

**Introduction**

Academic study	1
Advanced Higher	2
Higher and National 5	2
Non-contact time	2

**Subjects leading to National Qualifications**

	AH	H	N5	
Art and Design (including Art Folio)	✓	✓		3
Biology	✓	✓		5
Business Management	✓	✓	✓	7
Chemistry	✓	✓		10
Classical Studies	✓	✓		12
Computing Science	✓	✓	✓	13
Drama	✓	✓		16
Economics	✓	✓		18
Engineering Science	✓	✓	✓	20
English	✓	✓	✓	22
Environmental Science		✓		24
Geography	✓	✓		25
Health and Food Technology		✓		27
History	✓	✓		28
Latin	✓	✓		30
Mathematics: Mathematics, Mechanics, Statistics	✓	✓	✓	31
Modern Languages: French, German, Mandarin, Spanish	✓	✓		36
Modern Studies	✓	✓		38
Music	✓	✓	✓	40
Philosophy		✓	✓	42
Physical Education	✓	✓		43
Physics	✓	✓		45

**Other subjects & resources**

High Performance Sport	(no exam)	47
PE & Games	(no exam)	48
Personal, Social and Health Education	(no exam)	49
Library and Information Centre		50

***It should be noted that the School reserves the right not to run a course if the number of pupils choosing that subject in any given year does not justify it.***

# Form 6 Curriculum

## Introduction

The Form 6 experience should be a rewarding, fulfilling and, above all, enjoyable final year at the High School of Dundee. F6 are expected to be responsible for themselves and others. In return, the school regards them as young adults able to act independently and co-operatively. As ambassadors for the school they are one of its most valued assets and along with this comes a range of expectations and privileges.

F6 are expected to involve themselves in three central areas:

- an individual course of academic study
- personal development and enrichment
- service (to the school and the wider community).

The focus for F6 should be demanding academic study, which offers pupils the chance to specialise and prepare for Higher Education and the world of work. In addition, this final year at school should allow pupils to mature and grow as individuals within a supported yet challenging environment.

## Academic study

This will vary according to the level of study. Subject choice must take account of the entry requirements made by Higher or Further Education institutions or employers. Individual pupils' aims should be realistic and achievable.

The choice of subjects and the level of study should also demonstrate progression and, wherever possible, breadth and enrichment.

- **Progression** is normally achieved by attempting at least one subject at Advanced Higher level in F6.
- **Breadth** can be achieved by starting one or more new subjects at Higher or National 5 level.
- **Enrichment**; two periods of enrichment activities are included in the timetable, as they were in Form 5. Pupils are also encouraged to add additional activities after consultation with staff. Options include:
  - Practical Cookery
  - helping in the Junior Years, Learning Skills department or Library
  - supporting the work of the PE department.

The extent to which this will operate will greatly depend on the flexibility of the final timetable and on staff availability.

Pupils who have achieved mainly A passes at Higher in F5 will normally be expected to pursue two or three Advanced Highers, together with one subject at Higher and perhaps one subject at a lower level. Some pupils, who may be advised not to attempt an Advanced Higher, should study a minimum of three subjects at Higher and one at a lower level.

### **Advanced Higher**

Advanced Higher is the most demanding level of study offered in Scottish schools and represents the correct challenge for many of our F6 pupils. The courses demand a high level of commitment and an increased level of independent study.

The research elements, written exercises and project work are undertaken with less rigorous staff supervision than previously and pupils increasingly progress to accept more personal responsibility. In particular, they are called upon to organise and prioritise their work to meet both school and SQA deadlines.

### **Higher**

The SQA Higher subjects available are numerous and varied and built around the F5 column structure. For some pupils, they afford an opportunity for progression from National 5 subjects not pursued in F5. For others, they are an opportunity to add breadth by starting a new subject. A 'crash' Higher (undertaken in one academic year) can be a demanding but very satisfying new challenge and will be the last realistic opportunity to start a new subject in the period of formal school education. Such a challenge can also prove to be an excellent measure of a pupil's ability to cope with handling a large amount of information and material in a short space of time and can be a good predictor of success in the future.

### **National 5**

The main function of pursuing National 5 in F6 is to provide breadth in a less rigorous context.

### **Non-contact time**

Most F6 pupils will have time when they are not timetabled in a department. A sensible proportion of this non class / teacher contact time will be devoted to private study in the designated F6 study area or under supervision in the library, or fulfilling the service element of F6. This service element is primarily carried out in our Learning Support Department or in assisting in our Junior School. Both the F6 study area and the library are equipped with IT facilities.

## **Art and Design** (Head of Department: Mr A B Kerr)

### **Folio**

**Pupils who have aspirations to progress to Art courses in tertiary education are strongly recommended to undertake the Folio course.** This will enable the production of a portfolio of the required depth and variety for submission in support of their art school application. The course is very flexible, to allow pupils to undertake personal projects that are specifically tailored to their individual strengths and to develop fully their potential. With teacher assistance, pupils are expected to generate and develop personal lines of enquiry and areas of work. Folio pupils are strongly encouraged to work more independently and to accept more responsibility for the organisation and planning of their work.

### **Advanced Higher**

The AH course requires the pupil to choose **either** a Design Activity or an Expressive Activity. There are a number of possible permutations, to allow pupils more flexibility within the course structure, and they also have the opportunity to specialise in one focused area of personal interest. Pupils will be asked to be experimental in their approach when devising their practical folio (a maximum of 16 A1 single-sided sheets). Pupils are also required to complete a 2000-word essay (contextual analysis) and a written review of their work (evaluation).

All three sections will be sent to the SQA for external marking

<b>1</b>	Practical folio	64 marks
<b>2</b>	Contextual analysis	30 marks
<b>3</b>	Evaluation	6 marks

Advanced Higher requires 7 periods per week, all of which are timetabled with a teacher.

**NB Folio and Advanced Higher courses require a very high degree of personal commitment, motivation and independence, and also a mature attitude to work.**

## Higher

The Art and Design course consists of three separate assessable elements which are studied concurrently throughout the session.

These elements are:

1. Design Activity
2. Expressive Activity
3. Art and Design Studies

**1 Design Activity** offers pupils the opportunity to undertake practical design projects. Pupils, with teacher assistance, devise a design brief specifically suited to their own personal interests and abilities. By using the 'design process' (investigation, development, solution and evaluation) to create their designs, pupils are able to further their problem-solving and decision-making skills. This is an opportunity for pupils to work with media to create 3D outcomes.

**2 Expressive Activity** involves exploring and developing an individually-chosen theme and producing an outcome in a suitable medium. This aspect of the course focuses predominantly on exploring and improving the individual's media-handling abilities. Pupils are encouraged to find their own style, whether it be a more expressive style or a tighter approach to creating 2D work. Most of the tasks will require pupils to draw and paint; they will have access to a range of materials.

**3 Art and Design Studies** encourages pupils to develop powers of analysis and appraisal by researching selected artists and designers and evaluating appropriate examples of their work.

## Assessment

A Practical Folio containing the Design Activity and the Expressive Activity is sent to the SQA for assessment. This is worth 200 marks (100 marks for each project). Art and Design Studies is assessed by a 2-hour exam in which written responses to specific questions are required. 60 marks are allocated to this course element.

Although very similar in concept and content to National 5, Higher Art and Design offers pupils the opportunity to work more independently on projects which are specifically designed to suit their own interests and abilities, and also to assume more control and responsibility for the direction of their work.

## **Biology** (Head of Department: Dr E Duncanson)

### **Advanced Higher**

The course is based on integrative ideas and unifying principles of modern biological science. It covers key aspects of life at the molecular scale and extends to aspects of the biology of whole organisms that are among the major driving forces of evolution. In addition, the course aims to develop a sound theoretical understanding and practical experience of experimental investigative work in biological science. As well as providing an excellent grounding for future study of biology and biology-related subjects, the course also equips all learners with an understanding of the positive impact of biology on everyday life. Other learners may choose this course because they have a particular interest in the subject and wish to take the opportunity of studying it in depth.

The course comprises 3 units and a Value Added Project:

**1 Cells and Proteins:** Learners will develop knowledge and understanding of the proteome, synthesis and secretion of proteins, protein structure, binding and conformational change; membrane proteins; detecting and amplifying a stimulus; communication within multicellular organisms and protein control of cell division.

**2 Organisms and Evolution:** Learners will develop knowledge and understanding of evolution from the impact of drift and selection on variation; the role of sexual reproduction, behaviour, using techniques of ethology, and parasitism in the evolution of organisms.

**3 Investigative Biology:** Learners will develop knowledge and understanding of the principles and practice of investigative biology and its communication. The unit covers scientific principles and processes, experimentation and critical evaluation of biological research.

### **Project – Independent Investigation**

The purpose of the project is to allow the learner to carry out an in-depth study of a biological topic. This is an open-ended task which may involve a significant part of the work being carried out without close supervision. The learner will extend and apply the skills of autonomous working. This will include independent and rational decisions based on evidence and interpretation of scientific information, and the analysis and evaluation of their results. This will further develop and enhance their scientific literacy. The project report is submitted for external assessment.

### **Recommended entry**

As the Advanced Higher Course builds on concepts from National 5 and Higher Biology, students would be expected to have attained Higher Biology.

### **Assessment**

Internal assessment for reporting consists of end-of-unit tests and the prelim exam. To gain the Advanced Higher course award, pupils must complete the external course assessment consisting of a written question paper and a project. The external course assessment will provide the basis for grading attainment in the Advanced Higher course award.

The question paper is one exam, consisting of multiple-choice structured questions and extended-response questions testing knowledge and understanding, problem solving and analytical skills. The exam is worth 100 marks and the project report will contribute 30 marks.

## **Higher**

The course enables learners to develop and apply knowledge and understanding of biology and form an appreciation of biology's role in scientific issues and relevant applications of biology, including the impact these could make in society and the environment. Scientific inquiry and investigative skills are developed, including analytical thinking skills and evaluation in a biology context. The course may provide progression to Advanced Higher Biology or further study, employment or training.

The Higher Biology course offers a broad and up-to-date selection of concepts and ideas relevant to the central position of life science within our society. Learners will develop a deeper understanding of the underlying themes of biology; evolution and adaptation, structure and function, genotype and niche and the scale of topics ranges from molecular through to whole organism and beyond.

The course consists of three mandatory units:

### **1 DNA and the Genome**

This covers the structure and replication of DNA, gene expression, and the genome as well as exploring the molecular basis of evolution and biodiversity. The study of gene expression at a cellular level leads to an understanding of differentiation in organisms.

### **2 Metabolism and Survival**

The Metabolism and Survival Unit covers the central metabolic pathways of ATP synthesis by respiration and how control of such pathways is essential to cell survival. In whole organisms the unit considers adaptations for the maintenance of metabolism for survival and examines the importance of the manipulation of metabolism in microorganisms, both in the laboratory and in industry.

### **3 Sustainability and Interdependence**

This covers human dependence on sufficient and sustainable food production from a narrow range of crop and livestock species, focussing on photosynthesis in plants. The importance of plant productivity and the manipulation of genetic diversity to maintain food security are emphasised. The unit also covers interrelationships and dependence through symbiosis and social behaviour and human impact on the environment.

### **Recommended entry**

Pupils would normally be expected to have attained the skills, knowledge and understanding required for successful completion of the National 5 Biology Course.

### **Assessment**

Internal assessment for reporting consists of end-of-unit tests and the prelim exam. To gain the Higher course award, pupils must complete the external course assessment consisting of a written exam paper and an assignment. The external course assessment will provide the basis for grading attainment in the Higher course award.

## **Business Management** (*Head of Department: Mr N S Higgins*)

### **Advanced Higher**

The course prepares pupils to play an active part in Scotland's vibrant and innovative business culture, by equipping them with an understanding of the local, national, and global nature of business. This includes the challenges posed by globalisation and the effect it has on Scotland's businesses and the business environment.

This fascinating course is suitable for pupils who are interested in entering the world of business, as an employee, a manager, or a self-employed person. It offers excellent preparation for, and transition to, higher education institutions, by developing many transferable skills such as autonomous learning

#### **The external business environment**

Pupils will develop a detailed knowledge and in-depth understanding of the effects of external influences on organisations operating at a multinational and global level. They will gain an in-depth understanding of current issues affecting organisations in an economic, social and environmental context, and consider the effectiveness of various courses of action.

#### **The internal business environment**

Pupils will expand their knowledge of both traditional and contemporary management theories used by organisations to maximise efficiency, and evaluate theories relating to internal factors that influence the success of teams.

#### **Evaluating business information**

This part of the course develops skills in evaluating a range of business information used by organisations to reach conclusions.

### **Assessment**

**1 Question paper** Pupils are given the opportunity to evaluate the effectiveness of business activities and decisions in unfamiliar business-related contexts, apply business and management concepts, and leadership theories, and communicate complex business ideas and opinions. This is worth 80 marks.

**2 Project** The requirement is to research, analyse, and evaluate business information to reach conclusions and make recommendations; 40 marks.



## **Higher**

This course may be taken as a 'crash' Higher.

It is ideal for pupils who want to study business on leaving school or want an insight into how businesses work. It explores the important impact businesses have on everyday life, thereby giving pupils experiences which are topical. It develops skills for learning, life and work that will be of instant use in the workplace, and is an excellent course to take alongside Economics.

The course consists of five areas of study:

### **1 Understanding business**

Pupils develop their understanding of how large organisations in the private, public and third sectors operate, make decisions and pursue their strategic goals. We analyse the impact that internal and external environments have on an organisation's activity, and consider the implications of these factors.

### **2 Management of marketing**

This unit builds an understanding of the importance of effective marketing systems to large organisations. We look at the relevant theories, concepts and procedures used by organisations to improve competitiveness and customer satisfaction.

### **3 Management of operations**

We look at the importance of effective operations systems to large organisations in this unit. This includes learning about the relevant theories, concepts and procedures used by organisations to improve and/or maintain quality, and the importance of satisfying both internal and external customers' needs.

### **4 Management of people**

This unit investigates the issues that large organisations face when managing people. We will learn about the relevant theories, concepts and procedures used by organisations when dealing with staff, including retention, training, leadership and motivation.

### **5 Management of finance**

Pupils develop their understanding of the issues that large organisations face when managing finance. We learn about the relevant theories, concepts and procedures used by organisations in financial situations.

## **Assessment**

Pupils are assessed using a combination of the final exam, worth 75%, and the assignment, which is 25% of the final mark.

The assignment will require the pupils to conduct research into an aspect of a business of their choice and to produce a report, which will be submitted to the SQA for marking. This will develop the practical skill of writing a business report and the ability to analyse and evaluate a current business issue, such as examining the impact of a firm's marketing mix.

## National 5

Business plays an important role in society. We all rely on businesses to create wealth, prosperity, jobs and choices and it is therefore essential for society to have effective businesses and business managers to sustain this role. National 5 Business is an exciting and engaging course that will help pupils make sense of the business environment that we experience in our everyday lives, and may provide the skills to kick-start a business in the future.

The course looks at five areas:

**1 Understanding business** Pupils are introduced to the business environment while developing skills, knowledge and understanding of enterprise, and the role of different types of business organisations in society. They also learn about the internal and external environments in which organisations operate, and the role of stakeholders in business.

**2 Management of marketing** Pupils develop skills, knowledge and understanding of the importance to organisations of having effective marketing systems. They learn about the processes and procedures organisations use to maintain competitiveness, and how marketing can be used to communicate effectively with consumers, maximising customer satisfaction.

**3 Management of operations** Pupils develop skills, knowledge and understanding of the importance to organisations of having effective operations systems. They learn about the processes and procedures used to maintain quality through the effective management of suppliers, inventory, and methods of production in an ethical manner.

**4 Management of people** Pupils develop skills, knowledge and understanding of the issues facing organisations when managing people. They learn about the theories, concepts and processes relating to human resource management, and how employees contribute to the success of organisations.

**5 Management of finance** Pupils develop skills, knowledge and understanding of the issues facing organisations when managing finance. They learn about the basic theories, concepts and processes relating to financial aspects of business, when preparing and interpreting information to solve financial problems facing organisations.

## Assessment

All areas of the course are externally assessed using a combination of the final exam, worth 75%, and the project, which is 25% of the final mark.

The project, marked by SQA, allows pupils to look at a business issue of their choice, assess evidence from a range of different sources and make recommendations. For example, they may choose to examine a firm's marketing mix, building their ability to analyse and evaluate real-world business issues.

## **Chemistry** (*Head of Department: Dr N A Kiernan*)

### **Advanced Higher**

This course is designed for pupils who wish to build beyond the knowledge and skills developed at Higher level. It is excellent preparation for those wishing to study the natural sciences or engineering in Year 1 of any undergraduate STEM course, including medicine, pharmacy, dentistry and veterinary medicine.

Chemistry, the study of matter and its interactions, plays an increasingly important role in most aspects of modern life. The Advanced Higher course allows pupils to develop a deep understanding of the nature of matter, from its most fundamental to the macroscopic interactions driving observable chemical changes. Pupils will develop their abilities to think analytically, creatively and independently to make reasoned evaluations and to apply critical thinking to unfamiliar contexts to solve problems.

Seven periods will be timetabled to cover the theory of the course and two further periods will be arranged outside of these lessons; to allow small groups to be overseen by a teacher during practical project work in our dedicated Advanced Higher Chemistry laboratory.

Pupils embarking on the Advanced Higher Chemistry course should have obtained an A or B grade at Higher.

The course content develops a wide range of practical and analytical skills, alongside knowledge and understanding from the following topics within four key areas of chemistry:

- **Inorganic Chemistry:** electromagnetic radiation and atomic spectra, atomic orbitals, electronic configurations and the periodic table, transition metals.
- **Physical Chemistry:** chemical equilibrium, reaction feasibility, kinetics.
- **Organic Chemistry and Instrumental Analysis:** molecular orbitals, organic synthesis, stereochemistry, experimental determination of structure, pharmaceutical chemistry.
- **Researching Chemistry:** Common chemical apparatus, general practical techniques, stoichiometric calculations, gravimetric analysis, volumetric analysis.

### **Assessment:**

Pupils will be assessed on completion of the course by an external SQA written examination worth 110 marks (scaled to 120).

The examinable component is:

Question Paper: multiple choice and section 2 (3 hours)

## Higher

The course is designed for pupils who wish to acquire a deeper understanding of the central concepts of Chemistry beyond National 5 level. Higher Chemistry is a one-year course and its study provides pupils with core scientific knowledge and understanding of the physical and natural world. As such, it serves as a central science which links with both Higher Physics and Higher Biology.

Chemists play a vital role in the research, development and production of new everyday materials with an increasing focus on finding sustainable solutions.

The study of chemistry will not only benefit those intending to pursue analytical chemistry as a discipline, but as fundamental training for those interested in interdisciplinary STEM careers, such as chemical engineering, forensic science, toxicology, environmental and sustainability sciences and food science and technology. It also provides essential academic qualification for those hoping to study the biochemical sciences and engineering, medicine, pharmacy, dentistry or veterinary medicine.

Pupils embarking on the Higher Chemistry course should have obtained an A or B grade at National 5 and a similar grade in National 5 Maths.

The course content develops a wide range of practical and analytical skills alongside knowledge and understanding from the following topics within four key areas of chemistry:

- **Chemical Changes and Structure:** periodicity, structure and bonding, oxidising and reducing agents.
- **Nature's Chemistry:** systematic carbon chemistry, alcohols, carboxylic acids, esters, fats and oils, soaps, detergents and emulsions, proteins, oxidation of food, fragrances, skin care.
- **Chemistry in Society:** getting the most from reactants, controlling reaction rates, chemical energy, equilibria and chemical analysis.
- **Researching Chemistry:** Common chemical apparatus, general practical techniques, reporting experimental work.

### Assessment:

Pupils will be assessed on completion of the course by an external SQA written examination worth 120 marks.

The 2 examinable components are:

Paper 1: multiple choice (25 marks)

Paper 2: section 2 (95 marks)

## **Classical Studies** (*Head of Department: Mr E Faulkes*)

### **Advanced Higher**

This course builds upon the knowledge gained by students at National 5 and Higher and involves a deeper study of the civilisations of Greece and Rome. It can however be studied as a crash Advanced Higher by those who already have Higher History or a similar subject.

The course consists of two units:

**1 History and Historiography:** the study of a particular aspect of Greek and Roman civilisation. This ties in closely with the Power and Freedom unit studied for Higher Classical Studies. Students will read the works of some of the Greek and Roman historians upon whom our knowledge of Greek and Roman societies depends. We shall investigate the aims and methods of these historians, including their attitude to evidence and how they selected and arranged their material. Assessment of this unit will be by Unit Assessments, as in Higher, and by an external exam which will require candidates to

- comment on extracts from the historians they have read
- write two essays.

**2 A Dissertation** of 4000 words on some aspect of the Greek and Roman world on a subject of the candidate's own choice.

### **Higher**

The course is designed either for those who have studied a National 5 in the subject or can be taken as a crash Higher by those with suitable grades in similar subjects.

We will study the politics and society of ancient Athens and Rome during the period when these two states were at the height of their power. We shall investigate what it meant to be a citizen in Athens and Rome, how the governments of Athens and Rome financed their activities, what the role of women was, and the role and treatment of slaves.

The study of these topics will involve examining a variety of types of evidence, including archaeological evidence and the writings (in English translations) of Greek and Roman authors. A major element of the course is the comparison of Athenian and Roman society with our modern society. We also study of Classical literature in translation, particularly Classical Drama for the insight they offer into a variety of social issues including the individual and authority, gender conflict and the role of women, the generation gap, nationalism and anti-nationalism, tradition and change, and social exclusion.

There are three taught units: Life in Classical Greece, Classical Literature, and Life in the Roman World. There is also an added value unit which takes the form of an extended essay prepared on a subject of the candidate's own choice.

These three units are studied in parallel. The external assessment will consist of a single paper. The preparation for the Added Value Unit will be done for the most part in class time, using the extensive library that the Classics Department possesses in the Classics classrooms.

## **Computing Science** (Head of Department: Mr S B McBride)

### **Introduction**

Information technology skills are increasingly viewed as essential by employers and universities. The Computing Science department offers a range of courses aimed at students wishing to develop their information technology skills, whether they be general vocational skills to help them in the workplace, or more specific technical training designed to assist students in career paths directly involving computers.

### **Advanced Higher**

Computing science is vital to everyday life — socially, technologically and economically; it shapes the world in which we live and its future. Computing is embedded in the world around us and plays an important part in many aspects of our lives at home, work and at leisure. Our society needs computing professionals with the imagination and ability to extend and design the computers, programs, applications and networks of the future in fields which include science, education, business and industry.

The course provides a broad and challenging exploration of these areas, focusing on the development of advanced programming, development and research skills to gain an understanding of the role and impact of contemporary computing technologies. Because of its relevance and its focus on developing transferable skills it will be valuable to many learners, particularly those considering a career or further study in computing, IT and related disciplines.

### **Prerequisites**

It is expected that pupils will have undertaken Higher Computing Science.

### **Assessment**

The overall grade for the course is calculated by combining marks from the coursework assessment and the final examination:

Project	50%
Final examination	50%

### **Course topics**

The course consists of four units, which are explored through a variety of means including teacher-led discussion, independent and group practical work, and self- and peer-evaluation.

These are:

- Software Design and Development
- Databases Design and Development
- Web Design and Development
- Computer Systems

The course enables candidates to:

- understand and apply computational-thinking skills across a range of computing contexts
- extend and apply knowledge and understanding of advanced concepts and processes in computing science

- apply skills and knowledge in analysis, design, development, implementation, testing, and evaluation to a range of digital solutions with increasingly complex aspects
- apply creative problem-solving skills across a range of contexts
- develop autonomous learning, investigative, and research skills
- communicate advanced computing concepts clearly and concisely, using appropriate terminology
- develop an informed understanding of the role and impact of computing technologies in influencing our environment and society

## Higher

The Course provides an understanding of the technologies that underpin our modern, digital world and develops a wide range of transferable skills. It brings together elements of technology, science and creative digital media and has wide-ranging social implications, providing an excellent opportunity for making links across learning in the senior phase. Like National 5, the course covers large amounts of the content using practical activities.

At this level, the Course will cover a core of advanced concepts which underpin the study of computing science, and explore the role and impact of contemporary computing technologies, providing an insight into the challenge, excitement and reward to be found in these areas. The study of National 5 computing science is extended in the Higher with pupils gaining deeper understanding and skills in a range of disciplines.

## Prerequisites

It is expected that pupils will have undertaken National 5 Computing Science but this is not set in stone. Often pupils decide of a different career path or realise the importance of technology in the modern world and select a 'crash higher'. Each case would be discussed with the department.

## Assessment

The overall grade for the course is calculated by combining marks from the coursework assessment and the final examination:

Coursework	31%
Final examination	69%

## Course topics

The course consists of four units, which are explored through a variety of means including teacher-led discussion, independent and group practical work, and self- and peer-evaluation.

These are:

- Software Design and Development
- Databases Design and Development
- Web Design and Development
- Computer Systems

The topics of study include:

- designing, implementing, testing and evaluating computer programs
- designing and implementing static and interactive web pages/sites
- designing and implementing database systems
- understanding and developing problem-solving algorithms
- understanding the hardware requirements of an information system
- understanding the security implications of running an information system
- investigating and evaluating emerging and innovative technologies
- considering the impact of computing on the environment and society.

The units also provide an opportunity to develop the following transferable skills:

- problem analysis
- design and modelling
- application of computational thinking
- critical thinking and evaluation
- communication of key facts using appropriate terminology.

## National 5

The study of National 5 Computing Science is appropriate for general university entrance, entrance into computer-based as well as non-technical courses, and for pupils aiming for a Higher or Advanced Higher Computing qualification as well as those who wish to have a range of general information technology skills to assist them in a wide array of careers. It is expected, although not compulsory, that pupils will have undertaken an introductory information technology course in Forms 1 and/or 2.

The course consists of two units. Each unit is completed by passing an internal Unit Assessment and successfully carrying out a series of practical tasks.

**1 Software Design and Development** explains the methods and procedures used by computer professionals in developing computer software for a specific purpose. It looks at practical issues to do with ensuring requirements are met, and allows real tasks to be taken through from the initial problem specified by a client to the final tested program. The unit will also allow students to learn two programming languages to an extent that they can compare the features of both.

**2 Database Design and Development** will allow students to develop knowledge, understanding and practical problem-solving skills related to information system design and development through a range of practical and investigative tasks. Structured Query Language will be introduced at this stage.

**3 Web Design and Development** allows pupils to experience the creation of web based content. They will explore CSS, HTML and wireframing for design.

**4 Computer Systems** covers data storage, graphics, binary and theory of the processor.

## Course Assessment

The overall grade for the course is calculated by combining marks from the coursework assessment and the final examination:

Coursework	31%
Final examination	69%



## **Drama** (*Head of Department: Mrs L M Drummond*)

### **Advanced Higher**

This course articulates with Higher Drama and is a natural progression for those pupils who wish to extend their knowledge and skills in either Acting, Directing or Design. The components of study are two internal units, an external practical exam and a project which will also be externally marked by the SQA. Pupils who are considering this course should ideally have a strong interest in theatre and/or film studies. Critical core skills for learning, life and work are embedded in the course content and structure.

The internal units are:

#### **1 Drama Skills**

In this unit, learners will be required to provide evidence to demonstrate their knowledge and skills in devising, directing and performing through the exploration of a key practitioner. They will use their skills to create and present a devised drama. Learners will evaluate their work as an actor or director.

#### **2 Drama: Production Skills**

In this unit, learners will provide evidence to demonstrate their knowledge and understanding of drama through the exploration of a key practitioner. Learners will be required to analyse the chosen practitioner's influences, theories, practice and key productions. They will view and analyse a live theatrical event, considering performance concepts and effectiveness.

A minimum of two practitioners should be studied, with each unit exploring a different drama practitioner.

These units will be assessed internally on a pass/fail basis and may be taken as stand-alone units.

As Advanced Higher courses are preparation for Higher Education, pupils should be prepared for some independent study and research. They will be required to attend regular theatrical events to aid their studies.

### **Course assessment structure**

- |   |                       |          |
|---|-----------------------|----------|
| 1 | Practical assessment  | 50 marks |
| 2 | Assignment            | 20 marks |
| 3 | Project/Dissertation. | 30 marks |

## Higher

This Higher course provides directors, designers and actors with a creative and collaborative style of learning. Drama has long been acknowledged as an excellent medium for personal growth and social development; for the promotion of personal and interpersonal skills and creative and analytical thought. It is particularly effective for the development of communication skills in both written and spoken modes.

**Entry requirements:** National 5 Drama and/or National 5 Art and Design

## Course

Higher Drama develops the central concept of exploring relationships, form, structure, genre and theatrical style. It promotes the candidates' knowledge and understanding of theatre and the social and cultural influences of drama. The course focuses on the skills of acting, directing, design, lighting, sound, costume, make-up, hair and props as production roles. Investigating, analysing and planning in a variety of contexts to show complex production skills are an integral part of the course. There are two main units; Drama Skills and Production Skills. Both these Units prepare pupils for the practical and textual study of their Set Text and Performance. Pupils must attend at least two live theatrical performances. The external components of the course are a question paper and a practical performance. The course will articulate with Advanced Higher in Form 6.

### 1 Drama Skills

In this unit, students will apply complex drama skills and develop ways of communicating thoughts and ideas to an audience as directors and actors. They will learn how to respond to stimuli, including text. They will also learn how to portray character in a range of ways and explore form, structure, genre and style when creating and presenting drama. Students will develop knowledge and understanding of the social and cultural influences on drama. They will also learn how to evaluate their own progress and that of other learners.

### 2 Production Skills

In this unit, students will explore and apply complex production skills for **two** areas of production from either acting, directing, design, lighting, sound, costume, make-up and props. They will learn how to respond to stimuli, including text, to communicate ideas for a production through presentation. They will develop ideas and production skills within their chosen production roles. Both areas will be explored and assessed through research, rehearsal and presentation.

## External Course Assessment

- **Question Paper** – 50 marks  
Testing written analysis of theatrical performance, set text and performance concepts.
- **Performance** – 60 marks  
Demonstrate knowledge, understanding and skills in a practical presentation as an Actor, Director or Designer.

## **Economics** (Head of Department: Mr N S Higgins)

### **Advanced Higher**

At Advanced Higher level, Economics provides pupils with a wide range of contexts that will enable them to analyse, interpret, predict and explain the economic actions of consumers, businesses, governments and other organisations.

The purpose of the course is to extend pupils' knowledge and understanding of current economic issues pertaining to the Scottish, UK and global economies. It will give them an in-depth understanding of how markets are structured and why they can fail.

The course consists of the following units:

#### **1 Economic Markets: Structures and Intervention**

In this unit, pupils will develop the skills, knowledge and understanding that will enable them to critically analyse and evaluate market structures and to analyse market failures and governments' responses to them.

#### **2 National and Global Economic Issues**

Pupils will develop and enhance their skills, knowledge and understanding of current economic issues. They will develop the ability to critically evaluate and discuss the effects of current economic policies, economic reports and economic thinking on the Scottish, UK and global economies.

#### **3 Researching an Economic Issue**

Pupils will plan their research of a current economic issue in order to develop their economic research skills. They will work independently to gather economic evidence from a wide range of sources. They will use the results of their research, apply their knowledge and understanding of economic theory to assist them in drawing conclusions and evaluate the learning gained during the research and writing process.

### **Assessment**

**1 Question paper;** whose purpose is to address challenge and application. These will be assessed by drawing on, and by sampling, the skills, knowledge and understanding from across the course. Pupils will also be required to apply their knowledge and understanding of complex economic concepts and situations. 80 marks.

**2 Project;** whose purpose is to address challenge and application by applying skills, knowledge and understanding from across the course. The project will require pupils to apply research, analytical, evaluative, data-handling and decision-making skills within the context of an economic topic or issue, and present the findings. 40 marks.

## Higher

This course may be taken as a 'crash' Higher.

Economics is an exciting subject that helps us to make sense of what is going on in the UK and the rest of the world. It is about choice and its impact on individuals, businesses and the government, and comprises a range of different applications, from tackling firms that dominate markets to helping provide solutions to climate change, conflict and poverty. It is an excellent course to take alongside Business Management.

The course looks at the role of government, business and global trade and explores the economic environments in which they are set.

The course investigates three areas:

### 1 Economics of the Market

Pupils will carry out activities that will allow them to analyse the economic problem of unlimited wants in relation to limited resources and how this impacts on the daily choices made by us all. They will examine and analyse how supply and demand drives resource allocation and economic production, which will provide them with an in-depth understanding of markets and how they operate.

### 2 UK Economic Activity

Through activities, pupils will learn to analyse government income and expenditure. They will evaluate the role of the public and the private sectors in the economy. They will also develop the ability to assess the policies and other methods used by the government to achieve its economic aims and to assess the effects of the Scottish economy on the UK economy. The unit also allows pupils to consider the implications of government actions and suggest solutions to relatively complex economic problems.

### 3 Global Economic Activity

Pupils will learn how to analyse the global nature of economics. They will explore global trade and the balance of payments and their importance in the UK economy. They will also examine the floating exchange rate system. Lastly, pupils will consider economic features of the European Union, developing countries and emerging economies and their social impact.

## Assessment

The pupils will be assessed using a combination of the final exam, worth 75%, and the assignment, which is 25% of the final mark.

The assignment will require the pupils to conduct research into an economic topic of their choice and produce a report, which will be submitted to the SQA for marking. For example, previous assignments have looked at complex issues such as the impact of aid on poorer countries.

## **Engineering Science** (Head of Department: Mr S B McBride)

### **Advanced Higher**

The Advanced Higher Engineering Science course builds on the Higher qualification. Engineering brings together elements of technology, science and mathematics, and applies these to real-world challenges.

The course provides an excellent opportunity to make links across learning in the senior phase. It encourages candidates to become successful, responsible and creative in using technologies and to develop a range of qualities, including flexibility, perseverance, confidence and enterprise.

### **Prerequisites**

It is expected that pupils will have undertaken Higher Engineering Science.

### **Assessment**

The overall grade for the course is calculated by combining marks from the coursework assessment and the final examination:

Assignment	50%
Final examination	50%

### **Course topics**

The course consists of three course areas, which are explored through a variety of means including teacher-led discussion, independent and group practical work, and self- and peer-evaluation.

These are:

- Engineering contexts and challenges
- Electronics and control
- Mechanisms and structures

The topics of study include:

- researching and investigating complex engineering problems
- designing, developing, simulating, building, testing and evaluating solutions to complex engineering problems in a range of contexts
- applying mathematical techniques to analyse and solve engineering problems
- communicating complex engineering concepts clearly and concisely, using appropriate terminology
- knowledge and understanding of the wide role and impact of engineering on society and the environment, including ethical implications
- in-depth knowledge and understanding of aspects of electronic and microcontroller-based systems, and their application
- in-depth knowledge and understanding of aspects of mechanisms and structures, and their application
- knowledge and understanding of the relevance of energy, efficiency and sustainability to complex engineering problems and solutions
- applying engineering knowledge and understanding, and skills in a range of contexts
- ability to plan, manage and implement a challenging engineering project

## Higher

This course builds on the National 5 qualification. Engineering brings together elements of technology, science and mathematics, and applies these to real-world challenges.

The course provides an excellent opportunity to make links across learning in the senior phase. It encourages candidates to become successful, responsible and creative in using technologies and to develop a range of qualities, including flexibility, perseverance, confidence and enterprise.

## Prerequisites

It is expected that pupils will have undertaken National 5 Engineering Science but this is not set in stone. Often pupils decide on a different career path or realise the importance of technology in the modern world and select a 'crash higher'. Each case would be discussed with the department.

## Assessment

The overall grade for the course is calculated by combining marks from the coursework assessment and the final examination:

Assignment	31%
Final examination	69%

## Course topics

The course consists of three course areas, which are explored through a variety of means including teacher-led discussion, independent and group practical work, and self- and peer-evaluation. These are:

- 1 Engineering contexts and challenges
- 2 Electronics and control
- 3 Mechanisms and structures

The topics of study include:

- analysing engineering problems with some complex features
- designing, developing, simulating, building, testing and evaluating solutions to engineering problems in a range of contexts
- investigating and evaluating existing and emerging technologies
- communicating engineering concepts clearly and concisely, using appropriate terminology
- knowledge and understanding of:
  - the many types of engineering
  - the wide role and impact of engineering on society and the environment
  - the workings of a range of engineered objects
  - key concepts related to electronic and microcontroller-based systems, and their application — key concepts related to mechanical, structural and pneumatic systems, and their application
  - the relevance of energy, efficiency and sustainability to engineering problems and solutions
- applying engineering knowledge, understanding and skills in a range of contexts.

**Note: Presentation at N5 level is an option for pupils studying this course.**

## **English** (*Head of Department: Mrs A D Tevendale*)

### **Advanced Higher**

This course in Advanced Higher is available to pupils who have a pass in English at Higher. A wide-ranging and rigorous study of literature is at the heart of this course, which involves candidates in a major reading programme for the external examination.

### **Assessment:**

The course assessment will take the form of:

1. A Literary Study paper through which learners will write a critical response on drama, poetry or prose. The course is structured to allow pupils the opportunity to study a range of texts - poetry, prose and drama - before selecting their preferred text for the final part of the course and examination.
2. A Textual Analysis paper, on an unseen literary extract, demonstrating an in-depth knowledge and understanding of complex and sophisticated literary text(s).
3. A portfolio, which will contain two pieces of writing. Unlike at Higher, candidates have much more freedom to choose to submit the type of writing that suits them best.
4. A dissertation on a substantial topic of the pupil's own choosing, likely to consist of several poems, a range of short stories, two novels or two plays, although a single text is also allowed. This will require the candidate to work with secondary sources in addition to the primary text(s).

All candidates are encouraged to read as widely as possible. Though this is a flexible course, designed to meet the interests and requirements of the individual, all candidates are issued with a list of target dates for assessments and progress of the Dissertation and Creative Writing folio, which must be met without fail.

## **Higher**

Pupils who had not secured a pass at National 5 at the end of Form 4 may have re-sat National 5 in Form 5, going on to sit Higher in Form 6. This route provides more time to acquire the necessary skills in preparation for the exam.

Throughout the course, pupils will study poetry, prose, drama and media. Teachers will require pupils to be able to participate in class discussion actively and to ask questions to support their learning. They will also work continuously on the production of a Folio consisting of both creative and discursive writing.

## **Assessment**

The externally assessed examination consists of:

- Reading For Understanding, Analysis and Evaluation ( formerly known as Close Reading): pupils will answer questions on two linked non-fiction texts
- Critical Reading: pupils will write a critical essay on a previously studied text and answer a textual analysis of a Scottish text by a previously studied author.
- Folio of writing
- Talk ( Pass or Fail)

The Higher English course is very full and requires a good deal of commitment. Formal homework will be issued on a regular basis and it is essential that this homework is submitted. In addition, pupils will be required to read widely and undertake substantial revision of work covered in class.



## **Environmental Science** (Head of Department: Miss J L Stewart)

### **Higher**

The course in Environmental Science is delivered jointly by the Biology and Geography departments and is particularly, but not exclusively, suited to pupils who have already obtained National 5 Geography, Biology or both.

Environmental Science provides a balanced consideration of the environment, from a national and global perspective, through the study of natural resources, ecology and land use. It seeks to demonstrate the interactions taking place between people and the environment through the principles of ecosystems and contemporary resource use.

### **1 Living Environment**

**Investigating Ecosystems and Biodiversity:** aquatic and terrestrial ecosystems, measuring abiotic factors, sampling plants and animals, identifying flora and fauna.

**Interdependence:** Food webs, energy conversion, biotic factors, endotherms and ectotherms, vegetation succession.

**Human Influences on Biodiversity:** Intensive agriculture, impacts of biodiversity, impacts of acid rain and sewage, global warming, native and non-native species, legislation and policies.

### **2 Earth's Resources**

**Geosphere:** Plate movements, ore minerals, glass making, the formation to the extraction of aluminium, baryte and clay, nuclear power, geothermal power and legislation promoting sustainable use of geosphere.

**Hydrosphere:** Water sources, oceanic circulation, water distribution and uses.

**Biosphere:** Soil structure, seaweed, uses of barley and processed biofuels.

**Atmosphere:** Atmospheric circulation, fractional distillation, uses of neon and argon and advantages and disadvantages of wave power.

### **3 Sustainability**

**Food:** Global strategies to increase food production, EU farming/fishing policies.

**Water:** World demand, improvement and management of water resources, sewage.

**Energy:** Types of Energy, greenhouse gases, Impacts of climate change, national and international legislation on energy.

**Waste Management:** Waste Management, life cycle analysis, legislation on waste.

### **Assessment**

Pupils must demonstrate they can meet the learning outcomes in each of the units through the successful completion of a unit assessment in each. The end of year examination comprises of two question papers. Paper 1 is worth 20 marks and Paper 2 is worth 100 marks and comprises 80% of the final award.

The remaining 20% is gained through the completion of an assignment, in which the pupil will carry out an in-depth study of an environmental science topic.

Higher Environmental Science may lead to a wide range of courses in further and higher education. The nature of the subject and its wide range of transferable skills equip pupils with versatility with regard to employment.

## **Geography** (Head of Department: Miss J L Stewart)

### **Advanced Higher**

The principal aim of Advanced Higher Geography is to develop a detailed understanding of aspects of the contemporary world by using the concepts and techniques of geographical analysis. All pupils who proceed to the Advanced Higher course in Geography will have obtained a good pass at Higher and be committed to developing independent learning in a context of supported study. During the Advanced Higher course pupils are expected to participate in residential field work, currently held in Barcelona and should develop:

- an understanding of the ways in which people and the environment interact in response to physical and human challenges
- general skills of independent research, analysis, synthesis, evaluation and presentation including the use of IT
- expertise in fieldwork techniques
- expertise in the use of a range of maps, diagrams and data processing techniques

The Advanced Higher course comprises three units:

**1 Geographical Methods and Techniques** which include fieldwork methods and techniques, statistical awareness and mapwork.

**2** The production of a **Geographical Study**, limited to 3000 words in length, based on a research topic set in a local context. Pupils are required to apply the skills learned in unit 1.

**3 Geographical Issues:** pupils are expected to produce one critical essay (maximum of 1800 words) based on personal research of a key geographical issue of their choice.

### **Assessment**

Internal assessment is based on the collection of evidence relating to the completion of each of these units. External assessment is based on a written paper which examines each of the geographical methods (30%) and on external marking of the submitted essay and study (70% of the total). Grading of the course award is based on external assessment.

### **Progression**

Advanced Higher Geography may lead to a wide range of courses in further and higher education. Since Geography bridges the arts and sciences, it gives flexibility for higher education courses and offers a wide range of career opportunities.

## Higher

The Geography course is clearly suited to pupils wishing to continue their study of Geography beyond National 5. While most pupils undertaking Higher Geography will have obtained a pass at National 5, a number will come to Geography with no previous experience. The structure of the course does not significantly disadvantage such pupils. As a result of its wide scope and its broad coverage of topics which range from the Humanities to the Sciences, it is also a good choice for pupils wishing to maintain a degree of flexibility with regard to a future career.

### 1 Physical Environments.

- Atmosphere: Atmospheric science, circulation and challenges created by the climate
- Hydrosphere: River basin hydrology and flooding
- Lithosphere: Dynamic coastal environments and glaciated upland areas
- Biosphere: The importance of soils to human life.

### 2 Human Environments.

- Population Geography: population change, management and patterns of migration
- Rural Geography: rural landscapes, change and management
- Urban Geography: urban change and management in the developed and developing world.

### 3 Global Issues

- Development and Health: Social and economic indicators of development, the physical and human factors involved in health and disease, an in-depth study of malaria and strategies for improving health
- Global Climate Change: Local, National and International causes of a changing climate, impacts on society and the environment and strategies to manage and mitigate on a local and global scale.

## Assessment

Pupils must demonstrate they can meet the learning outcomes in each of the units through successful completion of a unit assessment in each. The end-of-year examination comprises of two question papers. Paper 1 is worth 100 marks and Paper 2 is worth 60 marks and is worth 73% of the final award. The remaining 27% is gained through the completion of an assignment produced as a result of field work and subsequent data collection.

This is worth 30 marks and will be written up under controlled conditions in a timeframe of 1h 30m.

## Progression

Higher Geography may lead to Advanced Higher Geography and / or a wide range of courses in further and higher education. The nature of the subject and its wide range of transferable skills equip pupils with versatility with regard to employment.

## **Health and Food Technology** (*Head of Department: Mrs L J Ross*)

### **Higher**

Health and Food Technology builds self-confidence and encourages creativity, imagination and independent working, thus making a very significant contribution to pupils' personal development. It also offers opportunity to develop other essential skills for lifelong learning, such as initiative, resourcefulness and decision-making, all of which will be highly beneficial in the future, irrespective of chosen career.

The Higher Health and Food Technology course addresses contemporary issues affecting food and nutrition, including ethical and moral considerations, sustainability of sources, food production and development, and their effects on consumer choices. Learners analyse the relationships between health, food and nutrition, and plan, make and evaluate food products to a range of dietary and lifestyle requirements.

Learners will be able to:

- analyse the relationships between health, nutrition and food
- develop and apply understanding and skills related to the functional properties of food
- investigate contemporary issues affecting food and consumer choice
- use research, management and technological skills to plan, make and evaluate food products to a range of dietary and lifestyle needs
- prepare food using safe and hygienic practices to meet specific needs.

### **Assessment**

The course assessment will consist of two components:

- Assignment 50%
- Question paper 50%

Both are externally assessed.

The Assignment consists of a technological project. The project is completed in class time under SQA conditions.

It should be noted that the course content is predominantly written work.

## **History** (*Head of Department: Mr G Fyall*)

### **Advanced Higher**

The aims of the Advanced Higher History Course are to acquire depth in the knowledge and understanding of historical themes and to develop the skills of analysing issues, developments and events, drawing conclusions and evaluating sources.

The key theme of study at Advanced Higher level is:

### **The House Divided: USA and the Civil War (1850 - 1865)**

- American society in 1850
- Slavery in the antebellum period
- The problem of territorial expansion
- The 1860 election, secession and the outbreak of war
- The military conflict
- The war at home and abroad
- Leadership during the Civil War
- The Emancipation Proclamation and its consequences
- The election of 1864
- Reasons for Northern victory and Southern defeat

A final exam of 3 hours will be based on 2 essays and 3 source based questions. Pupils will also be expected to research a dissertation on an issue of their own choice, which will be worth  $\frac{1}{3}$  of their final mark.

## Higher

The History course consists of three units:

### 1 Historical study: Britain 1850s - 1979

- An evaluation of the reasons why Britain became more democratic, 1851–1928
- An assessment of how democratic Britain became, 1867–1928
- An evaluation of the reasons why some women were given the vote in 1918
- An evaluation of the reasons why the Liberals introduced social welfare reforms, 1906–14
- An assessment of the effectiveness of the Liberal social welfare reforms
- An assessment of the effectiveness of the Labour reforms, 1945–51

### 2 Historical study: the growth of Nationalism in Germany

- An evaluation of the reasons for the growth of nationalism in Germany, 1815–50
- An assessment of the degree of growth of nationalism in Germany, up to 1850
- An evaluation of the obstacles to German unification, 1815–50
- An evaluation of the reasons why unification was achieved in Germany, by 1871
- An evaluation of the reasons why the Nazis achieved power in 1933
- An evaluation of the reasons why the Nazis were able to stay in power, 1933–39

### 3 Historical Special Topic: Migration and empire, 1830–1939

- The migration of Scots
- The experience of immigrants in Scotland
- The impact of Scots emigrants on the empire
- The effects of migration and empire on Scotland, to 1939

The final examination is based on two exam papers.

Paper 1: Two essays in 90 minutes

Paper 2: Four source-based questions in 90 minutes.

There will be an Assignment, to be prepared and written on any relevant title of the pupil's choice, before the main diet of examinations. This is worth 27% of the final assessment.

## **Latin** (Head of Department: Mr E Faulkes)

### **Advanced Higher**

This course builds upon the work done in National 5 and Higher Latin and consists of three units:

#### **1 Translation**

Candidates will further develop their knowledge of the grammar and syntax of the Latin language. This will be done through the study of a variety of original authors. In the final exam candidates will be required to translate an unprepared passage of original Latin. (A word list is provided).

#### **2 Literary Appreciation**

This involves the study of important works of Latin literature with a view to understanding the aims of the writers and the literary techniques which they employ. At the moment the area of Latin literature which we study is love poetry, mainly through the writings of Ovid, Catullus, Propertius and Tibullus, whose influences on later European culture, in particular literature and art, have been enormous. In the final exam candidates will be required to answer questions about the content and technique of passages studied in class.

#### **3 Investigation**

As in other Advanced Higher subjects, candidates are required to write a 4000-word dissertation, which can be on any aspect of the Roman world and Roman culture which interests them.

Advanced Higher Latin is not listed in the column options: this will allow candidates to negotiate a suitable timetable with the department.

### **Higher**

The course involves two units, which will be studied in parallel:

#### **1 Translation**

This involves developing further the knowledge of Latin grammar and syntax acquired in previous years of study. In the external assessment pupils will be required to translate into English, with the help of a word list, a piece of Latin prose which they have not seen before.

#### **2 Literary Appreciation**

Pupils will read a selection of ancient Latin authors and choose two on which they will answer questions during the exam. The texts include:

- a selection of the short poems of Catullus
- part of a law-court speech of Cicero
- mythology collected by the poet Ovid in his *Metamorphoses*
- part of Virgil's great epic, the *Aeneid*
- Pliny the Younger's letters, describing the destruction of Pompeii and the eruption of Mount Vesuvius.

## **Mathematics** (Head of Department: Mrs L A Craig)

### **Advanced Higher**

The Advanced Higher Mathematics courses are demanding courses that take learners' knowledge and skills beyond those developed at Higher level. A pass at Higher Mathematics is required to study these courses.

Pupils have a choice of three Advanced Higher Mathematics courses. A pupil may choose to do one or more of AH Mathematics, AH Statistics or AH Mathematics of Mechanics. Each of these SQA qualifications requires the study of three units. There is a variety of methods of assessment, much of it completed informally, but formal diagnostic assessment will be an integral part of the learning and teaching process. Extended tests, including the prelim, will be undertaken at the appropriate times during the course. The main function of these extended tests will be to prepare pupils for the final SQA AH exam at the end of the course.

### **AH Mathematics**

The Advanced Higher Mathematics Course enables learners to select and apply complex mathematical techniques in a variety of mathematical situations. Learners interpret, analyse, communicate and manage information in mathematical form, while exploring more advanced techniques.

The course consists of the following 3 units:

#### **1 Methods in Algebra and Calculus**

The general aim of the unit is to develop advanced knowledge and skills in algebra and calculus that can be used in practical and abstract situations to manage information in mathematical form. The outcomes cover partial fractions, standard procedures for both differential calculus and integral calculus, as well as methods for solving both first order and second order differential equations. The importance of logical thinking and proof is emphasised throughout.

#### **2 Applications of Algebra and Calculus**

The general aim of the unit is to develop advanced knowledge and skills that involve the application of algebra and calculus to real life and mathematical situations, including applications to geometry. Learners will acquire skills in interpreting and analysing problem situations where these skills can be used. The outcomes cover the binomial theorem, the algebra of complex numbers, properties of functions, and rates of change. Aspects of sequences and series are introduced, including summations, proved by induction.

#### **3 Geometry, Proof and Systems of Equations**

The general aim of the unit is to develop advanced knowledge and skills that involve geometry, number and algebra, and to examine the close relationship between them. Learners will develop skills in logical thinking. The outcomes cover matrices, vectors, solving systems of equations, the geometry of complex numbers, as well as processes of rigorous proof.



## **AH Mathematics of Mechanics**

The Advanced Higher Mathematics of Mechanics Course offers learners an enhanced awareness of the range and power of mathematics and the importance of mathematical applications to society in general. Learners use and extend mathematical skills needed to solve problems in mechanics, analyse the physical factors impacting bodies, and consider the state of equilibrium or the movement of a body and interpret the underlying factors using known mathematical methods.

The course consists of the following 3 units:

### **1 Techniques for Mechanics**

This unit covers development of advanced skills in algebra and calculus relevant to the study of problems in mechanics. Learners are introduced to the modelling of practical problems using differential equations including those with separable variables, those with integrating factor and second order homogeneous differential equations. The expansion of expressions is developed and partial fractions introduced. Learners' skills in calculus are widened to include parametric and implicit differentiation as well as integration using substitution, using partial fractions and by parts.

### **2 Linear and Parabolic Motion**

The general aim of the Unit is to develop advanced knowledge and skills in algebra and calculus to be applied to the mechanics of linear and parabolic motion. Learners will interpret the effects of forces on a body and will use mathematical models in problems involving motion in a straight line under the influence of either constant force or variable force where acceleration is dependent on time. A vector approach is encouraged in the study of the relative motion of bodies, the effects of winds and currents, collision courses and closest approach. The motion of projectiles in a vertical plane is explored. Newton's Laws of Motion are used to develop an understanding of equilibrium, friction and resulting motion, with particular emphasis on Newton's Second Law to consider one-dimensional motion on horizontal and inclined planes.

### **3 Force, Energy and Periodic Motion**

The general aim of the unit is to develop advanced mathematical knowledge and skills to be applied to the mechanics of force, energy and periodic motion. Learners will interpret the effects of both constant and variable forces on a body and will use mathematical models in problems where the acceleration is dependent on displacement or velocity, and where interpretation and solution of problems involving first order differential equations is required. The principles of momentum and impulse and those of work, power and energy are developed, and include the work-energy principle and the use of conservation of energy.

Learners explore problems involving motion in a horizontal circle with uniform angular velocity. In particular, banked tracks and skidding are considered, as is Newton's Law of Gravitation and its application to the circular orbit of satellites. Learners will look at simple harmonic motion, consider force associated with elastic strings and springs, and consider the centres of mass for rigid bodies, including those of uniform and composite plane, as well as statics of rigid bodies.

## **AH Statistics**

The Advanced Higher Statistics Course allows learners to make sense of inherent natural variation in a wide variety of contexts through the collection, analysis and interpretation of data. Learners develop an understanding of degree of certainty which can be attributed to inferences made and conclusions reached when interpreting and analysing data.

The course consists of the following 3 units:

### **1 Hypothesis Testing**

The general aim of this unit is develop and apply skills in hypothesis testing. These tests will be parametric, non-parametric and bi-variate. Learners will develop skills in effectively communicating conclusions reached on the basis of statistical analysis. A statistical hypothesis test generated by the learner will be carried out using the skills developed in the unit.

### **2 Data Analysis and Modelling**

The general aim of this unit is to introduce the study of probability models. Learners will develop skills in data collection, presentation and interpretation will study the notion of probability and be introduced to some probability models. The theory behind the models will be explained, exploratory data analysis used as an indicator and the uses of different random variables explored.

### **3 Statistical Inference**

The general aim of this unit is to develop and apply skills in statistical inference. Learners will select and use appropriate statistical models to assist with the analysis of data and interpret results in context, evaluating the strength and limitations of their models. The practicalities of working with sample data to consider possible population distributions and to obtain best estimates of a population mean are introduced. The importance of the distribution of sample means is highlighted, and the power of the central limit theorem is outlined and used to evaluate the accuracy of the estimated population mean. A statistical investigation generated by the learner will be carried out using the skills developed in the unit.

## **Higher**

Mathematics is an important discipline in its own right, its ever-increasing applications in such a wide variety of other fields mean that a qualification at Higher can open doors to many careers. We would also wish to give some insight into the structure and power of mathematical thinking and mathematical language and ensure that pupils with such a range of future needs acquire the necessary knowledge and skills for their next stage.

The Higher Mathematics course enables learners to select and apply mathematical techniques in a variety of mathematical situations. Learners interpret, communicate and manage information in mathematical form. The course extends some of the content covered in National 5 and introduces further skills in algebra, geometry and calculus.

The Higher Mathematics course consists of three units.

### **1 Applications**

The general aim of this unit is to develop knowledge and skills that involve geometric applications, applications of sequences and applications of calculus. The outcomes cover aspects of algebra, geometry, calculus, and also skills in mathematical reasoning and modelling.

### **2 Relationships and Calculus**

The general aim of this unit is to develop knowledge and skills that involve solving equations and to introduce both differential calculus and integral calculus. The outcomes cover aspects of algebra, trigonometry, calculus and also skills in mathematical reasoning and modelling.

### **3 Expressions and Functions**

The general aim of this unit is to develop knowledge and skills that involve the manipulation of expressions, the use of vectors and the study of mathematical functions. The outcomes cover aspects of algebra, geometry and trigonometry and also skills in mathematical reasoning and modelling.

## **Assessment**

There is a variety of methods of assessment, much of it completed informally, but formal diagnostic assessment will be an integral part of the learning and teaching process. Extended tests, including the prelim, will be undertaken at the appropriate times during the course. The main function of these extended tests will be to prepare pupils for the final SQA Higher exam at the end of the course, which assesses skills developed across all three units and consists of a non-calculator and calculator question paper.

## **National 5**

Pupils will also have the option of sitting or re-sitting National 5 Mathematics if required.

The National 5 Mathematics course develops numerical, geometric, algebraic and problem-solving skills and consists of a variety of topics, each containing core and extension material. The emphasis will be on work that is relevant and interesting and there will be opportunities for collaborative working, creativity and showing initiative.

The National 5 Mathematics Course will develop learners' ability to:

- understand and use mathematical concepts and relationships
- select and apply operational skills in algebra, geometry, trigonometry and statistics within mathematical contexts
- select and apply skills in numeracy
- use mathematical models
- use mathematical reasoning skills to interpret information, to select a strategy to solve a problem, and to communicate solutions

The units are as follows:

### **1 Applications**

The general aim of this unit is to develop skills linked to applications of mathematics. These include using trigonometry, geometry, number processes and statistics within real life contexts. The outcomes cover aspects of these skills and also skills in reasoning.

### **2 Expressions and Formulae**

The general aim of this unit is to develop skills linked to mathematical expressions and formulae. These include the manipulation of abstract terms, the simplification of expressions and the evaluation of formulae. The outcomes cover aspects of number, algebra, geometry and reasoning.

### **3 Relationships**

The general aim of this unit is to develop skills linked to mathematical relationships. These include solving and manipulating equations, working with graphs and carrying out calculations on the lengths and angles of shapes. The outcomes cover aspects of algebra, geometry, trigonometry and reasoning.

### **Assessment**

There is a variety of methods of assessment, much of it completed informally, but formal diagnostic assessment will be an integral part of the learning and teaching process. Extended tests, including the prelim, will be undertaken at the appropriate times during the course. The main function of these extended tests will be to prepare pupils for the final external SQA National 5 exam at the end of the course, which assesses skills developed across all three units and consists of a non-calculator and calculator question paper.

## **Modern Languages** (Head of Department: Mr N A MacKinnon)

### **Advanced Higher – French / German / Spanish / Mandarin**

The Advanced Higher courses follow on specifically and deliberately from Higher both in design and content. Study of a language at Advanced Higher will allow pupils to develop confidence in their ability to communicate in the target language on cultural topics, current affairs and issues of general interest. The skills of expressing opinions and exchanging ideas learnt at Higher will be developed further in keeping with their greater maturity and language proficiency.

The Advanced Higher courses are designed to appeal to a range of pupils, not just potential linguists. The value of an award at this level as an ancillary skill and in terms of future employment prospects cannot be over-estimated.

### **Course details**

Each course consists of 3 units: Understanding Language, Using Language and the Specialist Study, developing pupils' skills in understanding and using complex and sophisticated language, while allowing them to develop evaluative and analytical skills in a literature or work-related context. The four prescribed contexts and possible themes are:

#### **1 Society**

Changing patterns of family life, social influences, social issues, environmental issues, human rights, immigration, prejudice, racism, impact of the digital age

#### **2 Learning**

Understanding self as a learner, importance of language learning, advantages / disadvantages of higher or further education

#### **3 Employability**

Preparing for a job interview, open borders for workers, searching for a job, gap year, career path, equality in the workplace, voluntary or charity work

#### **4 Culture**

Living in a multicultural society, minority languages and their importance, cross-cultural issues, global issues, social influences on / importance of traditions, customs and beliefs in another country.

Successful completion of the course will enable progression to higher education and employment in such areas as the arts and social sciences, hospitality, catering and tourism, languages, law, IT, business and the media.

### **Assessment**

Course assessment comprises a performance (Talking, assessed by a visiting assessor), portfolio and two exam papers.

The portfolio is an essay of 1500 words in English relating to the literature studied. The exam comprises reading and translation, and listening and discursive writing.

## Higher French / German / Spanish / Mandarin

It is increasingly apparent in today's world that qualifications in Modern Languages are vital in order that our young people can compete with their foreign counterparts in the worlds of business and industry. In the current uncertain political climate, it is more important than ever to equip our pupils with the linguistic skills they will require in order to take their place in today's world, interacting both here and abroad with speakers of other languages. Even in the sphere of travel, leisure and tourism, the acquisition of language skills is viewed as a definite bonus.

In addition to studying the language, literature and culture of the appropriate country at university, it is possible to combine the study of Modern Languages with many other subjects, notably Law, Economics and, increasingly, scientific and medical subjects, further boosting opportunities for employment in these fields.

It is strongly recommended that prospective entrants to the Higher course have attained a good pass at National 5.

All four language skills are developed in the following contexts:

Society	Family and friends	Becoming an adult / new family structure / marriage / partnership / gang culture / bullying / social influences and pressures
	Lifestyle	Teenage problems eg smoking, drugs, alcohol
	Media	Impact of the digital age
	Global languages	Minority languages and their importance / association with culture
Learning	Learning in context	Understanding self as a learner, eg learning styles / importance of language learning
	Education	Advantages / disadvantages of higher education, choosing a university / college, lifelong learning
Employability	Jobs	Getting a summer job, planning for future jobs, gap year, career path, equality in the workplace
	Work and CVs	Preparing for a job interview / importance of language in global contexts, job opportunities
Culture	Planning a trip	Taking a gap year, working abroad (mobility), travel
	Other countries	Multicultural society / stereotypes / prejudice and racism
	Celebrating a special event	Social influences on / importance of traditions, customs and beliefs in another country
	Literature	Literature of another country – analysis and evaluation
	Film / television	Studying the media of another country

The Higher coursework component is an assignment in Writing, while all four language skills are assessed in the final exam.

## **Modern Studies** (*Head of Department: Mr G Fyall*)

### **Advanced Higher**

The aim of the Advanced Higher Modern Studies Course is to develop the learners' knowledge and understanding of contemporary political and social issues in local, Scottish/United Kingdom and international contexts. In these contexts, learners will develop an awareness of the political and social issues they will encounter in their lives. This purpose will be achieved through successful study of the Course Units which focus on in-depth study of either political issues or social issues and which adopt an international comparative approach and develop a wide range of skills.

This course is available to pupils who have already achieved a good grade in Higher Modern Studies. The Advanced Higher Modern Studies course will focus on the political Issues option. The course will focus on the political system in the UK alongside an international comparative approach.

The Advanced Higher course will consider:

- Power and Influence (Considering issues such as electoral systems, voting behaviour, the role and influence of the media and the role of pressure groups)
- Political Structures (Considering issues such as the role of the executive, the legislature, scrutiny measures and constitutions.)

A final exam of 3 hours will be based on two essays from the sections noted above and two Research Methods questions based on both the theory and practical approaches to research methodology.

Pupils will also be expected to research a dissertation on an issue of their own choice, which will be worth approximately  $\frac{1}{3}$  of their final mark. A significant element of the dissertation requires the candidate to research and implement a variety of research methodologies which will be used both within the dissertation and as exemplification in the final exam.

## Higher

The themes covered in Higher Modern Studies include government, politics, human rights, minorities, gender, race, poverty, health and wealth.

The Higher course has 3 study themes:

### 1 Democracy in the UK:

- The UK constitutional arrangement, including the role of the Scottish Parliament, the impact of UK membership of the European Union and the ongoing debates about the nature of the political system in the UK.
- The study of representative democracy in the UK.
- The impact of voting systems and a range of factors which affect voting behaviour in the UK.
- The ways in which citizens are informed about, participate in, and influence the political process in the UK.

### 2 Social Issues in the UK: The study of social inequality in the UK with focus on:

- The nature of social inequality in the United Kingdom
- Theories and causes of inequality
- The impact of inequality on specific groups in society
- Attempts to tackle inequalities and their effectiveness

### 3 International Issues: focuses on current political and social issues in South Africa.

- The political system and processes within South Africa
- Recent socio-economic issues in South Africa
- An evaluation of the effectiveness of the government in tackling socio-economic issues in South Africa
- The role of South Africa in international relations

The Modern Studies course studies the events in the world today, and therefore it is **essential that the pupil follows current affairs** in the world, both at home and abroad, through the media and Internet. It is essential that this exemplification is used in exam answers to ensure that the analysis is current and relevant to the issues in question.

## Assessment

The final examination is based on two exam papers:

Paper 1: Three essays in 1 hour and 45 minutes

Paper 2: Three source-based questions in 1 hour and 15 minutes.

There will be an Assignment, to be prepared and written on any relevant Modern Studies issue of the pupil's choice, before the main diet of examinations. This is worth 27% of the final assessment.



## **Music** (Head of Department: Dr L S Steuart Fotheringham)

In Form 6 Music may be studied at Advanced Higher, Higher or National 5. It may also be possible for pupils to undertake free-standing units in Performance.

All of the courses are designed to serve the needs of candidates who wish to study music as part of a general education, to pursue an interest in music, or intend to follow a career in music. Throughout the course the study of music will provide increasingly sophisticated development of musical skills through a wide range of challenging experiences.

### **Advanced Higher**

#### **1 Performing Skills (50%)**

Pupils will be required to prepare a recital of music in a range of styles on two instruments (or one instrument and voice) equivalent in standard to Grade 5 for all music exam boards. Due to the high weighting of performing, **candidates are strongly encouraged to receive instrumental / vocal instruction in school** from a member of staff who is fully conversant with the requirements and standards of the course. There is likely to be a reduced tuition fee for those instruments which are being examined.

#### **2 Portfolio**

Pupils will develop their understanding of compositional techniques to create a piece of music up to 4½ minutes long, and provide an audio recording and self-evaluation for their composition. They will gain an understanding of how composers create music in different ways, what influences and inspires the work of musicians and composers and how to use music as a means of communication and expression. In addition, candidates develop their skills in writing music analysis, submitting a essay investigating a piece of their choice.

#### **3 Understanding and Analysing Music**

Pupils will learn the history of music from c1550 to the present day. The course is focused principally on classical music, but will also encompass jazz, traditional, and popular styles. Pupils will develop an informed sense of the historical background to the music studied. Learning takes place by listening to music and familiarising pupils with how each style sounds different, as well as examining scores. Pupils will learn music terms and be able to apply them to recordings of unfamiliar music, and will learn about the social and cultural influences on the distinctive sounds and structure of specific music styles.

## Higher / National 5 Music

The Higher and National 5 courses are designed to serve the needs of pupils who wish to study Music as part of a general education, to pursue an interest in Music, or intend to follow a career in Music. Throughout the courses, the study of music will provide increasingly sophisticated development of musical skills through a wide range of challenging experiences. The courses will give pupils a sense of historical perspective on the music they listen to and help place it in context. Pupils' participation in ensembles and concerts in the Music department will be enhanced by their having a better understanding of the music they are performing.

The course consists of three examined units:

### 1 Performing Skills

Pupils will be required to prepare a recital of music in a range of styles on two instruments (or one instrument and voice) equivalent in standard to Associated Board Grade 3 for National 5, and Grade 4 for Higher. **NB** Due to the high weighting of performing, **candidates are strongly encouraged to receive instrumental / vocal instruction in school** from a member of staff who is fully conversant with the requirements and standards of the course. There likely to be a reduced tuition fee for those instruments which are being examined.

### 2 Composing Skills

Pupils will have to demonstrate the creative use of compositional techniques in a piece of music, and provide a programme note and audio recording for each composition. They will gain an understanding of how composers create music in different ways, what influences and inspires the work of musicians and composers and how to use music as a means of communication and expression.

### 3 Understanding Music

Pupils will learn the history of music from c1600 to the present day. The course will encompass all styles of music from classical, jazz and Scottish to popular, and pupils will develop an informed sense of historical background. Learning takes place primarily by listening to music and familiarising pupils with how each style sounds different. Pupils will learn music terms and be able to apply them to recordings of unfamiliar music, and will learn about the social and cultural influences on the distinctive sounds and structure of specific music styles. Fluency in reading and understanding musical notation is desirable. A pass at Grade 5 Theory is highly desirable as a preparation for this.

Although the course descriptions are the same for N5, the requirements for Higher are of a more demanding standard, and a much wider vocabulary of musical terms and features needs to be understood.

## **Philosophy** (Head of Dept: Mr A Cummins)

*Please note: Philosophy and RMPS are offered in alternate years. For session 22/23 it is Philosophy; in 23/24 the subject taught in both F5 and F6 will be RMPS.*

### **Higher**

The main aim of this course is to challenge pupils to think clearly about problems by asking them questions about the world we live in. Pupils will explore philosophical ideas and arguments relating to general and fundamental philosophical issues of relevance in the world today. They will develop the ability to analyse and evaluate philosophical positions and arguments and to develop their own reasoning skills. In this course pupils will be encouraged to challenge assumptions and to apply their knowledge and understanding of different positions and theories in philosophy. Thinking, analytical and evaluative skills, which are important in education and employment, are developed throughout the course.

The broad aims of this course are to:

- develop knowledge and understanding of some key religious beliefs and philosophical concepts, along with questions concerning ethical issues and the justification of beliefs
- develop critical thinking, analytical and evaluative skills
- develop the ability to engage with abstract ideas
- develop the ability to develop and express reasoned arguments and conclusions
- develop skills of analysis, evaluation and expressing a coherent line of argument, by investigating a religious and/or philosophical question.

The course comprises three units:

#### **1 Arguments in Action**

The general aim of this unit is to develop pupils' ability to understand, and think analytically about, the structure of logical argument. Pupils will develop skills in identifying both the functional components of ordinary language arguments, and the formal and informal fallacies that lead to questionable conclusions.

#### **2 Knowledge and Doubt**

The general aim of this unit is to develop knowledge, understanding and skills to evaluate arguments about the foundations of knowledge. They will engage with primary sources in early modern philosophy, learn to distinguish between rationalist and empiricist approaches to epistemology, and identify the strengths and weaknesses of each the rival theories.

#### **3 Moral Philosophy**

The general aim of this unit is to develop skills in analysing and evaluating the ethical theories that lie at the heart of moral argument. Pupils will study Utilitarian and Kantian ideas in detail, and how they have been criticised and defended by some of their most respected proponents. Pupils will develop an understanding of the different ways in which these theories succeed and fail in explaining our ideas of moral judgement.

**Note: Presentation at National 5 is an option for pupils studying this course.**

## **Physical Education** (Head of PE and Games: Mr E D Jack)

### **Advanced Higher**

The main purpose of the Course is to research and analyse factors which underpin and impact on performance, and use this knowledge to develop their own performance or that of others. To do this effectively, learners will engage in research and undertake independent investigative work, and develop skills of analysis, evaluation, and communication.

The course is available to pupils who have gained a good grade in Higher Physical Education.

There are two areas of study:

#### **1 Performance**

Candidates develop their ability to demonstrate a broad and comprehensive range of complex movement and performance skills in one activity, in a challenging context. They select, demonstrate, apply and adapt these skills and use them to make informed decisions. They develop their knowledge and understanding of how these skills combine to produce effective outcomes.

#### **2 Factors Impacting on Performance**

Candidates develop independent research, analytical and evaluative skills by investigating mental, emotional, social and physical factors that impact performance in physical activities. By collecting information, candidates consider how these factors can influence effectiveness in performance. They develop knowledge and understanding of a range of approaches for enhancing performance. Candidates select and apply these approaches to factors that impact performance.

### **Assessment**

#### **Performance (30 marks – equates to 30% of total mark)**

The performance assesses candidates' ability to carry out a single performance in one physical activity.

*The activities chosen must be on the SQA acceptable activity list and be challenging/competitive. Your teachers/markers must have relevant experience that will enable them to mark your performance. If outwith school, it must be easily accessible for your teacher to attend – in particular the location and timing. This will be at the discretion of the department.*

#### **Project (70 marks – equates to 70% of total mark)**

The project assesses candidates' ability to integrate and apply skills, knowledge and understanding of the factors that impact on performance.

## Higher

The course enables candidates to:

- develop a broad and comprehensive range of complex movement and performance skills, and demonstrate them safely and effectively across a range of challenging contexts
- select and apply skills and make informed decisions to effectively perform in physical activities
- analyse mental, emotional, social and physical factors that impact on performance
- understand how skills, techniques and strategies combine to produce an effective performance
- analyse and evaluate performance.

The course consists of two areas of study:

### 1 Performance

Candidates develop their ability to demonstrate a broad and comprehensive range of complex movement and performance skills through a range of physical activities. They select, demonstrate, apply and adapt these skills, and use them to make informed decisions. They also develop their knowledge and understanding of how these skills combine to produce effective outcomes. Candidates develop consistency, precision, control and fluency of movement. They also learn how to respond to, and meet, the demands of performance in a safe and effective way.

### 2 Factors Impacting on Performance

Candidates develop knowledge and understanding of mental, emotional, social and physical factors that impact on personal performance in physical activities. Through collecting information, candidates consider how these factors can influence effectiveness in performance. They develop knowledge and understanding of a range of approaches for enhancing performance. Candidates select and apply these approaches to factors that impact on their personal performance.

## Assessment

### Performance (60 Marks – equates to 50% of total mark)

The performance assesses candidates' ability to perform in two different physical activities.

*The activities chosen must be on the SQA acceptable activity list and be challenging/competitive. Your teachers/markers must have relevant experience that will enable them to mark your performance. If outwith school, it must be easily accessible for your teacher to attend – in particular the location and timing. This will be at the discretion of the department.*

### Question Paper (50 Marks – equates to 50% of total mark)

The question paper assesses the candidates' ability to integrate and apply knowledge and understanding from across the course.

## **Physics** (Head of Department: Mr J Darby)

Physics is the branch of science concerned with the properties of matter and energy and the relationships between them. Many apparently complicated things in nature can be understood in terms of relatively simple mathematical relationships.

Physicists try to uncover these relationships through observing, creating mathematical models, and testing them by doing experiments. The mathematical equations used in Physics often look far more complicated than they really are. Nevertheless, if you are going to study Physics, you will need to get to grips with a certain amount of Maths.

The Higher and Advanced Higher courses embrace traditional topics such as mechanics and electricity along with modern Physics, based on quantum theory.

### **Advanced Higher**

Advanced Higher Physics provides a progression from the Higher Physics course. It offers a challenging experience for students who wish to study the subject to a greater depth using mathematical models and techniques for describing the behaviour of nature.

### **Recommended entry**

Students will normally be expected to have attained Higher Physics and Higher Mathematics.

### **Course details**

The course is made up of four mandatory units:

- **Rotational Motion and Astrophysics**  
Kinematic relationships; angular motion; rotational dynamics; gravitation; and general relativity.
- **Quanta and Waves**  
Quantum theory; particles from space; simple harmonic motion; waves; interference; and polarisation.
- **Electromagnetism**  
Electric fields; magnetic fields; capacitors resistors and inductors in circuits; and electromagnetism.
- **Physics Investigation**  
The purpose of the project is to allow the learner to carry out an in-depth study of a physics topic. This is an open-ended task which will require a high degree of independent learning with support and supervision from a Physics teacher. Pupils are expected to research the theory behind their chosen topic, plan experimental methods, and interpret, analyse and evaluate their experimental results.

### **Assessment**

The Rotational Motion and Astrophysics, Quanta and Waves and Electromagnetism units are each assessed by a Unit Assessment. To gain the award for the course, each student must pass all the Unit Assessments.

A report for the Physics investigation is externally marked and is worth 30 marks scaled to 25% for the course award.

The external assessment involves a question paper of 3 hours' duration, worth 155 marks scaled to 75% for the course award.

## Higher

The course reinforces and extends the knowledge and understanding of the concepts of Physics and related problem-solving skills and practical abilities acquired at National 5, by providing a deeper insight into the structure of the subject. Pupils would normally be expected to have attained National 5 Physics at A or B.

### Course details

The course comprises three mandatory units:

#### 1 Our Dynamic Universe

Motion; forces, energy and power; projectiles and satellites; special relativity; the expanding universe; and Big Bang theory

#### 2 Particles and Waves

The Standard Model; electric and magnetic fields and particle motion in fields; nuclear reactions; wave properties; refraction of light; and spectra

#### 3 Electricity

Electrons and energy; resistors in circuits; capacitors in circuits; conductors and semiconductors; band theory; and p-n junctions

### Assessment

Each unit will be assessed by an external exam of 2 papers (45 minutes followed by 2 hours 15 minutes) at the end of the course (worth 80% of the marks). Pupils' skills in *Researching Physics* are assessed separately by an assignment carried out under exam conditions in class and marked externally (worth 20% of the marks).

A qualification in Higher Physics can lead to Advanced Higher Physics, a degree, an HND or HNC in Physics, Science, Mathematics, Computing or Engineering fields and to employment in related areas.

## **Physical Education** (*Head of PE and Games: Mr E D Jack*)

### **High Performance Sport Programme (HPSP)**

(*Head of Elite Sport Development: Mr P J Godman*)

The HPSP caters for our pupils who are performing in sport at the highest level. The aim of the programme is to enhance and develop these athletes during timetabled sessions to enable them to reach their full potential. Run in partnership with Abertay University, the programme will also allow pupils access to state-of-the-art facilities and assistance from the University's expert staff.

The HPSP will have a flexible structure that is tailored to the individual needs of each athlete. By producing this bespoke programme, we strive to create an environment that allows each athlete to thrive in their sport while concurrently ensuring they maintain a good sport/life/school balance. The following are elements that will be included in the programme:

- Strength and Conditioning
- Specialist Training Sessions
- Physiotherapy and Rehabilitation
- Video Analysis
- One-to-One Mentoring
- Sports Psychology Sessions
- Guest Speaker Presentations

### **Selection**

Places on the HPSP are limited and as such an application process is required. As a minimum, those applying should have performed at a regional or national level in their sport. Other factors that will be taken into account will be current level of performance, evidence of progression and external references.

Those meeting these criteria and interested in choosing HPSP in their timetable for next session should initially make an appointment to discuss this with Mr Godman. The purpose of this discussion is to ensure both that the course is right for the individual and also that the individual is right for the course.

All pupils taking part in the HPSP will be expected to display full commitment to the programme, communicate and cooperate fully with staff and peers, and demonstrate exemplary conduct throughout.

### **Assessment**

There is no formal assessment for the HPSP and therefore no formal qualification will be gained.

There is, however, the potential for interested participants to be assisted in achieving coaching/officiating/first aid qualifications.

In addition to the continual monitoring of performance throughout the year, a formal end-of-year review will take place. This will allow all parties to comment on and evaluate progress/strengths/development needs and ultimately decide if it would be beneficial to continue with the HPSP programme for another year.



## **Core PE & Games** (*Head of PE and Games: Mr E D Jack*)

Games periods for F6 take place periods 7 and 8 every Wednesday.  
(Other options during these periods are supervised Private Study or Instrumental Music.)

This year the activities offered have included:

- Rugby
- Hockey
- Netball
- Tennis
- Athletics
- Cricket
- Dance
- Rounders
- Trampolining
- Football
- Volleyball
- Fitness Suite
- Badminton
- Basketball
- Scottish Country Dance
- Team Games
- Insanity (High-intensity exercise to music)

## **Personal, Social and Health Education** *(Mr N R Clarke)*

The Personal, Social and Health Education programme covers all six years of secondary education and complements the Guidance structure. This includes Careers Education for part of the course as it is essential for sound personal and social development.

All pupils in F6 have one period of PSHE per week and classes are usually taken by members of the Guidance team. Frequently outside speakers are involved in delivering sessions to the whole year group.

The aim of PSHE in F6 is to encourage positive personal and social development by increasing the pupils' self-awareness through the development of self-assessment and target setting. Central to PSHE at this level is the development of skills which pupils will need as they move into the adult world beyond school.

The topics covered will reinforce those already covered in F1 to F5, while introducing those more relevant to older pupils, such as

- Finance
- Interview techniques
- UCAS applications (and advice on other applications beyond school, e.g. College, Gap Year, Apprenticeship, Work, etc.)
- Working with others
- Decision-making
- Leadership

We also explore how to engage with appropriate support beyond school, e.g. health, relationships, Careers advice, etc.

## Library and Information Centre

The School Library is an essential resource for F6 pupils, particularly for those who are undertaking dissertations and submitting folios as part of their SQA assessments. We can provide guidance on:

- Effective search strategies
- Making sure you avoid plagiarism
- Correctly referencing all sources used and writing a complete bibliography
- Efficient online searching
- Using all the resources in the library
- Using the careers library to make informed decisions.

See Ms Lloyd-Wiggins or Mrs Hutton any time you need assistance.

As well as offering a vast array of resources to help you, in F6 the library is also the perfect place to come to if you are looking for a quiet place to study. There is a selection of revision books in the library which will help you with exam preparation as well as offering tips and advice on study.

The IT facilities in the library are available all day, as long as there is no other class booked into the library to use them. Please ask a member of staff before you log on to a PC.

In F6 you are permitted to borrow 6 items from the library at any one time. As well as the general non-fiction collection, we have well-stocked departmental collections for History, Biology, Home Economics, RMPS and Computing. Any item borrowed from the departmental collections is on a one-week loan, as are the journals to which we subscribe. For a full list of these journals please see Miss Owens.

Remember that books also help you to relax and unwind and we have a separate section in the library specifically for pupils in Forms 4 - 6. This section is the Young Adult area and all books are easily identifiable by the red and white YA sticker on the spine. You will find books in here by Stephanie Meyer, Chris Ryan and Joanne Harris as well as Booker Prize shortlisted books.

We are open at the following times:

Monday to Thursday	8.30 am - 5.00 pm
Friday	8.30 am - 4.30 pm

F6 pupils are welcome at any time.

### **Become a Library Prefect**

Help with Junior School classes, displays, use the library scanner and more...

This year we are limiting the number of library prefects to 20 so sign up quickly to avoid disappointment.

See Ms Lloyd-Wiggins or Mrs Hutton.