



UNIVERSITY OF CAMBRIDGE

Faculty of Mathematics

NOTES FOR SCOTTISH CANDIDATES

This guide is intended for students who are considering applying to Cambridge to read mathematics.

Further general information about admissions can be found in the *University Undergraduate Admissions Prospectus*, obtainable from CIAO, Kellet Lodge, Tennis Court Road, Cambridge, CB2 1QJ, telephone 01223 333308, or from individual colleges; and in the *Guide to Admissions*, obtainable from the Faculty Office, Faculty of Mathematics, Centre for Mathematical Sciences, Wilberforce Road, Cambridge, CB3 0WA (telephone: 01223 766879; e-mail: admissions@maths.cam.ac.uk). More specific information can be obtained by writing to individual colleges.

Further information about the mathematics course can be found in the leaflet *A Guide to the Mathematical Tripos* which can be obtained either from the admissions office of any Cambridge college or from the Faculty Office (as above). All the documentation is available on the WWW (<http://www.maths.cam.ac.uk/>).

Introduction

Although Cambridge happens to be situated in the south-east of England, it is one of the major European universities and has a world-wide reputation in most subjects. Cambridge maintains its high academic standards by attracting good students from around the world, regardless of national or social background. Cambridge is particularly strong in mathematics, and even though it is demanding, the mathematics course (called the Mathematical Tripos) is widely recognised as one of the best mathematics courses. It is both the oldest and the largest such course, having an intake of around 250 students each year.

Cambridge is keen to encourage able Scottish applicants, and indeed some of Cambridge's greatest mathematicians, such as Kelvin, Maxwell and Hodge, have come from Scotland.

The advice that follows is written for candidates from Scotland's educational system thinking of applying for an offer of a place conditional on Scottish qualifications. Despite the challenging and exhilarating nature of the course, it is not impossibly difficult to get a place. Cambridge welcomes enthusiastic students who are good at maths, but nobody is expecting another Newton.

Scottish qualifications

Some Scottish schools (not many) follow the English (or Welsh) A-level curriculum. If you are at such a school, you need not read the following.

The Scottish Highers provide an excellent background for coming to university, but you will need more mathematics to start at Cambridge than is in the Mathematics (Higher) syllabus. The Scottish system has two further mathematics qualifications (also excellent), which do provide a very sound basis for Cambridge mathematics.

The two qualifications referred to above are Mathematics (Advanced Higher) and Applied Mathematics (Advanced Higher). These qualifications have the same structure; you take three units, two of which are mandatory (i.e. compulsory) and of the third is chosen from a list of four optional units. There is some overlap in units between the two qualifications. It is possible to take both Advanced Highers; this would be roughly comparable in level to Further Mathematics A-level.

It is most important, from the point of view of our mathematics course, for you to do as much mathematics as possible. The course contains substantial amount of theoretical physics, so it is advisable to take Higher Physics, if possible; if not, then it is essential to take some mechanics in your Advanced Higher mathematics course.

Which AH units should I take?

From the point of view of the Cambridge mathematics course, the more pure mathematics and mechanics you do, the better. It is essential to take Mathematics 1, which is a Mandatory in Mathematics (AH) and one of the Optional units in Applied Mathematics (AH). This brings you, roughly, up to the level of an English single A-level in pure mathematics, which is the minimum level for our course.

It may be that your school is not able to offer you a choice of units. But if you can choose, the best choice for Mathematics (AH) would be

- Mathematics 1 (Mandatory)
- Mathematics 2 (Mandatory)
- Mechanics 1, or possibly Mathematics 3.

The best choice for Applied Mathematics (AH) would be

- Mechanics 1 (Mandatory)
- Mechanics 2 (Mandatory)
- Mathematics 1.

Make me an offer

As is explained in the *University Prospectus*, undergraduate admissions are handled separately by the 28 colleges of the university. A college will make an offer to fit your particular circumstances, taking into account your examination record, your school's report about you, and an interview, as well as the range of courses offered by your school.

You may receive a conditional offer based only on your Highers and Advanced Highers. If so, you are likely to be given an extra interview and/or some preparatory reading.

Most colleges will ask you to sit Cambridge's Sixth Term Examination Paper (STEP). There are three STEPs: Papers I and II are based on a single subject A-level syllabus and would therefore be accessible to Scottish students having taken an Advanced Higher in mathematics. If you have taken both Advanced Highers, you may be well prepared for STEP III. The papers that you are asked to sit would be a matter for discussion in one of your interviews.

The level of the offer is likely to include top grades in any Scottish mathematics examinations you take and probably two grade ones, or a grade one and a grade 2, in your STEPs.

What to do to apply

The closing date for applications is usually 15th October of the year before entry. You should check check the *University Prospectus* for details. You should also look at the *Guide to Admissions* produced by the Mathematics You may well be unable to visit Cambridge for an open day, in which case you should make contact with your preferred college by telephone or letter to check that your choice of courses could form the basis of a conditional offer.

Almost all applicants are interviewed in December. If your Highers are good and you have a strong reference from your school (and your interview does not go too badly) then you will have a good chance of receiving an offer; after that, it's up to you.