Problem Solving Matters - Developing the Problem Solving Skills Required for University Admissions Tests

Manchester

27th June 2020

Overview

This course is for year 12 students from state-funded schools, academies and colleges who are interested in applying for places at Oxford University, Imperial College, Durham University and Warwick University to study Mathematics or for students who wish to improve their mathematical problem solving skills in preparation for a university course. Please note that the course is not suitable for GCSE students.

Students applying for places to study Mathematics or Computer Science courses (including joint honours) at Oxford University and any Mathematics undergraduate course at Imperial College, London will be required to sit the Mathematics Admission Test (MAT) as one part of the admissions process. Students applying for Mathematics at Durham University or Warwick University may be required to sit the MAT or TMUA (Test of Mathematics for University Admission) examination.

This course is designed to prepare students for the way they will have to think to achieve success in the MAT, TMUA and other problem-solving mathematics examinations by developing their mathematical thinking and problem solving skills.

The course **usually** consists of three face to face study days, three summer assignments and four online follow-up sessions.

Due to Coronavirus, we will be delivering the first two study days online, rather than face-to-face as they were previously. Students will be able to access videos, questions, hints and online support. There will also be live lectures and masterclasses. This online part of the course will begin on 20th June 2020. We are monitoring the situation and will decide whether the third study day will also be delivered online nearer to the time.

Please do not hesitate to apply for this course - it will be definitely be running, in a coronavirus-safe manner.

Aims

- To introduce mathematical problems of the difficulty level of the university admissions tests.
- To develop students' problem solving skills so they have confidence in applying for universities that require admissions tests or take them into consideration.
- To provide information about the requirements of applicants for a maths or maths-rich undergraduate degree.
- To provide support for students preparing for the MAT or TMUA admissions tests.

Who will benefit from attending?

Any student who wishes to apply for a university that requires or accepts the MAT or TMUA admissions tests will benefit from attending. The course also provides a good base for preparing for the STEP examinations.

Content

The study days will focus on specific problem solving skills that students will need to develop, featuring workshops where students will be supported by mentors from the hosting university.

Study day 1 focuses on curve sketching and coordinate geometry.

Study day 2 focuses on calculus, surds, indices and logarithms.

Between study day 2 and 3 students will attempt three summer worksheet activities one on curve sketching, one on geometry and one on logarithms and indices. These worksheets will be marked by mentors provided by the university hosts.

Study day 3 focuses on trigonometry and either combinatorics or sequences and functions.

Students will also attempt a mathematical modelling activity on day 3.

Other Information

This course takes place at 6 venues. The course is identical at all venues and applicants are asked to select the most appropriate venue for them. Applicants may be offered a place at an alternative venue if their first choice of venue reaches capacity.

The face to face study days for each venue take place on the following dates:

University of Oxford: Saturday 20th June, Saturday 11th July and Saturday 26th September

Imperial College, London: Saturday 20th June, Saturday 4th July and Saturday 26th September

Durham University: Saturday 27th June, Saturday 11th July and Saturday 26th September

University of Warwick: Saturday 27th June, Saturday 11th July and Saturday 19th September

University of Bristol: Saturday 27th June, Saturday 18th July and Saturday 3rd October

University of Manchester: Saturday 27th June, Saturday 11th July and Saturday 19th September

Please note that the first two days will now take place online starting from Saturday 20th June. Successful applicants will still be assigned to a mentor group and live mentoring sessions will take place in online classrooms in the following weeks.

Eligibility

This course is only for students from state-funded schools, colleges and academies.

Cost

If you will have trouble meeting the cost of the course, free places are available. This can be indicated on the application form.

Students will be expected to make their own travel arrangements to get to the venue.

We regret that we will be unable to provide transport costs. Please take this into account when selecting your first choice of venue for the course.

Study Schedule

Due to the Coronavirus pandemic, the first two face-to-face days will be delivered online by videos, live masterclasses and interacive activities.

We are currently planning on running the third study day as advertised but have also prepared an online version if we are unable to do that.

Mentors from the university will deliver online workshops for students who receive a place on the university supported part of the course.

Applicants who do not receive a university supported place (one with an assigned mentor) will still be able to access all aspects of the online course including the materials and exercises for the third study day.

If this event appears to be fully booked, you can still apply for a place at one of the other venues.

If all venues are fully booked, you can still apply for a place on the unsupported online version of the course.

Key Facts

Event ref:	#7327
Audience:	Students
Target year:	Year 12
Curriculum focus:	University admissions tests, A level Mathematics
Mathematical focus:	Pure, Problem solving
Event format:	Student course
Event length:	3 days
Study days:	3
Online sessions:	4
Region:	North West
Venue:	University of Manchester
Next session:	Sat 19th Sep 2020
Fee:	£60

Registration

For more information, or to register for this event, please visit https://amsp.org.uk/events/details/7327