Science
WJEC Level 3 Applied Medical Science

Entry Requirements: Combined Science 55 and a 4 in Maths

The main purpose of this two year course is to provide learners with the knowledge, understanding and skills to support progress to higher education or straight into employment in areas of medical science, such as job roles in physiological sciences or clinical laboratory services. It is also a good course for those wanting to study nursing, paramedic studies or other NHS roles.
The course comprises of 6 units and is equivalent to a full A level. Each unit has a clear purpose which focuses the learning of scientific knowledge, understanding and skills in a meaningful context.

Year 1

- Human health and disease (externally examined) - This unit develops knowledge and understanding of human anatomy and physiology. The unit will develop an understanding of the function of organ systems and some problems that can occur in these systems.
- Physiological measurement techniques - This unit develops knowledge and understanding about the physiological measurements that can be made to assess the function of major body systems. It relates anatomy and physiology to physiological measurement test results, through an understanding of the principles of the measurement techniques.
- Medical Science research methods - This unit develops knowledge and understanding of planning, conducting and reporting of research in medical sciences using a range of methodologies and techniques. It is intended to enable the acquisition of the necessary knowledge and skills to carry out research in order to obtain meaningful information. It also seeks to promote an understanding of the processes involved in drawing meaningful inferences from research data.

Year 2

- Medicines and treatment of disease - This unit develops knowledge and understanding about the science of medicines, and how they work through their interactions with body systems. It also introduces cancer, its relationship to genetics, and the range of therapeutic treatments available.
- Clinical laboratory techniques (externally examined) - This unit develops knowledge and understanding about the clinical laboratory techniques that can be used to assess body functions. It relates knowledge and understanding of human physiology and biochemistry to clinical measurement test results through an understanding of the principles of the measurement techniques.
- Medical case study (externally examined) - This unit is the overall synoptic unit for the Diploma qualification. It provides the opportunity for candidates to demonstrate their understanding of the connections between the other five units of this medical science qualification. The content of this unit requires candidates to apply skills, techniques, knowledge, understanding and concepts from across the qualification content in order to complete the required assessment

What will I be doing in lessons?

The course is based around applying scientific ideas and techniques in real-life medical contexts. Learning activities will include practical work, independent research, class discussions, presentations, online interactive tutorials, worksheets and note taking.

As well as knowledge and understanding of the science used in a variety of areas you will develop the following skills:

- Using apparatus skilfully and safely
- Producing and recording valid and reliable measurements and observations
- Presenting and analysing data
- Research skills
- Identifying and evaluating resources
- Clarity of oral and written expression
- Discussion and presentation skills
  Making notes

How will it be assessed?

Assessment is through a balance of externally (170 hours) and internally (190 hours) assessed units over the two years. External assessment is of two types: an externally set and marked task based assessment for unit 5 and written examinations for unit 1 and unit 6. The written examinations will include pre-release material and synoptic context based questions based upon all units studied.

And after the course?

There has never been a greater demand for jobs in the healthcare sector. Together with two other level three qualifications, this course will enable you access to a huge range of opportunities in the healthcare sector, many of which currently have shortages. Around 40,000 jobs for nurses and 88,000 jobs for other medical staff have been advertised per year. The Diploma has been developed together by universities and clinical pathology laboratories to provide the skills that will allow you to observe, understand, assess and suggest solutions to real world medical problems and challenges these jobs require.

The main purpose of the qualification is to provide learners with the knowledge, understanding and skills in key scientific principles to support progress to higher education or employment in areas of medical science, such as job roles in physiological sciences or clinical laboratory services. The qualification covers the key topic areas of health, physiology and disease, as well as providing the opportunity to study the areas of pharmacology, physiological measurement, clinical testing and medical research.

A significant proportion of career opportunities in this sector are at degree level. When supported by other appropriate qualifications, the level 3 diploma in medical science will enable progression to higher education to a range of degree and higher applied programmes in the biomedical science, life sciences, and physiology sectors. A range of degrees in these areas can lead to jobs roles including audiologist, neurophysiologist, gastrointestinal physiologist, respiratory physiologist or clinical perfusionist.

Alternatively moving straight into paid work after this course is possible in laboratories including hospital, research, school, college, forensic science or quality control facilities.