



BSc Biochemistry with Genetics (Honours) C7C4



The Biochemistry with Genetics degree is aimed at students who wish to study Biochemistry, thus developing an in depth understanding of the molecular mechanisms of life, but want the focus of those studies to be on the study of the genetic blueprint of life, DNA. This is an exciting and rapidly expanding field which has been at the forefront of many of the modern advances in biology and medicine. The degree structure provides students with core modules in Biochemistry and Genetics coupled with a solid background in other related fields such as biotechnology and cell biology. This basic training in other aspects of Biochemistry is important when considering the multi-disciplinary and interactive nature of today's scientific work environments. Students also receive an in depth training in the key techniques associated with modern biochemical and genetic research by taking a series of specialist techniques courses.

Entry requirements. Typically ABB at A-level for entry from the sixth form with at least two science subjects from Biol / Chem / Geog / Maths / Phys / Psych and a minimum of AS-level chemistry, or equivalent 2A- plus 2AS-levels. Applicants with other types of qualification should enquire for details.

Specialist facilities. Biochemistry is at the heart of Lancaster University's research and teaching priorities. The university has a long history of highly rated biochemical research and the Division of Biomedical and Life Sciences in the School of Health and Medicine is

ranked joint 1st in the UK for Allied Health Professions and Studies research. Current interests involving biochemistry and genetics include induction of DNA damage in skin cancer, cellular mechanisms to repair DNA damage, genetic mechanisms used by plants to combat growth deficiencies and pathogens, developmental genes in the fruit fly, molecular mechanisms of neuron destruction in Alzheimer's disease, the genetics of food poisoning bacteria, and cellular signalling. Due to our high level of research funding and activity in these areas, our students are exposed to up-to-date research facilities and have a wide choice of final year projects. Lectures, practicals and workshops will take place in our state-of-the-art teaching facilities.

Careers information. This degree will provide an excellent platform for research based careers in biochemistry and genetics, including further postgraduate study for MSc or PhD qualifications. In addition there are many opportunities in the pharmaceutical industry, the food industry, forensic science and research institutes that are accessible to our Biochemistry graduates. Traditionally our graduates enter a wide range of careers and the transferable skills acquired during this degree will make the graduate attractive to employers in many other areas such as management, finance and marketing.

Michael Boylan:

"I chose a degree in Biochemistry with Genetics because, for as long as I can remember, I've been fascinated by biology. A degree from a prestigious university such as Lancaster will be a big boost for a future career as a research scientist."



Further information contact:

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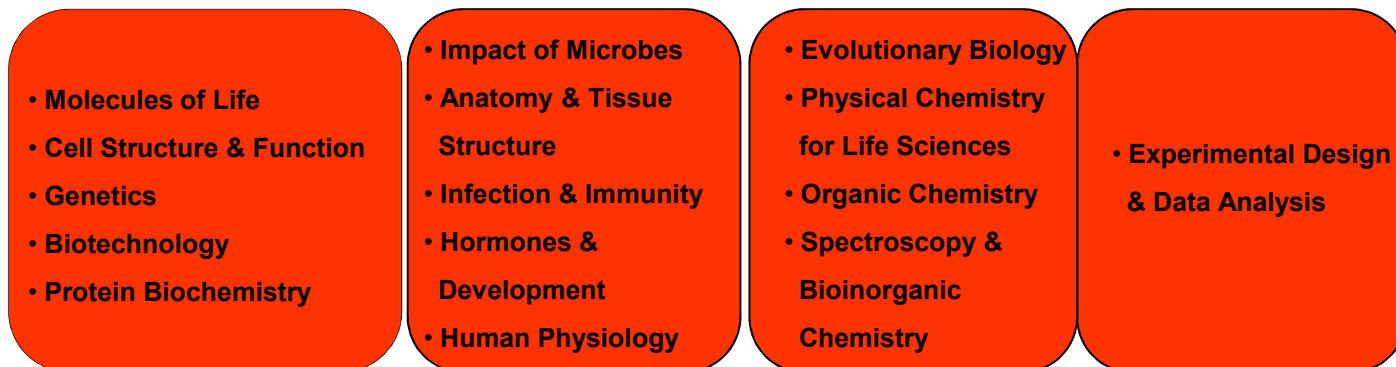
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Year 1

In the first year of the degree, students take a total of 15 modules (shown below). Due to the specialized nature of this degree scheme all of these modules are compulsory and cover a range of biochemical subjects. Assessment is through coursework, end-of-module tests and summer examinations.



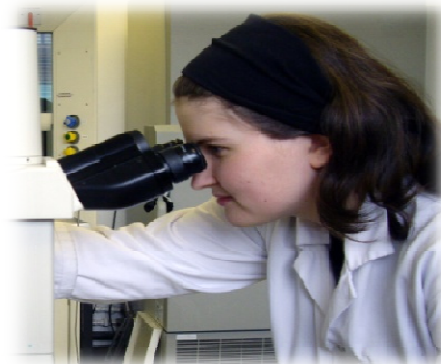
Year 2

In the second year of the degree students again take a range of compulsory modules designed to provide a detailed understanding of biochemistry, genetics and associated research techniques. Modules are assessed through coursework, end-of-module tests and examinations. Exams take place in the summer term of the second year.



Compulsory Modules

- Biochemistry
- Biochemical Techniques
- Cell Biology
- Cell Biology Techniques
- Medical Microbiology
- Microbiological Techniques
- Genetics
- DNA Technology



Year 3

In the final year of the degree students can choose to undertake a research project or a combination of laboratory project and literature review. They must also take the compulsory module combination shown in Group A (below) along with two modules from Group B and one module from each of Groups C and D.

Group A (Compulsory)

- Cell Signalling 1 *OR* Cell Signalling 2
- Genetics
- Medical Genetics
- Protein Biochemistry
- Molecular & Biochemical Parasitology
- Biology of Ageing

Group B (Two Selections)

- Cell Signalling 2
- Tropical Diseases
- Neurobiology
- Phase Equilibria & Thermodynamics

Group C (One Selection)

- Cell Signalling 1
- Immunology
- Electrochemistry & Kinetics

Group D (One Selection)

- Cell Cycle & Stem Cells
- Cancer
- Transition Metal Chemistry