Options with biotechnology

Your skills

Over the course of your degree you develop a good mix of subject specific and technical skills as well as transferable core skills. Consider these alongside other achievements, such as paid work, volunteering, family responsibilities, sport, membership of societies, leadership roles, etc. Think about how these can be used as evidence of your skills and personal attributes. Then you can start to market and sell who you really are, identify what you may be lacking and consider how to improve your profile.

Employers will highly value the specific subject knowledge and the wide range of technical and interpersonal skills you develop during your biotechnology degree. These include:

- research skills;
- handling, evaluating and interpreting information and data;
- the ability to solve problems in an analytical and logical way;
- numeracy skills;
- written and oral communication skills;
- the ability to work methodically, efficiently and accurately;
- advanced IT skills;
- project management skills;
- decision-making skills;
- teamwork skills.

The skills, knowledge and experience you acquire through doing work experience and extracurricular activities will also be considered and evaluated by prospective employers. Most work experience provides you with the opportunity to develop a range of skills including communication, team working and problem solving. You may also gain other skills, both technical and interpersonal, depending upon the type of work experience you do. Whether it is through a part-time or summer job, voluntary work or an industrial placement, you can demonstrate to employers that you have initiative and can apply the skills learned in your course to the work place. It will also help to show that you are motivated, hard working and reliable. Extracurricular activities, such as taking part in university societies, also demonstrate that you can work in a team and have good social skills.

Employment prospects

Every year, statistics are collected to show what HE students do immediately after graduation. These can be a useful guide but, in reality, with the data being collected within just six months of graduation, many graduates are travelling, waiting to start a course, paying off debts, getting work experience or still deciding what they want to do. For further information about some of the areas of employment commonly entered by graduates of any degree discipline, check out 'What Do Graduates Do?' and the AGCAS Special Interest booklet 'Your Degree... What Next?'

Immediately after graduation many biotechnology graduates take up casual work while they are waiting to begin a postgraduate course. They most commonly work in shops, bars, hotels and restaurants.

Other graduates choose to enter full-time employment in a broad range of careers including: scientific research and development; health care; IT; patent work; scientific writing and journalism; technical sales; publishing; accountancy; commercial, industrial and public sector management; and public health and protection.

Job options

Bear in mind that it's not just your degree discipline that determines your options. Get hold of the AGCAS Special Interest booklet 'Your Degree... What Next?' from your careers service. This looks more generally at the options for today's graduates and offers informed advice on career planning. Or try 'What jobs would suit me?', an online career planning tool, at www.prospects.ac.uk/links/pplanner.

You can choose between jobs that are degree-related or those that appeal because they use other interests or elements of your degree.

Jobs directly related to your degree

- Clinical molecular geneticist – uses biochemical and molecular biology techniques to identify genetic abnormalities associated with disease. Screening takes place both before and after the appearance of symptoms.
- Clinical research associate - sets up, monitors and completes clinical trials. A clinical trial is a scientific study of the effects, risks, efficacy and benefits of a medicinal product.
- Microbiologist - observes and monitors the development and effects of microbes in close detail in order to protect public health.
- Research scientist (life science) - designs, plans and investigates experiments and fieldwork to advance and apply knowledge of biological and natural phenomena. Some scientists carry out research with a definite end-use in mind, such as a new product, process or commercial application; other scientists' research focuses on broadening knowledge and building on previous progress.
- Regulatory affairs officer - ensures the appropriate licensing, marketing and legal compliance of pharmaceutical and medical products by applying knowledge of scientific, legal and business issues to the processes involved in development, manufacture and distribution.

Jobs where your degree may be useful

- Patent attorney - works on behalf of a client to persuade patent examiners that inventions really are new and inventive – not simply trivial adjustments to something that already exists, thus protecting the inventor's legal and commercial rights.
- Technical author- communicates technical information in styles intended to ensure it is understood by the target audience. The author must understand the technology and then design and write documentation. Presentation may be through instruction manuals, leaflets, CD-rom or online help, or other media, such as video, PowerPoint or presentations.
- Systems/business analyst - examines a business activity to help decide whether new IT solutions will improve productivity.
- Quality assurance manager - aims to ensure that the product or service an organisation provides is fit for its purpose and meets customer expectations, and co-ordinates the activities required to meet this aim.
- Technical sales engineer - combines technical knowledge with commercial training to promote and sell equipment to business customers. The emphasis of the work varies, depending on the level of technical knowledge and understanding needed to competently sell the product or service offered and respond effectively to clients' queries.

Although for many graduates the jobs listed here might not be their first, they are among the many realistic possibilities with your degree, provided you can demonstrate you have the attributes employers are looking for. It's worth noting that many graduate vacancies don't specify particular degree disciplines.

To find out more about the above options and other jobs, see AGCAS Occupational Profiles and other sources of occupational information available in careers services. Occupational Profiles are also available on www.prospects.ac.uk/links/occupations.

Where are the jobs?

Biotechnology graduates are most commonly employed in The National Health Service (NHS), pharmaceutical companies, contract research organisations (CROs), universities and government laboratories (including environmental agencies) in research and development, clinical, and technical support roles. Pharmaceutical and food and drink companies also employ graduates in a wide range of specialist positions in quality assurance, manufacturing, and management. Teaching positions are available in universities, schools and colleges, and media groups and professional bodies recruit for positions in scientific writing and editing. Banks and accountancy firms recruit for a variety of positions within financial and general management.

You may find useful information in the following sectors:

- Science;
- Health;
- Information technology.

Career management is an ongoing process, one that you'll no doubt develop all your working life. For further information on all the above employment areas, visit www.prospects.ac.uk/links/sectorbs or ask to see the AGCAS Sector Briefings at your careers service.

Further study

Consistently high numbers of biotechnology graduates enter further study within six months of graduating and they usually choose courses in related subjects, such as industrial biotechnology; environmental biotechnology; chemical engineering; and chemical sciences.

Many choose to do further study because an increasing number of organisations within the science sector stipulate that entrants need a postgraduate qualification in a specific science subject.

Studying at postgraduate level will normally improve your employability by enhancing your research skills, specialist knowledge, ability to think independently, and your IT and communication skills. This will enable you to apply for a much wider variety of jobs and, in certain cases, enter at a higher level.

You should research courses carefully and think about what future career areas interest you.

These trends show only what previous graduates in your subject did immediately upon graduating. Over the course of their career - the first few years in particular - many others will opt for some form of further study, either part-time or full-time. If further study interests you, start by taking a look at the AGCAS Special Interest booklet 'Postgraduate Study and Research' or the 'Further study' section of www.prospects.ac.uk. For a comprehensive list of courses, see 'Prospects Postgraduate Directory'.

Refer too to the 'Prospects Postgraduate Funding Guide', the AGCAS Special Interest booklet 'Postgraduate Study and Research' and AGCAS Vocational Course Surveys for further details relating to finance and the application process.

Other options

Don't forget there are alternatives to entering employment or postgraduate study, such as taking time out, volunteering or travelling. Longer term, you may want to consider starting your own business. Check out the AGCAS Special Interest booklets 'Beyond Nine to Five: Flexible Working', 'Self-employment' and 'Working Abroad', all available from your careers service.

What next?

This should have started you thinking about your future. Whatever stage you are at, your careers service will be able to help you. A huge number of resources, including most of those mentioned here, plus a wide range of other services, including individual careers guidance, employer presentations and workshops on topics such as successful applications and interview techniques, are likely to be on offer.

A full list of useful resources plus case studies of graduates in this subject can also be found on www.prospects.ac.uk/links/options.

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