



HND in Industrial Biotechnology

(2 ACADEMIC YEARS AUGUST - JUNE)

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(2 academic years August – June)

What is Industrial Biotechnology?

Industrial Biotechnology (IB) is the application of biotechnology to industrial processes - working with nature to transform how we manufacture things, replacing finite resources with those from more sustainable sources and finding valuable products in industrial waste.

Using IB we can use living organisms to turn co-products from the whisky distillation process into biofuels, vegetable peelings into concrete, plastics and carbon fibre, and stale bread into penicillin. We can learn from nature and create organisms that produce the chemicals we want for medicine or manufacturing.

Glasgow Clyde College and the Industrial Biotechnology Innovation Centre (IBioIC) in collaboration with the IB industry have developed and designed this cutting-edge course to train scientists with the essential knowledge and skills need to work in the IB industry.



What subjects does the HND in IB cover?

Through a combination of lectures, discussion, group work exercises, research, practical work, assignments, industry guest speakers and site visits, you will learn:

Year 1

Laboratory Skills, Applied Sciences, Biotechnology, Cell Biology, Microbiology, Biochemistry, DNA and Genetics, Human Body Structure and Function, Statistics for Science, Fundamental Chemistry (laboratory skills) and Organic Chemistry (laboratory skills).

Year 2 (must have achieved 15 credits from year 1 to progress)

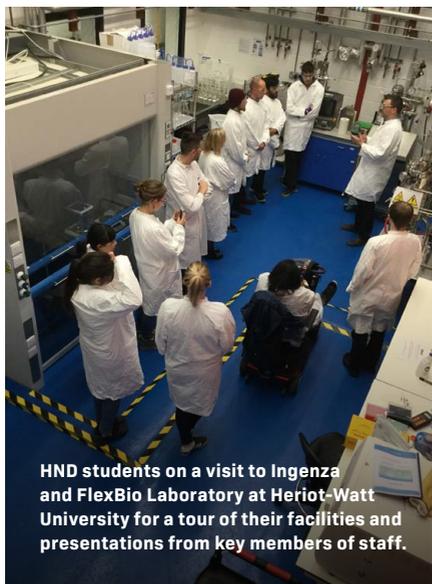
Instrumental Techniques, Industrial Biotechnology 2, Animal and Plant Cell Culture, Microbiological Techniques, Protein Structure and Function, DNA molecular techniques, Immunological Techniques, Mathematics for Science, Chemical Engineering, Industrial Biotechnology Processing, Aromatic Chemistry, Base-Catalysed and Organometallic Chemistry (laboratory skills).

You will also get the chance to carry out a supervised piece of research in a laboratory setting.

What can I do after completing this course?

Students who successfully complete: Laboratory Skills, Microbiology, Chemistry, Chemical Engineering Processes, Biotechnology and Industrial Biotechnology: Processing HND modules with a first pass and AB profile in other graded units will be considered for accelerated entry onto year 3 of Strathclyde University BSc (Hons) science programmes (Microbiology, Biochemistry and Microbiology, Immunology and Microbiology, Pharmacology and Microbiology).

Many students will go straight into employment as Laboratory Technicians, Process Operators and Production Scientists.



HND students on a visit to Ingenza and FlexBio Laboratory at Heriot-Watt University for a tour of their facilities and presentations from key members of staff.

What do the current students say about the course?

I was drawn to the HND Industrial Biotechnology course as it has been developed in partnership with industry leaders, improving student employability by ensuring learners obtain the desired skills required by organisations active within this field.

**ALEXANDER MONTGOMERY,
HND STUDENT 2017/18 COHORT**

The Industrial Biotechnology Innovation Centre has received £11 million to carry on its efforts to boost the sector through to 2023.

Ivan McKee, Scotland's Trade Minister, said that the new money could create up to 1,400 jobs.

The Times, 14th September 2018

What are the entry requirements of the course?

Highers (or equivalent) in Chemistry AND Biology/Human Biology at grade C or above, and National 5, Intermediate or Standard Grade (SCQF Level 5) A/B or 1/2 passes in Maths and English. Applicants with equivalent qualifications from overseas or relevant experience with no formal qualifications are encouraged to contact Keira Geddes.

When does the course run?

The course runs from August until June each year, three days per week (the remainder of the week should be used for studying).

Part-time and Continued Professional Development Opportunities

Any learners looking to take the course part-time would be joining the full-time class for a number of units each year. One unit is typically 3 hours contact time per week for a 12-week block. The number of units taken each year is entirely flexible to meet the needs of the learner.

Any applicant already in possession of an HNC Applied Sciences would qualify for credit transfer for a large number of the units, and so would need to sit fewer units in order to achieve the HND.

For information regarding fees for this route, please contact Keira Geddes in the first instance.



Where can I find more information about how to apply?

<https://www.glasgowclyde.ac.uk/courses/621-hnd-industrial-biotechnology/947>

Who should I contact for more information?

Dr Keira Geddes, Senior Lecturer
Email: kgeddes@glasgowclyde.ac.uk
Telephone: 0141 272 3602

Who and what is IBioIC?

IBioIC is the Industrial Biotechnology Innovation Centre. IBioIC's role is to stimulate the growth of the IB sector in Scotland to £900 million by 2025. IBioIC connects industry, academia and government and facilitates collaborations, provides scale-up capabilities, creates networks and develops skills for industry through educational programmes.

