



INTRODUCTION

The aim of this poster is to showcase how, in mathematics, we are removing the barriers that impact the student experience, including diversity of cultural backgrounds, gender, physical disabilities, and learning disabilities, following the QM Principles for inclusive curriculum.

We also wish to empower students with the message that mathematics is great and doable, thus defying the idea that achievement is a gift rather than the combination of interest and effort.

QM PRINCIPLES FOR INCLUSIVE CURRICULUM

1. Empower

2. Co-Create

3. Diversify

4. Enable

5. Develop

6. Reflect

7. Value

8. Encourage

Building an inclusive curriculum in UG projects

Dr. Shabnam Beheshti has built inclusive curriculum into the majority of her third-year projects, and the return on some of these projects has come back to the School in many interesting ways. Here is a cross-section of the most recent relevant projects:

- Inquiry-Based Learning in Mathematics, Autumn 2020
- Ethics in Mathematics: Policy and Practice, Spring 2020
- An Ethics in Maths Workbook for Secondary School Teachers, Spring 2020
- Islamic Architecture and Wallpaper Groups, Spring 2020
- The Art of Penrose Tiling, Autumn 2019
- Enabling deaf student participation in mathematical groupwork, Spring 2019
- Empowering deaf and hard-of-hearing students in STEM, Spring 2019
- Use of BSL and ASL in studying mathematics at university level, Spring 2019

Building an inclusive curriculum in PG dissertations

Dr. Pedro Vergel encourages MSc dissertation students to adjust their chosen topics in a way that has personal and professional relevance to them. Much of the literature in applied mathematics areas, such as financial mathematics, is US centric. Throughout the dissertation process, our students explore the literature and issues that interest them. This has brought interesting viewpoints from different countries across the world to the topics of research:

- Chinese stock investment portfolio optimization based on modern portfolio theory and quantitative timing strategies, Summer 2020
- Factor Investing: The case of Scandinavia, Summer 2021
- Momentum Investing on China's A-Share Equity Market, Summer 2020
- Momentum Investing in Emerging Currencies, Winter 2021
- Empirical analysis of stock returns around the lunar new year, Spring 2022
- Portfolio Optimisation in the UK Stock Market, Spring 2022

Encouraging participation in the learning process

Dr Eleni Katirtzoglou encourages, empowers and develops students' confidence to actively participate in the learning process. At the start of the course, she introduces the teaching team, not only from a professional standpoint, but also from a personal one so students can relate to the teaching staff on a human level. She provides a clear structure of the course, teaching and learning process, assessments and relevant resources, which are all easily accessible to students through QMPlus. She encourages students to engage in the learning process and reinforces the message that success in mathematics is something achievable with interest and effort.

Inspiring and encouraging Foundation level students

Dr Lubna Shaheen started this project to teach students about female mathematicians and mathematics history. The aim of this project is to inspire, promote and encourage students with respect to equal access, gender equality, women contribution, empowerment and history in this field. By doing so, she provides an opportunity for students to learn about famous women/men mathematicians in history and their contributions to the field of study.



Thanks to

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Dr Lei Fang

Take risks and learn from mistakes

Obtaining the "wrong" answer is uncomfortable, but, more often than not, it is a necessary and positive step in learning.



If we are looking to promote gender equality, sharing the contributions of famous female mathematicians is a great way to inspire students, teach them about the history of mathematics, and remind them that math is accessible to everyone.