Oxbridge admissions

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Admission to Oxford or Cambridge is an important career advancement stage, particularly for science students. Students need to plan carefully their application. For students who are not well-prepared, admissions can be a lottery, even for strong students with top exam results.

I worked for 11 years as a researcher in the University of Cambridge astronomy department. My main admissions experience was with postgraduate students, but my colleagues in the department every year participated in admitting undergraduate students to their colleges. As a result I have come to appreciate the kind of things admissions committees look for when admitting undergraduates.

I offer coaching to prospective Oxbridge applicants in sciences who are interested in studying physics or biology. I design each course about each student. Different students prefer to spend time on different parts of the application.

There are three basic parts to making an Oxbridge application:

1. Personal Statement

As part of the UCAS form, students need to write a personal statement describing themselves and explaining why they wish to take a particular course. This is the very first thing the admissions committee will see about you and is a very good opportunity to make a strong impression. Some notes about writing personal statements are attached.

2. Admissions Tests

All applicants in physics at Oxford need to take the PAT test and natural sciences at Cambridge applicants need to take the NSAA test. The material in these tests is not difficult (AS level) but the questions are designed to test how proficient students are at applying this material. Most students find the questions in these tests quite difficult at first, but after a little probing can quickly arrive at the answer for almost all questions . The key to doing well on these tests is developing experience at looking at the material in the right way. With practice, I find that many students are able to solve most problems almost instantly which is helpful in the exam.

3 Interviews

Applicants may be invited to normally two or three interviews depending on the results on the admissions tests. There are two kinds of interview questions. They may ask academic questions which for most students are similar to the questions in the admissions tests. Students can prepare for answering these questions. They are trying to evaluate how students think about problems, so the most important thing is demonstrating that you think productively, which is not quite the same as getting the question correct like in a written exam. They may also ask you more general questions, especially about interesting or unusual things about science in your personal statement. This part of the interview can be very important as it can make you stand out from the other students.

I am available to coach students online in all or any of these three aspects of the application. Most students find it helpful to spend most of the time working on admissions tests questions. This makes sense to me. Apart from doing well in the Oxbridge admissions, being able to think about scientific material in a way that lets you solve problems will be a useful skill during an undergraduate course.

Writing a personal statement

The most important thing when writing a personal statement is to recognise that this will be the first time admissions faculty and committees will hear about you and think about you as a candidate for one of the students they will be teaching. In making this judgment, most faculty select students of a high academic ability who are enthusiastic about interesting things. These are things that you can give a good impression about in the personal statement.

The content of the personal statement normally addresses two issues: describing your aptitude and interest, and explaining why you wish to take the course. Here are a few helpful hints. None of this should be taken as gospel and you will develop your own personal style.

The first thing to decide when writing a personal statement is the paragraph structure. Many personal statements follow a four-paragraph structure. In a short first paragraph, you can introduce yourself and say things about what got you interested in science or mathematics in the first place. The second paragraph is much longer and describes your interests and mentions your achievements. The third paragraph is also long and goes into some detail about why you wish to take the course you are applying for. People often include a brief fourth and final paragraph describing why they would fit in to Oxford or Cambridge, maybe mentioning some nonscientific interests.

If you choose to write an introductory paragraph, it is best to keep it brief. A common strategy is to relate science to some childhood interest, for example "when I visited Australia as a child, I kept noticing how strange the sky looked". It is best to avoid overstatements like "since I can remember, I wanted to be an astrophysicist". At age four you could not have known what an astrophysicist does!

In the part about scientific interests and achievements, it is better to use a more indirect and passive style when describing your achievements . "Although I achieved top grades at A-level, I found some parts of physics A-level, like electromagnetism, difficult compared to some of the more intuitive topics" instead of "I got A* grades at A-level in mathematics and sciences". it is a poor idea to repeat in the personal statement something they could easily look up on your UCAS form. When discussing your interests, it is better to relate what you find interesting to specific activities. "When attending a workshop at CERN, I was continually interested in the way experiment and theory are related to each other" or "when hiking in remote areas in Scotland, I became fascinated with the way living things interact with other living things" is better than "I am interested in high energy particle physics". Some slightly more specialised and technical descriptions are helpful as long as they do not get too detailed. Remember that the impression you give depends not only on what you say but also in the manner in which you say it.

The discussion explaining why you wish to take the course can be related to what you wrote about your scientific interest, particularly in the context of interdisciplinary problems. The natural sciences course at Cambridge has the advantage of being interdisciplinary by nature so it is not difficult to relate it to most interests. For example, if you are interested in extrasolar planets, taking a biology course will be very helpful as people look for signatures of life on other planets. Most other courses contain modules that cover a wide area so it is likely that you can relate one of them to your own interests.

When describing your other interests, maybe in a final paragraph, remember to try and give as good impression of yourself as you can. It is better to say something like "I am a tournament chess player but my interest in science always prevented me from dedicating enough time to chess play and study once I got to national and international level" is much better than saying that you won several county championships. This way they will notice your achievements as well as noting how your dedication to science (which is what it takes to successfully complete the course) is such a high priority to you.