring students to engage with the underlying code. The goal is not for students to use more technology, but to use the appropriate tools to deepen their understanding of finance. I use computation and empirical examples when they add value, while keeping the financial question and the underlying economic intuition at the centre of the learning process.

Teaching experience

My teaching experience has developed across different institutions, levels of study, and areas of finance and quantitative methods. At the University of Chile, School of Economics and Business, I have taught four courses as a lecturer (part-time, no part of the staff), working with both undergraduate and graduate students. I taught *Business Intelligence for Finance* at the graduate level in two separate years, designed and taught *Introduction to Python for Finance* at the graduate level, and taught *Data Management Applications* at the undergraduate level. I also taught *Python and R for Beginners* as part of the Data Analytics Certificate run jointly by the University of Chile and the MIT Sloan School of Management, with a cohort drawn largely from industry.

Alongside my experience as a lecturer, I have worked as a teaching assistant across a wide range of undergraduate and graduate courses at the University of Chile, the University Diego Portales, and the Pontifical Catholic University of Chile. These courses have included finance, investments, econometrics, quantitative methods, economics, programming, data mining and machine learning, and data visualisation. This experience has allowed me to work with students at different stages of their education and with very different levels of prior knowledge. It has also given me the opportunity to see how the same concept can require very different approaches depending on the course and the students.

At Alliance Manchester Business School, I have continued to build on this experience as a teaching assistant on three undergraduate courses: *Quantitative Methods*, *Investment Analysis*, and *Financial Derivatives*. These courses have broadened my teaching experience beyond programming and data-oriented subjects to the quantitative foundations of finance and their applications to investments and derivatives. They have also allowed me to experience teaching in a different academic environment and to work with students from a diverse range of backgrounds.

Taken together, these experiences have taught me that effective teaching requires both a strong understanding of the subject and the ability to adapt how it is presented. Students do not enter a classroom with the same background, interests, or objectives, and I have found that teaching is most effective when the material is presented in a way that connects with what students already know while helping them develop the skills they need to move further.

Sharing teaching material

I make the material I prepare for a course openly available, and I keep it available after the course has finished. Students rarely need a topic only at the moment it is taught. They may return to it when they encounter it again in a dissertation, a later course, or in their work, and by then the lecture is long past.

Sharing material openly also improves the material itself. Once something is public, it can be corrected, extended, and updated as a topic develops, whether by me or by anyone else who finds it useful. I have learned a great deal from material that other people have chosen to make available, and I would like to contribute to that practice. It also imposes a certain discipline: I prepare material more carefully when I know it will be read outside the room it was written for.

Courses I can teach

My teaching experience has covered a broad range of finance and quantitative courses, including derivatives and options pricing; investments and portfolio management; quantitative methods and statistics for finance; econometrics and forecasting; empirical asset pricing; machine learning for finance; and programming for finance in Python and R. This experience gives me flexibility to contribute to both undergraduate and postgraduate teaching across finance and quantitative methods.

My experience teaching across different subjects is complemented by experience teaching in different languages and educational systems. I have taught in both Spanish and English, to Chilean and British cohorts, under two quite different educational cultures — one where students expect to be asked to speak, and one where they expect not to. Teaching in both has taught me that participation is a format, not a personality trait, and that changing the format changes who speaks. It is also why I read a quiet room as a problem I have set rather than a room that is not interested. These experiences have made me attentive to the different expectations students bring to the classroom and to the importance of adapting the way I teach without changing what I expect students to learn.

Teaching and learning with AI

AI is changing how students access information, solve problems, and produce written work. I see this as something teaching needs to engage with rather than avoid. Students will increasingly encounter these tools in their studies and professional lives, and I believe it is important to help them use them critically rather than simply accept or reject them.

This makes the ability to explain an idea in one's own words even more important. I find the Feynman Technique useful in this regard, named after the renowned physicist Richard Feynman. Asking students to explain a concept without relying on the terminology or notation from the course can reveal whether they really understand it. If a student can obtain the correct answer but cannot explain why a model works, what its assumptions mean, or why a result makes sense, then the answer alone is not evidence of understanding. I also find this useful in my own teaching. At Manchester, I often teach the same workshop more than once in the same week. Repeating the material gives me an opportunity to see which parts were not clear to students in the first session and improve the explanation, examples, or way in which I present them in the next one.

AI can be useful as part of this process. Students can explain a concept in their own words and use AI to identify gaps or challenge their explanation, before revising it themselves. The important part is not the answer produced by the tool, but whether the student can understand, evaluate, and explain it. This fits with my broader view of teaching. Technology should help students develop their own understanding, rather than replace it.