



Next steps for school leavers



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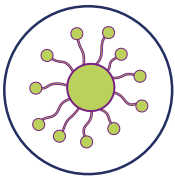
1. Introduction

When you leave school, it is important that you find a career that will provide you with fulfilment. A useful way to decide on your next steps is to identify your passions; any work that you feel motivated to invest your time and energy into. Pursuing this in your career can increase the likelihood you will succeed and find satisfaction in your job role.

To find your passion you can:



Reflect on your favourite subjects at school. Are there any topics within these which you like to learn or talk about?



Determine the subjects and skills you have excelled at in school.



Identify any aspects of volunteering or work experience you have enjoyed.



Reflect on your interests outside of school.



Explore job sites for career options and identify careers which you would be interested in. What qualifications do you need for these?



Talk to your family or career advisors at school. What careers do they think you would be well suited to?

If you decide that your passion is microbiology, you may want to explore paths that will help you to become a microbiologist. Most microbiologists opt for a university qualification, including a bachelor's degree, foundation degree, higher national diploma (HND) or higher national certificate (HNC). However, there are also apprenticeship schemes available, and this option is becoming increasingly popular. This guide will help you to understand these options so you can decide on the right path for you.



2. Bachelor's degrees

A bachelor's degree is an undergraduate course designed to give you a thorough understanding of a subject and develop academic skills, including writing, critical thinking and communication. If you study full-time, it usually takes three years to complete, or four years if the course includes a foundation year (different to a foundation degree), or a year in industry. There are also options to study part-time, which can take up to six years to complete.

2.1 How to choose your subject

There are several subjects you can choose which will allow you to learn about microbiology and open up the potential for a career in microbiology after your qualification. You can choose a subject specialising in microbiology or a specific career in microbiology to develop deep expertise in this area. However, you may also want to consider subjects which give you an understanding of microbiology in a broader context (e.g. health and disease, biotechnology, agriculture or the environment).

Below are some examples of subjects in which you can learn about microbiology:

Subject	Contents (may vary between universities)
Microbiology	Fundamental biology of microorganisms, including bacterial fungi and viruses. It also covers their role as infectious diseases and applications in biotechnology, industry and agriculture.
Biomedical Science	Understanding the human body in health and disease. You usually study a wide range of subjects including human physiology, biochemistry, genetics and microbiology in the context of health and disease.
Biochemistry	The molecular basis of life, understanding health and disease and applying discoveries to novel therapeutics, diagnostics and biotechnology.
Biological Sciences	Studies life from single cells to complex ecosystems. This encompasses a wide range of topics including genetics, evolution, ecology and physiology.
Immunology	Learn about how the immune system functions and protects the body against diseases including bacteria, fungi and viruses, how this can go wrong in autoimmune diseases and the ways we can therapeutically manipulate the immune system to improve patient outcomes in human diseases.
Food Science and Nutrition	Understanding of food processing, food microbiology, quality control in the food chain and sustainable agriculture.

It is important that you choose the subject which you are interested in and are motivated to learn about it in depth, as an undergraduate degree lasts at least three years. You should also consider your future career plans and what qualifications are necessary to advance in this.



2.2 How to choose your course

Between universities, the contents and style of a course on a particular subject can vary. When making your decision on what universities to apply for, this should be a key factor in your decision. To start with, you should compare the courses available for your chosen subject across different universities.

Compare the following between courses:

- What are the entry requirements (grades and subjects)?
- What modules do you study and are these relevant to your career aspirations or interests? Is the course pre-determined or is there a lot of choice?
- How highly ranked is this university for your course? Check rankings for the subject you have chosen in [The Guardian](#), [The Times](#), and [The Complete University Guide](#).
- How is each module assessed (exams, coursework, presentations)?
- What are the teaching methods (lectures, seminars, laboratory work, self-directed study, team-based learning)?
- Does the course offer a placement year or opportunity to study abroad?
- Does the course offer a foundation year?
- Is the course accredited? For example, by the [Royal Society of Biology](#) or [Royal Society of Chemistry](#)?
- Do you want to be a biomedical scientist? If so, you will need to find a biomedical science course which is accredited by the [Institute of Biomedical Science \(IBMS\)](#).
- Might you want to work in the NHS in future? If so, consider programmes that are approved by the [Health and Care Professions Council \(HCPC\)](#) (often called Applied Biomedical Sciences or Healthcare Sciences), as they will allow you to work at a higher level in the NHS.
- What have other students said about the course?
- What are the fees for the course?

The right course for you will depend on your interests, how you want to learn and what methods of assessment are best for you.

2.3 How to choose your university

Another factor in your decision should be the university itself. You should aim to decide whether it is the best place for your learning and for you to live in for the next few years of your life.

Compare the following between universities:

- What do current students say about the university? The [Office for Students](#) organises an annual [National Student Survey](#) and publishes the results.
- Does the university have a good reputation for teaching quality and/or research?
- What subjects does the university specialise in?
- Are there societies you would like to join?
- How near to home, a city centre, or the countryside are they?
- What accommodation is available?

Once you have narrowed down your choices, the best way to make a final decision, is to attend a university open day, whether this is before or after you receive an offer. This will allow you to explore the university campus, experience the local area, transport links and accommodation and to find out more about the teaching on your course.

2.4 Entry requirements

The specific entry requirements for a course will depend on the university, as some will expect higher grades than others. Furthermore, biology, chemistry, maths or physics are preferred subjects at A-level (or equivalent) for entry into a microbiology or related course and studying one or two of these subjects might be required. Although non-science subjects are acceptable, studying at least two of the preferred subjects will give you the most choice when selecting courses and universities.

The usual university minimum entrance requirement for school leavers is five subjects including maths and English at GCSE (grades 9–4) and two A-level science passes (or four Scottish Highers grades with two from maths, biology or chemistry). However, many institutions require three A-levels or the equivalent combination of AS and A-levels (or four Scottish Highers/two Advanced Highers). Other qualifications, such as a relevant BTEC, T-Levels, Access qualifications or the International Baccalaureate may also be acceptable.

If you are not sure about the eligibility of your qualifications, you should seek advice from the university directly. Each application is judged on its merits and when an offer is made, many factors are considered. If you are returning to education or do not have the required grades, some university courses offer a foundation year (different to a foundation degree) to prepare you for the degree course. Once you have made your selection, you must apply through [UCAS](#).



3. Foundation degrees and Higher National Diplomas/Certificates

3.1 What are foundation degrees and Higher National Diplomas/Certificates?

◦ Foundation degrees

Foundation degrees are a higher education qualification lasting two years. These are different to a foundation year you might do in a bachelor's degree which are designed by universities in conjunction with employers to mix academic study with work-based learning, so that students gain knowledge and skills directly relevant to the workplace.

A foundation degree is equivalent to the first two years of a bachelor's degree and students can choose to progress onto a bachelor's degree pathway in a relevant subject for a further 12–15 months to receive this qualification. Alternatively, you can exit university and proceed directly into employment.

Foundation degrees are ideal if you are unsure about doing a full bachelor's degree or if you want to focus on developing professional skills and working whilst you study. The entry requirements for foundation degrees are also usually lower than a full bachelor's degree and some consider industrial or commercial experience. Therefore, a foundation degree can help you to get on to a bachelor's degree pathway if you did not meet the grade requirements for this at A-level.

◦ Higher National Diplomas and Higher National Certificates

Higher National Diplomas (HNDs) are two-year courses which are like foundation degrees in that they provide vocational training and are equivalent to the first two years of a bachelor's degree. This means you can choose to advance to a third year of a bachelor's degree after finishing a HND to achieve this. A Higher National Certificate (HNC) is a one-year course, equivalent to the first year of a bachelor's degree and you can also move into the second year of a bachelor's degree after finishing this.

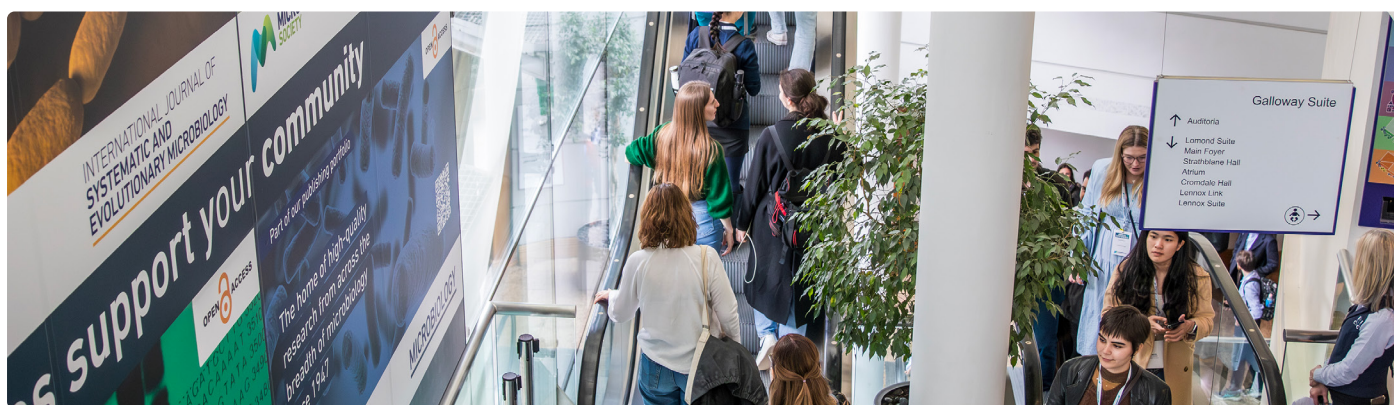
The main difference between foundation degrees and HNDs/HNCs is that foundation degrees combine academic skills with work-related learning whilst HNDs/HNCs focus on work-related assignments and practical tasks in your assessments, with very little essay writing.

As with a foundation degree, HNCs and HNDs are excellent for flexible learning as they provide the opportunity to study a degree in stages or exit into employment after one or two years of study. Furthermore, the entry requirements are lower than a full bachelor's degree and there may be opportunities for part-time learning.

◦ How to choose a foundation degree or HND/HNC?

There are several foundation degrees and HND/HNCs available in microbiology or biological sciences, with a focus on practical laboratory experience. To find a course, you can search for them directly through an institution or use the [UCAS](#) website.

To choose the right option for you, you should compare the course content. Specifically, you should look at the practical laboratory skills you will gain from each module and assess whether this will help you in your future career.



Additionally, you will want to consider the host institution and you can use the questions from the previous section on bachelor's degrees to assess whether this is right for you.

3.2 Entry requirements

The usual minimum entry requirement is one A-level at grade C or above or two Scottish Highers passes. BTEC level 3 is also acceptable and passes in maths and English at GCSE or Scottish Standard Grade are also usually required. However, the required grades can vary between universities and, science-based subjects usually have a higher entry requirement than this (two A-levels at grade C or above). It is important to check this when looking at courses you are interested in.

4. Apprenticeships

Apprenticeship schemes allow you to work alongside experienced staff to gain job-specific skills and earn a wage whilst working towards a recognised qualification. You will spend most of your time learning from workplace experience combined with a small amount of time attending a college or university for training.

There are several benefits to doing an apprenticeship:

- Earn a salary whilst you study.
- Work towards a qualification recognised by employers.
- Gain hands-on experience of a working environment.
- Avoid paying tuition fees, as these are covered by your employer and the government.
- Job opportunities with your employer after finishing your apprenticeship.

Additionally, apprenticeships can support individuals who may have had their education disrupted for several reasons, including disabilities, experiences in care and caring responsibilities.

4.1 Choosing the right apprenticeship for you

There are many employers that offer apprenticeships that provide hands-on experience of microbiology, usually as laboratory scientists, technician scientists or roles in the wastewater or pharmaceutical industries. Employers for these roles include GSK, the NHS, Severn Trent, Unilever and Wessex Water.

To choose an apprenticeship, you should consider:

- What level of apprenticeship is right for you? Higher Apprenticeships are a step above Advanced Apprenticeships and may lead to a qualification equivalent to an undergraduate degree. However, you may find more options available when looking for an Advanced Apprenticeship.
- Do you want a college or training provider closer to home or possibly within the company? Some apprenticeships provide distance learning; some may require you to attend in-person training regularly.
- What balance of classroom time to practical work is best for you? This will vary with all apprenticeship schemes.
- How long will the apprenticeship take to complete? It may be longer than a standard degree.
- Does the company interest you and align with your future career? You may have the opportunity to gain a permanent position at the end of your scheme.
- How competitive is the apprenticeship programme?

To find an apprenticeship, use '[Find an apprenticeship](#)' on gov.uk to easily search for details on training providers and the apprenticeships. There are no fixed deadlines for applying and opportunities can be advertised any time of the year with individual deadlines.



4.2 Entry requirements

Minimum requirements for Higher Apprenticeship schemes vary, but the usual minimum requirements for school leavers is five subjects including maths, English and a science subject at GCSE (grade 9–4) and three A-levels or equivalent (grade A–C), often including biology or a least one science-based subject.



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