



Student Short Guide

A Bioscience Degree - Why and What Next?

Thinking about a bioscience degree? Doing a bioscience degree and wondering where it might take you? Trying to articulate to potential employers what your degree and time in higher education has given you? This guide brings together some ideas on what a bioscience course can give you, where it might take you and should help to get you thinking about the skills you could develop during your time in higher education.

“When you work in a field that is static, it is far too easy to switch off and stop caring about what you are doing. The constant updates to research, methods and technology found in the biosciences allow us to learn throughout our careers and thus stay interested in what we are doing.” *Clare Cumming (Lancaster University)*

“I love the freedom and reservoir of varied abilities and knowledge associated with my degree and the consequent prospects these provide.” *Marcus Lawrence (University of Warwick)*

“I like learning about science and communicating these new ideas to other people. I really like the idea of working for an institution that promotes science and makes it exciting and easy for the public to understand.” *Susan Turrell (University of Leeds)*

“I feel confident in my ability to ‘hit the ground running’ in most bioscience job positions.” *Erald Shehu (Brunel University)*

“Most importantly though I’ve been able to witness biology in action through conservation, and can finally see the importance of finishing my studies before embarking on such a career.” *Rachel Henson (University of Cardiff)*

“I have come to realise the value of all the research skills that I have acquired whilst completing my studies. I therefore can appreciate the importance of data handling and understanding the principles behind the experiments that I do.” *Ruth Brown (University of Sheffield)*

“...my personal tutor, a man who is always there to answer my (very many) questions about university, and yet if I ask him what he thinks I should do afterwards he becomes quiet and tells me it’s my choice. Annoyingly I know he’s right.” *Melanie Jannaway (University of Leicester)*

“Overall I look forward to turning my passion into my job - and surely that is everybody’s dream.” *Wesley Roberts (University of Leeds)*



UK CENTRE FOR

bioscience



Why bioscience?

You might choose to do a bioscience course for a variety of reasons, from a fascination with a particular subject, or a desire to change the world, to having a specific career in mind. Bioscience courses can take you in a wide range of directions, with degrees in subjects from human anatomy and marine biology to microbial biotechnology and sports science, a bioscience degree could take you anywhere.

“... to learn from scientists who were at the cutting edge of their research was a new experience that made the information more personal, more real.” Susan Turrell, University of Leeds.

Why higher education?

It's not just subject specific and academic skills you could gain, developing life skills is a huge part of being at college or university, you could:

- improve your social skills;
- improve your people skills (from working with a new lab group or tutorial group);
- develop confidence in your own abilities;
- learn how to manage your money;
- learn to cook and look after yourself if you're moving away from home; and
- discover new interests through clubs, societies and new friends.

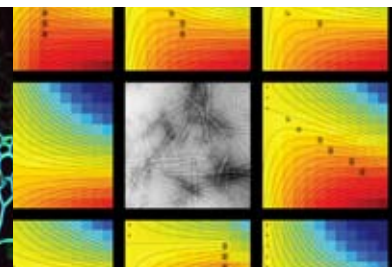
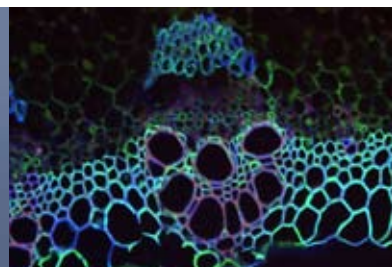
You are also exposed to different views on a huge variety of subjects and get an opportunity to think in ways you might never have done before.

Skills, skills and more skills

Doing a bioscience course could enable you to develop a wide range of skills:

- Computer skills - data handling and website construction.
- Research skills - in the library (finding those journal papers), online (being able to tell the difference between a useful resource and “Bobs’ rant on climate change”) and in the lab (being able to plan and undertake experiments).

- Analytical skills - data analysis, using, and more importantly understanding, statistics, and critical analysis of your own and others’ work.
- Communication skills - communicating science to both your peers and non-scientists, and being able to present your work in a variety of ways (so being able to give talks, write fluently and understandably and present your results, as tables, graphs, diagrams etc.).
- Applying what you’ve learnt in a practical situation - taking what you’ve learnt from a journal paper or in the lecture theatre and applying it in a practical session or within your own research project.
- Independent learning skills - your lectures and tutorials won’t provide you with everything you need to know, you have to be able to go out and research topics under your own steam. If you choose to stay in a bioscience career you’ll have to keep up-to-date with an ever-changing field.
- Team working - not just working as a group (although this is an important skill) but also collaborating between groups, sharing information and pooling results.
- Creative skills - thinking your way around problems, developing hypotheses and designing experiments all help to develop your creative skills.
- Time management - the ability to manage your own work, work to deadlines and have a work-life balance; *“...will respect the calibre of a person who can juggle and succeed in lectures, laboratory work, essays and presentations, and still fit in a trip to the pub at the end of the week”* Marcus Lawrence University of Warwick.
- An understanding of how science works: *“Anyone can feed a sample into a machine, push a few buttons and watch it whirr and flash for a while before spitting out results, but you need to know what is happening inside the machine to truly understand those results. I look forward to developing*



this understanding as I have no intention of spending the rest of my life parroting results without really understanding them.” Clare Cumming, Lancaster University.

- You can also acquire: determination; patience; self-confidence; persistence; self-discipline; and an ability to pick yourself up and start again if things don't work out as you expect (think about all those experiments that didn't work first, second or even third time round).

“I have gained a variety of transferable skills that I will be able to use in whatever career I choose to go into” Ruth Brown, University of Sheffield.

How about...

- Taking the opportunity to get involved in societies and sports clubs. There are a vast array of societies and clubs in many colleges and universities from football and basketball, to the Star Trek appreciation society;
- Seeing if you can do a summer lab placement or take part in vacation research programmes and see 'biology in action';
“I have already undertaken an eight week research placement, investigating membrane proteins in Helicobacter pylori, something I enjoyed greatly, and made me realise that all the biochemistry I have been taught in the past actually had a point, and for the first time I actually enjoyed it.” Wesley Roberts, University of Leeds.
- Getting work experience, whether it's bioscience related or not, paid or voluntary. Work experience and work could give you something valuable to add to your CV, earn you some cash and give you a taste of the world of work;
- Doing courses or evening classes outside of college or university, you could get into something totally new;
- Doing a sandwich placement, as well as a year earning you get to experience what it's like to work as a scientist and add something new to your CV;

- Going to your departmental research seminars - listen to visiting speakers or postgraduates from your own department talking about their research, improve your knowledge of research being carried out across the biosciences; and
- Getting involved with the staff student committee and having some influence and say in your department.

It's not just about lectures

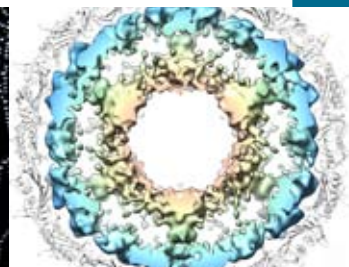
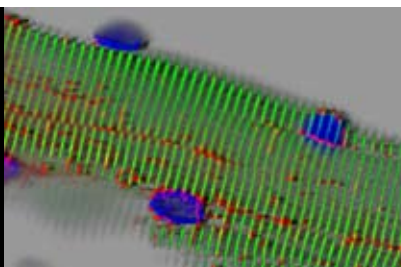
You get the chance to meet new people, make new friends, meet people from across the UK and the world. You could get the opportunity to travel, both as part of your course or with friends. You can join societies and clubs and carry on with a favourite sport or hobby and try some new ones.

What or where next?

Where you go next might bear no direct relation to what you did in your degree. Bioscience graduates train as lawyers, accountants and journalists, work in media, finance and set up their own businesses, as well as a multitude of other careers. You might want to work in an area directly related to your degree, such as the pharmaceutical industry, healthcare, hospital lab, university lab, writing for Nature or New Scientist, working for a cancer or environmental charity, going abroad and working for the WHO, VSO or Médecins Sans Frontières. You might consider teaching - enthusing others with what you've been enthused by, or you might have the opportunity for further study, such as an MSc or PhD, leading onto research or teaching.

Start thinking about and researching potential careers early on, depending on what you want to do you might have to undertake further training or need specific experience.

Wherever you end up you don't have to be tied down, a bioscience degree can lead onto so many different career paths, both subject specific and generic, that you can be flexible.



Interested in more thoughts about what you could gain from a bioscience degree and where it might take you? All the tips and advice in this guide came from entries to the Centre's 2009 Student Award which asked "**Given your degree, what are you looking forward to in the future?**". The winning, runner-up and shortlisted entries are all available to download from our website, along with entries from previous awards, visit www.bioscience.heacademy.ac.uk/funding/essay/

What is the Student Award?



An opportunity for you to gain points for your CV and stand out from the crowd, the winners of the 2010 Award received £250 for their entries. The Award is open to all students registered on a higher education bioscience course

at a UK institution. Find out more at www.bioscience.heacademy.ac.uk/funding/essay/

Careers advice and information

Prospects - an extensive website which includes sections on subject specific careers and using your qualification. www.prospects.ac.uk

Why do Postgraduate Research? - if you are interested in a research degree this website from Vitae gives you a feel for what's involved. www.vitae.ac.uk/1219/Why-do-postgraduate-research.html

Careers Advice from the NUS, including articles on skills and getting work experience. www.nus.org.uk/en/Student-Life/Careers-Advice/

UK Centre for Bioscience student pages - guidance on writing your CV and information and resources intended to help you think about where you could head next. www.bioscience.heacademy.ac.uk/network/students/

Find a PhD and **Find a Masters** - resources and information both for those doing a PhD or Masters and those thinking about doing them, along with PhD and Masters opportunities across Europe. www.findaphd.com and www.findamasters.com

Study related - you might find these websites useful during your degree

Intute - a free online service providing access to reviewed web resources for education and research. www.intute.ac.uk

Intute also have a series of tutorials to help you develop your internet research skills. www.vts.intute.ac.uk/

Engage in Research - a website designed to take you through some of the key aspects of scientific research from literature reviews and how to generate a hypothesis to statistical analysis and scientific writing. www.engageinresearch.ac.uk

Writing essays - a guide for students by students which aims to help you develop your academic writing skills. www.writenow.ac.uk/assessmentplus/outcomes.htm#studentguide

Learnhigher - the Assignment Survival Kit and guidance on report writing, numeracy skills and other assessment related topics. www.learnhigher.ac.uk/students.htm

Online Plagiarism tutorial - interactive tutorial from the University of Leicester which guides you through the issues surrounding plagiarism and gives advice on how to avoid becoming an accidental plagiarist. www2.le.ac.uk/offices/ssds/slc/resources/writing/plagiarism/plagiarism-tutorial/

Essay writing - a guide from the Royal Literary Fund. www.rlf.org.uk/fellowshipscheme/writing/essayguide.cfm

Study skills - webpages from the University of Manchester with advice on developing your skills including giving presentations, working in groups and research skills. www.humanities.manchester.ac.uk/studyskills

The **SUMS project** has information on a variety of topics from accuracy and precision and significant figures to plotting and interpreting graphs and charts. www.step-up-to-science.com/sumsv3/

