Biological Natural Sciences: What we are looking for in applications

Dr Andrew Murray, Director of Studies for Biological Natural Sciences

I am looking for students with the potential to thrive on what is a very flexible and cutting-edge biological sciences course, which has both taught and research components to it. Essentially this means that I am looking for students with a very strong academic track record in science subjects, a passion for biology (and particularly for biological research), and an appetite for the challenge that comes with trying to understand complex biological processes. It is OK to be broadly interested across the full range of science subjects at this stage, whilst it is equally fine to have some quite specific interests, but do bear in mind that this is a broad course – particularly in the early years.

The ideal subjects to take at A Level, IB Higher Level, Scottish Advanced Highers or equivalent, are Biology, Chemistry and Mathematics; although Physics and Further Mathematics can also be very useful. Although we will consider applicants taking two science/mathematics subjects, they could find themselves at a disadvantage compared with applicants taking three, both in terms of receiving an offer and, if successful, when deciding on which courses are available to them.

I am often asked about whether candidates should take a fourth A Level. Whilst this will not necessarily enhance a candidate's chance of receiving an offer, it can be useful to take a fourth A Level particularly in Further Mathematics or perhaps an additional Science subject (e.g. Physics) as this can be useful preparation for any science degree course at any top University. My advice is to ensure that you are confident of achieving at least the standard minimum offer of A*A*A in three subjects, when deciding whether you can handle the additional load of a fourth subject.

At interview, you can expect a very short discussion on your broad scientific interests (based on your personal statement) but we will not discuss extra-curricular activities (e.g. sport, music, drama) and neither will we take these into account when making a decision. The majority of the interview will be taken up with probably two technical, scientific problems, each led by a different interviewer. These questions typically include elements of biology, chemistry and mathematics. We are looking to test your reasoning skills, your ability to think logically, independently and critically across subject boundaries, and also to see how you respond to being challenged with the kind of problems that you might encounter during the first few years of the Natural Sciences course. This is absolutely not to say that you should try to read up on first year material from the course – the topics we cover will assume only that you have knowledge of the material you will have covered in school, so the best preparation would be to consolidate that material. We are not certainly looking for a flawless performance, and it is not uncommon for successful candidates to make several mistakes. Instead, we are looking for someone who is willing to have a go, willing engage with new material (and perhaps spot links with ideas that they have encountered previously), able to think critically about the conclusions they draw and thereby reason their way through a problem.

My advice is to try not to view this as an interview at all, but to instead treat it like a very small group lesson with some new teachers who are as passionate about the biological sciences as you (hopefully) are. Talk us through your reasoning, as this can help us to help you to find your way towards the answers, and don't be afraid to let your natural curiosity shine through. The material will be new to you, so hopefully you will find it interesting. Remember, we are looking to see whether you have the potential to become a good student of the Natural Sciences, so if you leave the room having learnt something from us then you can count that as a successful interview!

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