Options with biochemistry

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.

As a biochemistry graduate, you will possess a good understanding of the molecular basis of the processes that take place in cells and organisms. You will also be able to plan, conduct and evaluate experiments and research and interpret scientific literature. However, throughout your course, you will also develop a wide range of transferable skills alongside your biochemistry-specific skills. Transferable skills are highly regarded by employers generally. For biochemists these include:

- analytical and problem-solving skills;
- computing and statistical skills - you will probably have used spreadsheets, databases and presentation packages, which are found in most workplaces;
- data interpretation skills;
- numeracy skills;
- organisational skills - acquired, for example, through coping with your workload of lectures, practicals, study, part-time work and social activities;
- ability to identify, select, organise and communicate information concisely;
- teamworking skills - learned through your laboratory work, or perhaps from sport, a society or voluntary work.

If you have even a vague notion about what you would like to do after graduation, ask your careers adviser what sorts of skills you might be expected to demonstrate if you were applying to that field.

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?'

Destination surveys show that biochemistry graduates enter a range of careers. In 2006, six months after graduation, the largest number, just over 20%, had entered scientific research and over 18% went into the professional and technical occupations. Biochemistry graduates also went into other sectors, such as commercial and public sector management (7%).

There are three main ways you can use your biochemistry degree in a graduate job:

- directly as a scientist, where your biochemistry knowledge and skills are essential;
- indirectly, where having scientific knowledge and/or specific skills such as numeracy or data interpretation is useful, e.g. chartered accountant or information scientist;
- in a non-scientific job, but where graduate qualities, such as intellectual ability or communication skills, are essential.

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

- Biomedical scientist (MLSO) - carries out laboratory tests on human samples to help clinicians diagnose illness and to evaluate the effectiveness of the necessary treatment.
- Clinical biochemist - analyses and interprets patients' blood and other samples to assist with the investigation, diagnosis and treatment of disease.
- Clinical research associate - sets up, monitors and completes clinical trials of the effects, risks, efficacy and benefits of a medicinal product.
- Pharmacologist - investigates how drugs and chemicals interact with biological systems. The aim is to understand drugs and their actions so they can be used effectively and safely.
- Scientific journalist - researches, writes and edits scientific news articles and features.

Jobs where your degree would be useful

- Forensic scientist - provides impartial scientific evidence for use in courts of law to support the prosecution or defence in criminal and civil investigations.
- Patent examiner - studies applications for patents. The examining staff of The Patent Office are responsible for ensuring that applications for patents meet the requirements of the relevant registration and do not infringe the rights of inventors.
- Water quality scientist - analyses water samples to set targets and standards. These standards aim to safeguard all aspects of water quality.
- Inspector of health and safety - carries out inspections and investigates accidents or cases of ill-health and complaints in the workplace.
- Occupational hygienist - evaluates environmental hazards resulting from physical, chemical or biological factors at work.
- Chartered accountant - provides professional services to a wide range of clients. Services include audit/assurance, accountancy, tax, business advisory, management consultancy, systems and IT, corporate finance, corporate recovery and forensic accounting.

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?

The major employers of biochemistry graduates are universities; pharmaceutical companies; contract research organisations; and The National Health Service (NHS). Civil service laboratories, such as the Central Science Laboratory (http://www.csl.gov.uk/) or public health laboratories, such as the Health Protection Agency (HPA) also employ some biochemists each year.

For further information about possible employers, see the following sectors:

- Health - careers in hospitals and other health settings;
- Education - a whole range of careers, particularly within higher education, including administration and research;
- Science - careers in industrial, public, academic and hospital laboratories.

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

Many biochemistry students go onto further study, destination statistics show that in 2006, just over 44% of biochemistry graduates were undertaking further study within six months of graduation; of these almost 8% were combining work with their study. Many biochemistry undergraduates undertaking further study pursue their biochemistry further, either through an MSc, MRes or PhD, in a subject such as biochemistry or perhaps biology or neuroscience. In academia, a PhD is a necessity to get a lectureship. In industry, a PhD is not so essential, although the majority of heads of section do have doctorates.

Some biochemists move away from pure biochemistry by doing an MSc or diploma in subjects such as forensic science or toxicology. Others change direction more radically by studying courses such as law, computing, accountancy or librarianship, teaching or medicine.

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.

Areas of volunteering which may interest biochemistry graduates include initiatives to encourage students to continue science subjects to A-level and degree levels, often organised by universities, and health-related opportunities within hospitals or the local community. A database of volunteering opportunities can be found at Do-it (http://www.do-it.org.uk). Biochemistry graduates may also choose to volunteer overseas.

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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The work of writers and editors is gratefully acknowledged.