

Mathematics

*Activity for Schools and Colleges
2022/2023*



The sessions listed below showcase our masterclasses in the area of Mathematics. Our brilliant team of experts in this area have put together a series of interactive and stimulating workshops that detail our approach to delivering high quality courses and exceptional student experience.

Of course, we can also offer other talks in this space by request. We can facilitate specific one-off sessions or bigger events that cover talks and wider aspects of university life. These can be arranged both on and off campus at a time and date to suit you.

Please note all sessions are suitable for KS5 students. For KS3/4, please get in touch to see what opportunities are available.

Masterclasses

Mathematical Modelling

Mathematical Modelling applies pre-existing mathematics to solve real world problems. This session will explore turning practical scenarios into idealised models we can think about mathematically and show how mathematics can give powerful insights. Develops problem solving and analytical skills.

Cryptography

For thousands of years there has been a need to communicate secretly. Cryptography provides a set of tools to hide the meaning of your message in plain sight. Mathematics provides tools to hide the meaning in your messages, and to try to crack the encryption that is hiding the messages of your enemies! Cryptography links mathematics to language and to the early development of computers including through the code-breaking effort at Bletchley Park in World War II.

Maths of Puzzles and Games

Problem solving is at the heart of mathematical thinking. Puzzles and games provide a playful and engaging way to explore key mathematical concepts and see the power of problem solving in action. Working to explore simple puzzles and games, this session will develop problem-solving skills and highlight how mathematicians think.

Maths in Science

Galileo Galilei wrote that the universe cannot be read until we understand the language it is written in – mathematics. Maths underpins science and engineering, it is fundamental to our understanding of physics, chemistry and biology. This session will explore the underpinnings of science, working with examples of mathematical insight into scientific processes.

Exploring Geometry

The study of geometry is one the oldest parts of mathematics, dating back thousands of years. Yet modern technology is able to provide fresh insights into this ancient science. This session will provide an interactive exploration of geometry, developing problem-solving skills and mathematical insights.

Careers in Maths

Maths isn't a job sector, yet mathematicians are highly employable and valued in numerous types of jobs. What do mathematicians do, and how is it that their skills are so widely applicable? This session will explore these questions, highlighting skills developed by mathematical study and giving a range of examples of different careers for mathematicians.

**To book any of the sessions, or for more information
please contact: sclo@shu.ac.uk**