Biochemistry and Genetics, BSc (Hons)

[Biochemistry and Genetics, BSc (Hons) - Swansea University](https://www.swansea.ac.uk/undergraduate/courses/medicine/biochemistry-and-genetics-bsc-hons/)

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| **Duration:** 3 years full-time  **Tuition Fees:** Year 1 £21,650 (September 2024)  *Please note that tuition fees are subject to an increase of 3% each year.* [*Info here*](https://www.swansea.ac.uk/international-students/my-finances/) | **Entry Points:**  September **(In person only)** |
| **Entry Requirements:** ([Check Equivalencies for your Country](https://www.swansea.ac.uk/media/Non-EU-entry-requirements-2018.pdf))   * A Level AAB – BBB including Biology and Chemistry – foundation year available. * IB 32-34 including HL6 in Biology and Chemistry. * Minimum of grade C at GCSE (or equivalent) in Maths | |
| **English Language Requirement:** IELTS 6.0 with no less than 5.5 in all components (or Swansea University recognised equivalents) [Check Swansea University Approved Tests and Qualifications here](https://www.swansea.ac.uk/admissions/english-language-requirements/) | |

***Suitable entry requirements as guidance – eligibility can only be confirmed once a full application has been received and reviewed.*Important things to note:**

* We are 1st in Wales for Biomedical Sciences (Guardian 2024) & 12th for Biomedical Sciences (Complete University Guide 2024).
* This degree is available as a MSci (4-year combined master’s programme). Students choosing MSci will need to meet a slightly higher entry requirements and will have the opportunity to undertake advanced research training in the 4th year ([Biochemistry and Genetics, MSci (Hons) - Swansea University](https://www.swansea.ac.uk/undergraduate/courses/medicine/biochemistry-and-genetics-msci-hons/))
* State-of-the-art facilities at the Medical School including bioanalytical equipment such as High Performance Liquid Chromatography, gas chromatography, mass spectrometry, DNA and protein analytical equipment and computer-based image analysers for molecular or cellular studies.

**What is this programme about?**

* This joint honours degree offers comprehensive knowledge of advanced molecular biology techniques and research, which form the basis for understanding all forms of life.
* Molecular biology's growing impact in various scientific areas, including human disease study and treatment, pharmaceutical development, and environmental relationships.
* Teaches genetic processes, sub-cellular and molecular workings of living organisms, enabling a thorough comprehension of their biochemical function, from bacteria to humans.
* Develop excellent analytical and project management skills and learn how to design experiments and plan work programmes.

**Example Topics Within the Programme:**

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| * Fundamental Genetics and Evolution * Chemistry for Biochemists * Energy and Metabolism: The Reactions of Life * Microbiology * Human Physiology * Epigenetics, Gene Regulation and Disease * Genetic Toxicology * Human Immunopathology | * Organic Chemistry: An Introduction for Life Sciences * Techniques in Molecular Biology * Microbial Molecular Genetics * Membranes and Energy Transduction * Infectious Diseases * Molecular Evolution * Genetics of Cancer |

**Employability – Example of roles after graduation:**

* Industrial Biotechnology
* Academia/ Life Sciences Research
* Science Communication
* Pharmaceutical Industry
* Bioinformatics
* Diagnostics