Biology
Higher

Why take this course?
This Course allows learners to develop deeper understanding of the underlying themes of biology: evolution and adaptation; structure and function; genotype and niche. Within each of the Units, the scale of topics ranges from molecular through to whole organism and beyond. In addition, to increase the relevance of the Course, within each Unit the most relevant applications of biological understanding are highlighted.
The purpose of the Course is to develop learners' interest and enthusiasm for biology in a range of contexts. The skills of scientific inquiry and investigation are developed, throughout the Course, by investigating the applications of biology. This will enable learners to become scientifically literate citizens, able to review the science-based claims they will meet.

To succeed in this course, you need…
The correct application and attitude towards study both in theoretical and practical situations.
For entry to this Course learners would normally be expected to have attained the skills, knowledge and understanding required by the following National 5 Biology Course.
Good literacy and numeracy skills are essential and will be developed in context throughout the course.

Course structure and Content
The course is divided into 3 units: DNA and the Genome; Metabolism and Survival; Sustainability and Interdependence.
Unit 1 DNA and the Genome
Building on knowledge from Cell Biology in National 5, this unit looks in greater depth at the current knowledge, application and developments in our understanding of the cell. Areas include DNA structure and replication, control of gene expression, cellular differentiation, structure of the genome, mutations, evolution, and genomic sequencing.
Unit 2 Metabolism and Survival
This unit takes a more in-depth study of multicellular organisms, their systems and physiological responses to their environments. Areas of study include metabolism in organisms; metabolic pathways and their control, cellular respiration, metabolic rate, strategies for dealing with environmental extremes, enzymes, genetic control of metabolism and the use of micro-organisms in developmental research.
Unit 3 Sustainability and Interdependence
This unit studies and develops ideas of human's interactions and impacts upon the environment, as well as considering the complex interactions of plants and animals with each other.
Main topics in this unit include food production, plant growth and productivity, animal welfare and behavioural indicators, symbiosis, social behaviour, biodiversity and conservation.

Course Assessment (Subject to change by SQA)
The candidates will be assessed within two question papers, requiring demonstration of the breadth of skills, knowledge and understanding acquired from across the Units in unfamiliar contexts and/or integrated ways.
The question papers assess the application or extension of knowledge and/or skills in unfamiliar situations, practical and theoretical contexts. Paper one is multiple choice and paper two is restricted and extended response questions.

Where might this course take me?
Pupils studying Biology will soon appreciate the employment opportunities this opens up to them within Orkney and beyond in, for example, medical and veterinary sciences, genetics, agriculture, fish farming, marine biology, renewable energy, food technology and nature conservation.
Higher Biology is also the preferred and usual entry route to Advanced Higher Biology and other Biological Science courses.