Course Information

CITY OF WOLVERHAMPTON COLLEGE

Applied Bio-Medical Science Edexcel BTEC Level 3 National Extended Diploma

Study Mode: Full Time Programme Component | Course Level: 3

Is this course right for me?

This course is designed to meet the needs of those looking to pursue a medically-related career in the fields of biomedical science, biochemistry, microbiology, radiography, pharmacy or dietetics.

Key areas of study will include human physiology, genetics, microbiology, chemical and medical laboratory techniques and instrumentation.

The course opens up a range of career opportunities in forensics, the biomedical industries, medical laboratories and the pharmaceutical industry.

You will develop the analytical, evaluative and technical skills to work within a wide range of scientific industries or to be able to progress to higher education

Entry Requirements

To access this course you are required to have:

- Four or more GCSEs at Grade 4 or above with science at Grade 4 or above and English and maths at Grade 3 or above OR
- Successfully completed a full Level 2 study programme in a science-related subject

You will also be required to attend an interview/assessment with a member of the college's admissions team.

What will I learn?

During year one of the course you will study the following:

- Principles and applications of science I
- Practical scientific procedures and techniques
- Science investigation skills
- Laboratory techniques and their application
- Physiology of human body systems
- Electrical circuits and their applications

In year two of the course you will specialise in biomedical science and will study the following:

- Principles and applications of science II
- Investigative project
- Contemporary issues in science

- Human regulation and reproduction
- Genetics and genetic engineering
- Microbiology and microbiological techniques
- Diseases and infections
- Applications of organic chemistry
- Medical physics techniques

What skills will I gain?

By studying this course you wil be able to:

- Use the necessary skills to measure quantities for chemical reactions
- Use the correct equipment to identify structures and functions in different types of cells
- Investigate different types of energy and their transfers
- Communicate scientific information
- Know how procedures are followed and communicated in the scientific workplace
- Design a scientific laboratory
- Know about laboratory information management systems
- Demonstrate safe working practices in the scientific workplace
- Plan an investigation relevant to the area of study
- Undertake the planned investigation, using appropriate scientific principles
- Collect, collate and analyse the results from the investigation
- Draw conclusions from the investigation
- Use analytical techniques
- Use scientific techniques to separate and assess purity of substances
- Use instruments/sensors for scientific investigations
- Know how scientific ideas develop
- Understand the public perception of science, as influenced by the media
- Investigate the ethical and moral issues associated with scientific advances
- Know the relationship between science, commerce and politics
- Know the levels of organization within the human body
- Relate the structure of the circulatory system to its function in a multi-cellular organism
- Relate the structure of the respiratory system to its function
- Relate the structure of the digestive system to its function
- Know atomic structure and the physical principles of ionising radiation and ultrasound
- Understand how radiopharmaceuticals are used in diagnosing imaging
- Know the basic principles of magnetic resonance imaging
- Understand the importance of radiation safety to the treatment of malignant disease with radiotherapy
- Know the different physiological measurement tests available and the conditions they can detect
- Understand the profile of normal and abnormal test results
- Carry out clinical investigations using appropriate physiological measurements tests
- Interpret the results of a clinical investigation
- Investigate the structure and characteristics of major groups of organism of medical importance
- Understand how the body defends itself against infection
- Know how the principles of blood transfusion science relate to haematology
- Know the importance of cell pathology as a diagnostic tool
- Understand how the chemical make-up of the body influences health and disease
- Know the different types of diseases and infections
- Understand the factors that can influence the development of diseases and infections
- Be able to investigate the spread of diseases and infections
- Know some of the impacts that diseases can have upon people, society and the environment

- Understand ways in which diseases can be treated, cured or eradicated.

How will I be assessed?

You will be assessed via internal assessments to include the following methods:

- Two external exams (January with a resit opportunity in June)
- Practical techniques
- Lab reports
- Essays
- Presentations
- Diagrams
- Short answer questions

What can I do next?

After you have successfully completed this course you can progress to:

- Biomedical Science Edexcel BTEC National Extended Diploma (year two)
- Apprenticeship
- Higher education qualification
- Employment in a relevant field

Why study with us?

You will carry out practical sessions in our well-equipped science labs and throughout the course will have the opportunity to go on science-related educational visits and field trips.

Delivery

Location: Paget Road Campus
Start Date: 02/09/2025
Day:
Time:
Course Fee:
Course Code: CP0005
Study Mode: Full Time Programme Component

Apply online: **www.wolvcoll.ac.uk/apply**