

**Curricular Area:** Science

**Course Title:** Human Biology Higher

### **Course Description**

This course is for students who want to study Biology further. It is an ideal grounding for further study in higher education in many areas of Science, or for vocational training in many health related occupations.

The course has four units

- **Human Cells:** how cells divide and differentiate, structure of DNA and its replication, gene expression, how genes and proteins are involved in health and disease, human genomics, metabolic pathways, cellular respiration and how much cells use energy systems
- **Physiology and Health:** reproduction, fertility and its hormonal control, ante- and postnatal screening, arteries, capillaries and veins, structure and function of the heart, pathology of cardio vascular disease and blood glucose levels and obesity
- **Neurobiology and Communication:** the nervous system, perception and memory, communication and social behaviour
- **Immunology and Public Health:** the body's defences against disease including non-specific and specific cellular responses, the transmission and control of infectious diseases, active immunisation and vaccination and the evasion of the specific immune response by pathogens



### **Entry requirements**

National 5 Biology, grade A or B

### **Presentation level**

Students may be either presented for the 3 units at SCQF level 6 or for the final exam at Higher level.

### **Assessment**

Students who are working towards achieving SCQF level 6 Human Biology will sit Key Area assessments, testing their ability to recall knowledge related to key areas of content and successfully perform solving problem skills.

Students who are working towards passing the final Higher Human Biology exam will sit more demanding assessments with questions that test the application of their knowledge to new situations. All students will be applying skills of scientific enquiry throughout the course.

There is an Assignment (worth 20% of the final mark) and an exam, both of which are externally marked. During the Assignment, students will carry out an experiment and do some research into a relevant topic in Human Biology and compare their results to published data on the same theme. The student then present their findings in a written report The majority of the marks will be awarded for applying scientific inquiry and analytical thinking skills. There will also be a prelim exam.

### **Home Study Expectations**

Students are issued with home study every week. Home Study tasks will vary and could include research, consolidation of learning, practicing data handling skills or extended pieces of writing. Students will be also be expected to spend 60 minutes each week reading over their notes.

### **Possible next level of study**

Higher Human Biology  Advanced Higher Biology

### **Wider Achievement Opportunities**

Students have many opportunities to explore and develop their investigative and practical skills in Biology. The ability to write extended pieces of text to express scientific ideas and knowledge are also developed. Numeracy skills are consolidated.

### **Possible career path**

Sport and exercise careers, research in laboratories or the natural environment, health care, food related careers, environmental management and conservation, education, biotechnology, forensic science, Science advisors for politics and policy makers, consultants on economic impact of biological issues, Science writing and communication, art: illustrations in Biology textbooks, magazines and many more.

For more information see <https://www.societyofbiology.org/careers-and-cpd/careers/make-a-difference>