



# DOLLAR ACADEMY

## **FORM V COURSE CHOICE INFORMATION**

**SESSION 2019/2020**

In the subject descriptions which follow, guidance is given on all **Courses** and on the general entrance requirements. Further guidance will be provided by Departments on request.

**TABLE OF CONTENTS**

Accounting	25, 26
Administration & IT	25
Art and Design	27
Biology	18
Business Management	10
Chemistry	20
Classical Studies	7
Computing Science	17
Design & Manufacture	24
Drama	5
Economics	9
Engineering Science	22
English	4
English for Speakers of Other Languages (ESOL)	5
Geography	11
Graphic Communication	23
History	12 & 13
Human Biology	19
Latin	6
Mathematics	16
Modern Languages	8
Modern Studies	14 & 15
Music (Performance & Technology)	28 & 29
Physical Education	30
Physics	21

## HIGHER

The Scottish Qualification Authority (SQA) system of National Qualifications allows pupils to build on what has been achieved in Form IV at National 5 (or, in some cases, National 4) levels. In Forms V and VI we offer qualifications at National 5 (in certain subjects, for a small number of pupils with whom discussion will take place on an individual basis), **Higher** (the one with which this booklet is most concerned) and, in Form VI, Advanced Higher.

## HIGHER COURSES

Arrangements for Higher from 2018 have been subject to change. Unit assessments were removed and in many cases the external assessment component was strengthened. Courses at National 5, Higher and Advanced Higher levels have a final external assessment that will be set and marked by SQA. Many of the Higher Courses also contain an assignment which involves an element of project work or independent research.

Courses at National 5, Higher and Advanced Higher will be graded A to D, or 'No Award'.

## CORE SKILLS

Certain skills have been identified as **Core Skills**. These include Communication, Numeracy, Problem Solving, Information Technology and Working with Others. National Qualification Courses have been audited to establish which Core Skills might be 'embedded' in subjects. Pupils' achievements in terms of Core Skills will be included in their certificates by means of a profile. Most pupils will achieve some Core Skills simply by sitting a range of subjects.

## ADVANCED HIGHER

These are taken in Form VI and are detailed in a separate booklet.

## ENGLISH – HIGHER

At every level the subject stretches thinking and the imagination. This course aims to develop skills of expression and understanding that will be of benefit in other subjects and in life. The study of literature is again central. A variety of texts – poetry, drama and prose – are covered by all the teaching sets and reflect the interests of the department: plays by Shakespeare, such as *Antony and Cleopatra* and *Othello*; poetry by Duffy, Paterson and Sorley Maclean; novels by Wharton, Golding and Spark.

The examination consists of two papers. The first (Reading for Understanding, Analysis and Evaluation) consists of two unseen journalistic passages and related questions. The second paper (Critical Reading) requires pupils to write one critical essay and answer questions on a Scottish text from a prescribed list.

There are also internally assessed Units covering Analysis & Evaluation and Creation & Production. Pupils must produce a Portfolio of two independent pieces of writing, one discursive and one creative. Skills include

- listening, talking, reading and writing skills
- understanding, analysing and evaluating complex texts
- creating and producing detailed and complex texts in a wide range of contexts
- knowledge and understanding of language

The pupil who gains most from Higher English is open to new ideas and willing to contribute to debate during lessons, enjoys engaging with books, film and journalism beyond the classroom, visits theatres, libraries and galleries, and is keen to discuss progress with his/her teacher, who will be equally keen to foster a love of language and literature.

## ENGLISH – NATIONAL 5

For some pupils, Higher English is best taken at the end of Form VI as part of a two-year Course, and the securing of an National 5 pass may then be an appropriate target for the end of Form V. The National 5 Course is very similar to the Higher Course outlined above. Its level of testing will be more suitable for those pupils who would benefit from an extra year's maturity and study in this discipline.

**DRAMA - HIGHER**

Higher Drama is open to all candidates who have passed English at National 5 level.

**COURSE STRUCTURE**

There are two examinations at the end of the Course:

60% Practical : Pupils are required to give two performances chosen from a range of well known plays.

40% Written : Pupils write two essays in the exam, a Textual Analysis of a play and Performance Analysis of a recent professional production.

Many personal qualities are improved by this Course: self-confidence, imagination, practical skills in writing, movement and use of available resources are enhanced considerably. Even the written tasks on the course are linked to practical issues such as direction, props, technical issues and, of course, acting. Most groups experience a real sense of achievement after having presented scenes for internal assessment, and rehearsed and acted scenes for an examiner from the SQA. Enjoyment of theatre is promoted by several trips as a group to the theatre, mostly in the first term of the Course. Pupils who have regularly visited the theatre and enjoyed it are more than welcome on this Course.

**ENGLISH FOR SPEAKERS OF OTHER LANGUAGES (ESOL) HIGHER****COURSE STRUCTURE**

This course leads to an examination assessing English Language for those whose native language is not English. This may be as an alternative to 'Higher English' or in addition to 'Higher English' after consultation with the teachers involved.

The course considers language under two broad headings:  
'English for Everyday Life'  
'English in the context of Study'

The skills of listening, reading, writing and speaking English are practised and competence in these skills must be demonstrated in the final examination.

Listening 20%

Performance – speaking/listening in conversation 30%

Reading 25%

Writing 25%

The successful completion of this course provides a qualification demonstrating competence in English language and serves this purpose for application to university. University entrance requirements should be checked with a UCAS advisor or the university concerned.

## LATIN – HIGHER

### COURSE STRUCTURE

#### Mandatory Units

- Translating
- Literary Appreciation
  - Prose - Cicero: "The Governorship of Verres in Sicily" (selections from In Verrem V)
  - Verse - Virgil: "The Story of Dido", Aeneid (Selections from Books 1, 4 and 6)

This challenging but rewarding Course offers pupils the opportunity to acquire a sound reading knowledge of one of the world's greatest languages. In addition, it introduces them to thought-provoking extracts from some of the high points of Western literature. Learners develop an understanding of the legacy of Roman civilisation and its influence on their own culture and that of others.

The art of translation develops linguistic problem-solving by promoting precision and clarity of thought and expression, along with such valuable skills as close reading, recall, review and evaluation, analysis, synthesis, and the ability to predict and make inferences. Development of these skills will help to prepare candidates for the world of work.

The Course provides learners with the opportunity to develop linguistic awareness and analytical skills through the study of Latin texts. Our prose author is Cicero. We study the speech that made him the leading lawyer of his day, a speech so persuasive that he never had to deliver it in court: the accused simply fled into exile.

Our verse author is Virgil, the poetic genius who gave Rome an epic poem to rival the Iliad and the Odyssey. We focus upon the character of Dido and her relationship with the Trojan hero Aeneas, from his arrival at Carthage to their final encounter in the Underworld. The description of their doomed love affair in Book 4 represents one of Virgil's significant innovations in the genre of epic poetry.

Employers hold Classicists in very high regard, because of their ability to think logically, and their well-developed communication skills. Former Dollar Academy Classicists are now working successfully in many different professions, including Medicine, Law, the Civil Service, banking, accountancy and teaching.

**CLASSICAL STUDIES – HIGHER****COURSE STRUCTURE**

## Mandatory Units

- Life in Classical Greece – Power and Freedom
- Classical Literature
- Life in the Roman World – Power and Freedom

Classical Studies opens up the world of classical society for learners, offering pupils the chance to compare and contrast the political systems and social values of the ancient and modern worlds. The Higher course is open to any pupil in Form V or VI. Results show that pupils without previous experience of the subject are in no way disadvantaged, provided they are willing to work.

Power and Freedom are the defining themes of the Units on Classical Greece and Rome. We study aspects of Athenian society in the 5th Century BC, analysing and evaluating primary sources to try and understand the remarkable people who, in just a few, fertile years, gave us democracy and drama, yet denied freedom to others. The relationship between power and freedom is explored by comparing the Athenian Empire with its more modern counterparts. We then turn to the political, social and cultural values and practices of Rome in the years when the Republic fell into decline to give way to the world of the Emperors. Scope for comparison with the modern world is again considerable, reflecting our conviction that while the study of the Classics is worthwhile per se, it is particularly valuable when all aspects of the Greco-Roman world are compared and contrasted with our own.

The other unit of the Course offers pupils the privilege of reading some of the world's greatest literature: two Greek tragedies, Sophocles' *Antigone* and Euripides' *Medea*. In addressing such themes as inter-gender conflict and attitudes towards foreigners, these dramatic masterpieces explore social issues that have as much relevance for our own age as for the time in which the plays were first performed.

Higher Classical Studies should stimulate or further an interest in the classical world and lead to future study and personal enrichment in many diverse areas of culture and society, both classical and modern life. Employers hold Classicists in high regard, because of their ability to think logically, and their well-developed communication skills. Former Dollar Academy Classicists are now working successfully in Law, the Civil Service, banking, accountancy and teaching.

## **MODERN LANGUAGES (French, German, Mandarin, Spanish) – HIGHER**

### **COURSE STRUCTURE**

4 contexts:

- Society
- Learning
- Employability
- Culture

Assessment:

Reading, Listening and Writing are externally assessed

Talking is tested internally, but marking is subject to external moderation.

Course work will build on and develop the skills acquired in earlier years. As much of the classwork as possible will be conducted in the modern language, and regular sessions with Assistants and on individual listening equipment will sharpen oral/aural skills. Reading and Listening skills will be practiced through work on journalistic texts and recorded material, with follow-up in the form of written and spoken work in the foreign language. The emphasis will be on debating, convincing, stating opinions – not on rôle-play, which predominates at earlier stages. Work designed to increase grammatical accuracy will also play an important part.

The main aim of the Course is to enable pupils to cope linguistically in those areas that are most important in their lives: their family and personal relationships, school work and study/career intentions, leisure and social activities etc. As such, the Higher course takes pupils beyond the trivia of day-to-day survival to a more mature understanding of, and expertise in, language and culture, equipping learners with a skill of great, and ever increasing, value and importance.

### **SPANISH – BEGINNERS' SET**

#### **Entry Requirement - none**

This 5-hour class is intended for 6<sup>th</sup> Formers who have done no, or minimum, Spanish. The intention is to take them through to National Certification within a single year. Officially, National 5 is the initial target; in reality, the vast majority of pupils go beyond this, gaining in almost all cases a very creditable Higher Grade. This is particularly true of FVI pupils who have already taken Higher in another language and are familiar with the requirements of the course.

**ECONOMICS – HIGHER**

**Entry Requirement: at the discretion of the Head of Department.**

**COURSE STRUCTURE***Economics of the Market*

- The Basic Economic Problem
- Demand
- Supply
- The Operation of Markets
- Market Intervention

*UK Economics Activity*

- National Income
- Inflation and Employment
- The Role of the Government in the Economy
- Government Economic Policies
- Place of Scotland in the UK Economy

*Global Economic Activity*

- International Trade and Payments
- The International Economic Environment
- Emerging Economies

Economics is one of the four Business Education department subjects and, as well as being a valuable subject in its own right as a social science, it provides an excellent complement to other subjects, both sciences and arts. It is particularly useful for pupils considering a degree, not just in Economics, but also in Business, Finance, Accounting, Law and Management. A high percentage of our pupils every year decide to take a single honours Economics / Business related degree or a joint degree with another social science subject or foreign language at university.

In today's society it is becoming more and more important to have a sound understanding and knowledge of the economic forces that are increasingly seeking to shape and influence our lives. All of our pupils, either directly or indirectly, will be faced with economic decisions and pressures, and the ability to cope with these will be enhanced by a knowledge of the subject.

The study of Economics gives pupils the knowledge and range of skills they require to understand and cope with the economic dimension of life.

This course teaches pupils a number of essential skills for university and also for a career, including concise essay writing, analysis & interpretation of data and graphs and the ability to articulate complicated issues in a common sense way.

There is a new course assignment that pupils complete that is worth 30% of the total course award. It is in the form of a report on a current economic issue and involves finding several sources of information.

## **BUSINESS MANAGEMENT – HIGHER**

**Entry Requirement: at the discretion of the Head of Department**

### **COURSE STRUCTURE**

- Understanding Business (40 hours)
- Management of Marketing and Operations (40 hours)
- Management of Finance and People (40 hours)
- Assignment (25% of course award)

Any pupil intending to pursue a career in business will benefit from the study of this course. It provides a natural progression from National 5 Business Management and is also an enriching overview of business functions for Form VI pupils.

The course aims to provide pupils with an understanding of the role of business in contemporary society by examining different types of legal structures and the main functions within every organisation: marketing, operations, finance and human resource management. The course allows pupils to explore the current external and economic factors affecting businesses in the UK today, theoretical concepts such as stakeholder interdependence, financial analysis and leadership styles, as well as carry out an analytical project on a business of their choice. Throughout the course pupils also develop their digital literacy skills by learning about the ways information technology can enhance efficiency and effectiveness of organisations.

The assignment will require candidates to carry out research on a business of a specific topic area and analyse their findings, culminating in justified and logical recommendations being made.

NB Pupils should be aware that this subject requires a significant amount of reading and comprehension of text, both through course materials and in assessments – eg almost half of the marks in the final examination are allocated to questions based on an unseen case study.

**GEOGRAPHY – HIGHER**

Geography develops an awareness of the physical landscape and the ways in which people interact with their environment. It encourages a respect for and understanding of local, national and global issues and provides an interdisciplinary link between science and the arts.

**COURSE STRUCTURE***Physical Environments*

- Lithosphere – glacial and coastal landscapes
- Biosphere – formation of soil types
- Atmosphere – wind patterns and seasonal rainfall in Africa
- Hydrosphere – river landscapes, river basin hydrology and flood risk

*Human Environments*

- Urban – housing and transport issues in two world cities
- Population – data collection, population structure and migration
- Rural – rural land degradation and land use conflicts

*Global Issues*

- Development and Health – development indicators, primary healthcare and a case study of Malaria
- River Basin Management – water control projects including a case study of the High Aswan Dam in Egypt

Pupils will be given an opportunity to choose and independently research one aspect of the course in greater depth. This will form the basis for their added value assignment, which will account for 27% of the final grade. Map work, numerical and graphical skills are an integral part of the course and will be assessed as part of the final exam.

In a dynamic workplace, a firm grounding in geographical concepts and a spatial awareness will help almost any career. Geography can also provide a springboard to a broad range of environmental, economic and scientific areas of study. Those who go on to study Geography and related subjects (Geology, Geophysics, Meteorology, Hydrology, Land Economy, Environmental Studies, Planning, etc.) beyond school should be aware that there is a buoyant demand for Geography graduates, and the diverse skills they acquire fit them for employment in a wide variety of fields. As Geography can be used as an entry qualification to Science, Arts and Social Science Faculties at University it is now widely accepted as a modern complementary subject for law and all medical related courses.

Pupils may have the option of participating in an overseas educational tour, visiting several of the case studies covered in the Higher course. Fieldwork in the local area may also form part of this course.

## HISTORY – HIGHER

### COURSE STRUCTURE

<i>British</i>	<i>Britain 1851-1951</i>
<i>European and World</i>	<i>either The USA 1918 - 68 or The Origins and Development of the Cold War 1945 – 1989</i>
<i>Scottish</i>	<i>The Impact of the Great War, 1914-1928</i>

This Course offers a study of the past in national, European, and world-wide contexts. Building on the skills, expertise and conceptual understanding gained in earlier years, the Higher offers a study in depth and a study of themes over a longer time span. This provides a broad appreciation of the influences of the past – the events, trends and human achievements which have shaped our world.

The study develops the capacity for sustained and reasoned argument, in order to arrive at balanced judgements. Pupils realise that judgements are not definitive but are affected by prevailing ideas and attitudes and by the extent and reliability of the evidence available. The aims are to acquire breadth and depth in the knowledge and understanding of historical themes and to develop the skills of explaining developments and events, evaluating sources, and drawing conclusions. These skills and perspectives are achieved through the study of chosen contexts.

#### ***British - Britain 1851-1951***

A study of political and popular attempts to influence the development of democracy. The conflicts which arose from the powerful economic, political and social pressures on Britain in this period are explored, illustrating the themes of ideology, identity and authority.

In this Unit pupils will discover and understand the changing relationship between people and government in the United Kingdom. This covers the growth of democracy (1867 - 1928) and the struggle to attain women's suffrage. Pupils then study the impact of the changing consciousness of the nation by looking at the origins and the establishment of the Welfare State, as Britain struggled with the effects of two World Wars and the Great Depression.

#### ***European and World - either the USA 1918 - 68***

Pupils will be able to explore the challenges facing a dynamic multi-ethnic society. A consideration of the conflicts arising out of economic prosperity and poverty between the wars and the impact of the Wall Street Crash leads to an examination of the role of government. Changing attitudes and measures with regard to civil rights issues are covered from the 1920s to the 1960s – from the activities of the Ku Klux Klan to black radical protest movements.

#### *or The Origins and Development of the Cold War 1945 – 1989*

A study of ideology and regional conflicts and of attempts to achieve détente in the context of relationships between the USA and the Soviet Union. The Unit includes areas such as- the crises in Berlin and Korea; the arms race; Soviet and Western diplomacy; NATO and the Warsaw Pact; the desire for reform in Eastern Europe with a focus on Poland (1956), Hungary (1956) and Berlin (1961); the nature of the crisis over Cuba; the aims of the superpowers; methods used by the superpowers to achieve their aims; the roles of Kennedy and Khrushchev and American attempts to contain Communism; the relative strengths of North and South Vietnam; the failure of military methods; the changing public opinion in the USA; the international isolation of the USA.

***Scottish - The Impact of the Great War, 1914-1928***

A study of conflict and its political, social, economic and cultural effects, illustrating the themes of conflict, change and identity. This Unit includes-

Scots on the Western Front : Voluntary recruitment, reference to the battles of Loos and the Somme; the kilted regiments; the role of Scottish military personnel and overall contribution to the military effort.

Domestic impact of war: Recruitment and conscription; pacifism and conscientious objection; DORA; the changing role of women in wartime; the post-war period of recovery.

Wartime effects of war on industry, agriculture and fishing; price rises and rationing; post-war economic change and difficulties; post-war emigration; the land issue in the Highlands and Islands.

The impact of the war on political developments, the growth of radicalism, the ILP and Red Clydeside, the nature of Scottish identity.

The course will be assessed by a question paper and an assignment. Over the course assessment there will be parity between the assessment of skills and knowledge and understanding. Assessment will link to source skills acquired in National 5 and develop these further, alongside essay writing skills. The assignment will be a research piece considering a topic of their choice. Candidates will select an issue which can be analysed and evaluated. The 'write up' of the results of their research will be under controlled assessment conditions.

## MODERN STUDIES – HIGHER

### COURSE STRUCTURE

- Unit I: Democracy in Scotland and the United Kingdom*  
*Unit II: Social Issues in the United Kingdom: Inequalities*  
*Unit III: International Issues : World Power or World Issues*

Higher Modern Studies makes a distinctive contribution to the curriculum. Study of the Course develops an understanding of fundamental processes which underpin political and social life. These processes are considered in local, national and international contexts which are both relevant and significant. The structured understanding gained in this way can be applied in other situations. Higher Modern Studies will be of interest to a wide range of pupils as it makes a contribution to a well-balanced individual curriculum with appropriate emphasis given to the skills of communicating, learning, creative thinking and critical evaluation of the media and the utilisation of information technology.

The first unit, **Democracy in Scotland and the United Kingdom**, considers the United Kingdom constitutional arrangement including the role of the Scottish Parliament and other devolved bodies and the impact of UK membership of the European Union, alongside the study of representative democracy in Scotland and/or the United Kingdom. Here we focus on the impact of voting systems and a range of factors which affect voting behaviour on Scotland and/or the United Kingdom as well as the ways in which citizens are informed about, participate in, and influence the political process in Scotland and/or the United Kingdom

In the **Social Issues in the United Kingdom** unit we study the nature of social inequality in the UK with a focus on socio-economic status, geographic location, gender, ethnic origin and evidence of inequality as shown in official government publications, pressure groups, policy groups and voluntary organisations. We look at the theories and causes of inequality, the impact of it on society and the attempts to tackle it. Specific groups are considered with a regard to income, employment, education, housing, health and opportunities for social mobility.

There is a choice in the final **International Issues** unit. Contexts for study will focus on *either* a political and social/economic study of a major world power *or* the study of a significant contemporary world issue. World powers may be chosen from members of the G20 group of countries, including the European Union but excluding the United Kingdom. The study will include an examination of the political system, processes and rights and responsibilities of citizens. It will include as study of the nature and extent of significant socio-economic issues government responses and the effectiveness of responses. We also consider the role of the world power in international relations, evaluating its relationship and the extent of its influence. The major world power studied must be drawn from the membership of the G20 Group (which includes the European Union) but excluding the UK.

Alternatively there is the study of a major world issue an appreciation of the scale of its impact and the political, social, economic factors that give rise to an international issue. This is followed by effects of the issue on individuals, countries and their governments, regions and the international community

The Modern Studies course is a coherent study of aspects of contemporary society where there are links between aspects of knowledge and understanding across Units, depending on the particular topics and issues studied. For example: Understanding the political processes and institutions within Scotland and the United Kingdom will be deepened by comparison with the

political system in another society such as the United States of America or with the People's Republic of China

Understanding of social issues may be deepened by studying government responses to inequality in the United Kingdom and comparing this with government responses to this social issue in other countries, for example the approach adopted by the Government in the United Kingdom to tackling racial inequality can be analysed through a comparison with the approach taken in another country studied such as USA or South Africa.

The course will be assessed by a question paper and an assignment. Over the course assessment there will be parity between the assessment of skills and knowledge and understanding.

The question paper will sample knowledge and understanding from across all three Units of the Course and will require application of skills in any context drawn from across all three Units of the Course. The Modern Studies assignment will be a research piece on an issue of contemporary relevance about which there is alternative views in order to make a decision. The findings and decision will use the conventions of a report. The information collected will be used in order to demonstrate knowledge and understanding of the issue. The 'write up' of the results of their research will be under controlled assessment conditions.

The Course develops understanding of the political and social processes operating in the contemporary world. Pupils should extend their knowledge and understanding of contemporary issues and develop skills of evaluating that they may have been introduced to in earlier years.

## **MATHEMATICS – HIGHER**

### **COURSE STRUCTURE**

#### **Algebraic and Trigonometric Skills**

**Factor/Remainder Theorem & Quadratic Theory**

**Logarithmic & Exponential Functions**

**Trigonometric Formulae**

**Further Trigonometric Functions (The wave function)**

**Functions and Graphs**

**Trigonometric graphs and Radians**

#### **Geometric Skills**

**Vectors**

#### **Calculus Skills**

**Basic Differentiation**

**Basic Integration**

**Further Calculus**

#### **Algebraic and geometric skills**

**The Straight Line**

**Equation of the Circle**

As with all Mathematics courses, Higher aims to build on pupils' existing mathematical skills, knowledge and understanding. Although often found to be a challenging Course, the rewards are commensurate and many pupils gain a great deal of satisfaction and pleasure from it. The algebraic skills covered at National 5 level are built on substantially and pupils will greatly develop their ability to use mathematical language concisely and with precision.

The Course has obvious relevance for pupils with interests in science, engineering and commerce. There are wider benefits, however, and all candidates will further their skills at logical thought and deepen their appreciation of the scope of mathematics and its importance in human affairs.

## **MATHEMATICS – National 5**

For those who wish to continue with their Mathematics but do not have a National 5 grade C, or those who do not feel ready to begin Higher, there is the opportunity to re-sit the National 5 Course.

For suitably motivated and enthusiastic candidates, this Course may lead to Higher at the end of Form VI.

## **COMPUTING SCIENCE – 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 from systems and devices in our homes and places of work, to how we access education, entertainment, transportation and communication. At Higher level, pupils will be introduced to an advanced range of computational processes and thinking, and will learn to apply a rigorous approach to the design and development process across a variety of contemporary contexts. Pupils will also gain an awareness of the importance that computing professionals play in meeting the needs of society today and for the future, in fields which include science, education, business and industry. This Course provides progression from the National 5 Computing Science Course

### **COURSE STRUCTURE**

#### **Unit 1: Software Design and Development**

- 1 Explain how programs work, drawing on an understanding of advanced concepts in software development and computer architecture.
- 2 Develop modular programs using one or more software development environments.

#### **Unit 2: Information Systems Design and Development**

- 1 Develop information systems using appropriate development tools.
- 2 Consider the factors involved in the design and implementation of an information system.

Please note that the Higher Computer Science syllabus is currently being revised so the course structure will change from 2018/2019. SQA have still to published the revised arrangements but the four areas of studies will be the same as at National 5 - Software Design and Development, Computer systems, Database Design and Development as well as Web Design and Development.

### **ASSESSMENT**

To gain a course award, a pupil must pass both Units. The final grade for the Course is reached through a combination of a practical assignment (40%) and a final examination paper (60%).

## **BIOLOGY – HIGHER**

Higher Biology covers a broad and up-to-date selection of biological concepts and ideas relevant to modern life and the further study of biology and related subjects. During the course, learners will develop deeper understanding of the underlying themes of biology: evolution and adaptation; structure and function; genotype and niche. The course is divided into three units, within which the scale of topics ranges from molecular through to whole organism and beyond. The most relevant applications of biological understanding are highlighted in each unit.

This course would suit anyone interested in Biology or any of its related areas and would provide a suitable platform from which to pursue any of the wide range of courses that link with the subject. Examples would include medicine, veterinary medicine, biotechnology, zoology, marine biology, biomedical science, ecology and botany.

This one-year Higher Course can be studied by pupils in Forms V and VI. A “B” or “A” pass in National 5 Biology is the normal entry route. Pupils wishing to take Advanced Higher Biology in Form VI are advised to take Higher Biology and not Higher Human Biology in Form V.

### **COURSE STRUCTURE:**

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

- The Structure and Replication of DNA
- Gene Expression
- The Genome

#### **Metabolism and Survival**

- Metabolism is Essential for Life
- Maintaining Metabolism
- Metabolism in Microorganisms

#### **Sustainability and Interdependence**

- The Science of Food Production
- Interrelationships and Dependence
- Biodiversity

The final, externally marked assessment takes the form of a written exam and an assignment. For the assignment, pupils will carry out an experiment and produce a write-up which compares the results of this to published data.

## **HUMAN BIOLOGY – HIGHER**

As the name suggests, the Human Biology course focuses on the biology of the human species and the influence of mankind on the biological world. The whole course is set in contexts that are of particular significance and relevance to the human species.

This course would be of interest to anyone with a general interest in Human Biology or any of its related areas and would provide a suitable platform from which to pursue any of the wide range of courses that link with the subject.

This one-year Higher Course can be studied by pupils in Forms V and VI. A pass in National 5 Biology is the normal entry route.

Pupils wishing to take AH Biology in Form VI would be better to take Higher Biology in Form V. If in doubt, a pupil should seek advice from anyone in the Biology Department.

### **COURSE STRUCTURE:**

#### **Human Cells**

- Division and Differentiation in Human Cells
- Structure and Function of DNA
- Cell Metabolism

#### **Physiology and Health**

- Reproduction
- The Cardiovascular System

#### **Neurobiology and Communication (half-unit)**

- The Nervous System
- Communication and Social Behaviour

#### **Immunology and Public Health (half-unit)**

- The Immune System
- Infectious Diseases and Immunity

Pupils must pass all the units of the course. The final, externally marked assessment takes the form of a written exam and an assignment. For the assignment, pupils will carry out an in-depth study of a biological topic and explore its impact on society or the environment.

## CHEMISTRY – HIGHER

### COURSE STRUCTURE

#### *Chemical Changes and Structure*

- Controlling the rate
- Periodicity
- Structure and Bonding

#### *Nature's Chemistry*

- Esters, Fats and Oils
- Proteins
- Chemistry of cooking
- Oxidation of food
- Soaps, detergents and emulsions
- Fragrances
- Skincare products

#### *Chemistry in Society*

- Getting the most from costly reactants
- Chemical energy
- Equilibria
- Oxidising and Reducing Agents
- Chemical Analysis

#### *Researching Chemistry*

Higher provides a secure grounding for the future study of Chemistry and Chemistry-related subjects in Higher Education. The course builds a deep understanding of the central concepts of Chemistry within contexts that highlight the practical applications of the subject.

Practical experimental work is central to the teaching of all units and by the end of the course learners will have encountered a wide-range of techniques and apparatus.

The Higher course is designed to develop the skills most valued by employers and Higher Education such as numeracy and analytical thinking. Pupils will learn how to search for reliable information, plan and carryout experimental work and communicate their findings in a scientific manner. The course is assessed externally by an Examination, and an Assignment, which is a piece of coursework completed in school, before being sent away for marking.

**PHYSICS – HIGHER****COURSE STRUCTURE**

<i>Our Dynamic Universe</i>	(40 hours)
Motion, forces, energy and power	
Momentum and impulse	
Projectile motion	
Special relativity	
Doppler Effect	
The big bang	
<i>Particles and Waves</i>	(40 hours)
Forces on charged particles	
Nuclear reactions	
Photoelectric effect	
Interference, diffraction and refraction	
Spectra	
<i>Electricity</i>	(20 hours)
Alternating current	
Current, voltage, power and resistance	
Internal resistance	
Capacitance	
Semi-conductors	
p-n junctions	
<i>Researching Physics</i>	(20 hours)

The Higher Physics Course is designed to provide progression from National 5 Physics. The Course seeks to emphasise situations where the principles of Physics are encountered in real life. Pupils are encouraged to make their own reasoned decisions on many issues within a modern society increasingly dependent on science and technology.

Higher Physics is an ideal course for pupils interested in engineering, medicine, electronics, astronomy, technology. For someone who finds the idea of a job in industry attractive, there are openings based, for instance, on materials, computer, energy and food sciences. There is exciting work, too, in meteorology, telecommunications, scientific journalism and aerospace.

## **ENGINEERING SCIENCE – HIGHER**

Engineering is vital to everyday life; it shapes the world in which we live and its future. Engineers play key roles in meeting the needs of society in fields which include climate change, medicine, IT and transport. Our society needs more engineers, and more young people with an informed view of engineering. The Course provides a broad and challenging exploration of engineering.

The aims of the Course are to enable pupils to:

- ◆ extend and apply knowledge and understanding of key engineering concepts, principles and practice
- ◆ understand the relationships between engineering, mathematics and science
- ◆ apply analysis, design, construction and evaluation to a range of engineering problems with some complex features
- ◆ communicate engineering concepts clearly and concisely, using appropriate terminology
- ◆ develop a greater understanding of the role and impact of engineering in changing and influencing our environment and society

As well as the Course assessment, the Course includes three Units. Each of these Units is designed to provide progression to related Units at Advanced Higher.

### **Engineering Contexts and Challenges**

This Unit provides a broad context for the Course. It contributes to developing a deep understanding of engineering concepts by exploring a range of engineering problems with some complex features, and their solutions. This Unit allows the learner to explore some existing and emerging technologies and challenges, and to consider implications relating to the environment, sustainable development, and economic and social issues.

### **Electronics and Control**

This Unit explores an appropriate range of key concepts and devices used in electronic control systems, including analogue, digital and programmable systems. Skills in problem solving and evaluating are developed through simulation, practical projects and investigative tasks in a range of contexts.

### **Mechanisms and Structures**

This Unit develops a deepening understanding of mechanisms and structures. Skills in problem solving and evaluating are developed through simulation, practical projects and investigative tasks in a range of contexts

## **GRAPHIC COMMUNICATION – HIGHER**

The Course provides opportunities for pupils to initiate and develop their own ideas graphically. It allows them to develop skills in reading and interpreting graphics produced by others. Pupils will continue to develop graphic awareness in often complex graphic situations thus expanding their visual literacy. The Course is practical, exploratory and experiential in nature. It combines elements of creativity and communicating for visual impact with elements of protocol and an appreciation of the importance of graphic communication standards, where these are appropriate.

The aims of the Course are to enable pupils to develop:

- skills in graphic communication techniques, including the use of equipment, graphics materials and software
- creativity in the production of graphic communications to produce visual impact in meeting a specified purpose
- skills in evaluating the effectiveness of graphics in communicating and meeting their purpose
- an understanding of graphic communication standards protocols and conventions, where these apply
- an understanding of the impact of graphic communication technologies on our environment and society

As well as the Course assessment, the Course includes two Units. Both Units are designed to provide progression to the corresponding Units at Advanced Higher.

### **2D Graphic Communication**

This Unit helps pupils to develop their creativity and presentation skills within a 2D graphic communication context. It will allow pupils to initiate, plan, develop and communicate ideas graphically, using two-dimensional graphic techniques. Pupils will develop a number of skills and attributes within a 2D graphic communication context, including spatial awareness, visual literacy, and the ability to interpret given drawings, diagrams and other graphics. Pupils will evaluate the effectiveness of their own and given graphic communications to meet their purpose.

### **3D and Pictorial Graphic Communication**

This Unit helps pupils to develop their creativity and presentation skills within a 3D and pictorial graphic communication context. It will allow pupils to initiate, plan, develop and communicate ideas graphically, using three-dimensional graphic techniques. Pupils will develop a number of skills and attributes within a 3D graphic communication context, including spatial awareness, visual literacy, and the ability to interpret given drawings, diagrams and other graphics. Pupils will evaluate the effectiveness of their own and given graphic communications to meet their purpose.

## **DESIGN & MANUFACTURE – HIGHER**

The Higher Design and Manufacture Course allows pupils to explore the multi- faceted world of design and manufacturing. Creativity is at the heart of this Course and its combination with technology makes it exciting and dynamic.

The Course combines scientific, mathematical and technological rigor with design and manufacture creativity and innovation. It combines elements of creativity and designing for aesthetic or visual impact with elements of designing for the practicalities of manufacturing. It helps the learner appreciate the importance to a product of form, function, and performance. It helps them develop strategies for the evaluation of these attributes and to refine and resolve their designs accordingly.

The Course allows pupils to consider the various factors that impact on a product's design. It will consider the life cycle of a product from its inception through design, manufacture, and use, including its disposal and/or re-use — cradle-to-cradle.

The Course provides pupils with opportunities to develop:

- ◆ skills in design and in refining design proposals
- ◆ practical skills in the planning and development of models and prototypes
- ◆ skills in evaluation and research
- ◆ knowledge and understanding of manufacturing processes and materials
- ◆ an understanding of the impact of design and manufacturing technologies on our environment and society

The Course allows pupils to engage with technologies. It allows them to evaluate both the impact that design and manufacturing technologies have on our environment and society and how technologies have impacted on the world of the designer and on the manufacturing industry.

As well as the Course assessment, the Course includes two mandatory Units. Both Units are designed to provide progression to the corresponding Units at Advanced Higher.

### **Design and Manufacture: Design**

This Unit covers the processes of product design from brief to resolved design proposals and specification. It helps pupils develop skills in initiating, developing, articulating and communicating design proposals for products. It allows them to gain skills and experience in evaluating design proposals in order to refine, improve and resolve them. It allows them to develop an appreciation of design concepts and the various factors that influence the design and manufacture of products.

### **Design and Manufacture: Materials and Manufacturing**

This Unit covers the processes of product design from design proposals to prototype. It allows pupils to gain skills in planning and making models and prototypes. It helps pupils to 'close the design loop' by manufacturing a set of design ideas. It allows them to develop an appreciation of manufacturing practicalities. It allows them to strengthen an appreciation of the various factors that influence the design and manufacture of products. It allows pupils to consider the manufacturing techniques and processes that would apply to a design proposal in an industrial/commercial context.

## **ADMINISTRATION AND IT – HIGHER**

**Entry Requirement:** at the discretion of the Head of Department

Administration and Information Technology (IT) are crucial to the effective and efficient delivery of business and organisational objectives. The success of any organisation depends on information: how it is used and how it is managed. Data analysis and problem solving are therefore at the core of this course where a practical working knowledge of applied mathematics is assumed.

### **COURSE STRUCTURE**

The course has 2 mandatory units:

#### **1. Administrative theory and practice**

Candidates develop their understanding of the factors contributing to an efficient administrative function. These include time and task management, effective teams, complying with workplace legislation, the impact of digital technologies, and customer care.

#### **2. IT applications**

Candidates develop skills in organising and managing information using digital technology in administrative contexts. They use software application functions to analyse, process and manage information in order to create and edit complex business documents. Candidates develop an understanding of barriers to communication and ways of overcoming them to ensure communication is effective. They also develop skills, knowledge and understanding of how to maintain the security and confidentiality of information.

### **COURSE ASSESSMENT**

- Administrative theory and practice external examination (50 marks)
- IT applications assignment (70 marks)

## **ACCOUNTING – HIGHER**

**Entry Requirement :** at the discretion of the Head of Department.

### **COURSE STRUCTURE**

#### **Financial Accounting (Higher)**

Candidates develop their understanding of how to prepare routine and complex financial accounting information. They learn about current financial accounting regulations and apply them to a range of business structures. Stakeholders use this information to assess an organisation's current financial position.

**Management Accounting (Higher)**

Candidates develop their understanding of internal accounting procedures. They learn how to prepare information using a range of routine and complex accounting techniques. Management use this information when making decisions about the planning, control and future direction of an organisation.

The course helps candidates understand and make use of financial information. They prepare accounting statements, and analyse, interpret and report on an organisation's financial performance. A main feature of the course is developing numeracy and thinking skills.

Candidates develop understanding of:

- the function that accounting performs in business and society
- the need for accuracy in the preparation, presentation, interpretation and analysis of complex accounting information
- how to apply a systematic approach to solving financial problems
- a range of sources of finance available to organisations, and the circumstances these sources might be used in
- how to use spreadsheet software for complex accounting tasks

The learner will be assessed through an accounting question paper which lasts 2 hours 30 minutes and is worth 120 marks and is 67% of the overall mark. It will require demonstration of a breadth of knowledge, understanding and skills accumulated from across the Course. They will also be assessed by an accounting-related assignment which also lasts 2 hours 30 minutes and is worth 60 marks and is 33% of the overall mark. The assignment will require learners to combine the accounting knowledge and/or skills from across the Course in a practical context.

Business and enterprise are at the heart of national growth and development and this is reflected in the important place of business education in the curriculum. The study of Accounting at Higher develops the ability to identify, calculate, evaluate, and communicate financial and management accounting information and to allow informed judgement and decisions to be made. Pupils are encouraged to think logically and to apply accounting principles in a consistent and effective manner, thus developing their problem-solving and decision-making skills.

The Course structure is designed to allow pupils to gain a knowledge and understanding of both financial and management accounting and to develop their information technology skills and apply them within business contexts.

In addition, the study of Accounting will enable candidates to develop financial life skills. The Course helps them to meet the present demands of the modern world, and to prepare them for the future, whether they are considering making financial investments or running their own business. The increasing demand for candidates to experience enterprise activities throughout education makes this an ideal subject for study.

**ART & DESIGN – HIGHER****COURSE STRUCTURE**

The new Course in Higher Art and Design has greatly enhanced the possibilities for ambitious and individual work. It has also reduced the amount of writing on Historical Studies with an emphasis on developing critical understanding that is related to each pupil's creative ideas.

Each of the three Units is separately examined and marks for each go together to determine the grade. At the end of the Course there is an Authentication Exercise in which candidates are asked to develop ideas that they have already researched in either the Expressive or the Design Activities.

*Expressive Activity (40 hours)*

The expressive activity roughly covers the area of the subject that was once described as "Fine Art": drawing, painting, sculpture, printmaking. Pupils are required to produce expressive work through a process of research that involves learning to draw in an analytical way and collecting information on a topic through photographing, sketching and note-taking. They must then 'develop' this material in a creative way by considering alternative ideas in the form of small compositions. This investigation is finally resolved by a completed example of work which is submitted for assessment. A short study of an artist is done to accompany this project.

*Design Activity (40 hours)*

The design activity requires pupils to respond to a "design brief" that is prepared in consultation with the teacher. A variety of these creative problems may be chosen by the pupils from one class.

Once the brief has been established, pupils must develop their response by researching the topic and trying out a variety of schemes and approaches that show progressive gathering of ideas. The finished design is seen as constituting only part of the whole design process and when work is sent to the Examination Board for marking, it is divided into sections: research; consideration of possibilities; examples; evaluation.

A brief study of a Designer is done to accompany this project.

*Art & Design Studies (40 hours)*

The object of this new Course is to show how contemporary works of Visual Art and Design can be analysed and discussed in a critical way. Pupils will gain knowledge of visual concepts by comparing and investigating the aims and methods of artists and designers.

They will also undertake a study of specific topics that are closely related to their practical work.

## MUSIC PERFORMING – HIGHER

### COURSE STRUCTURE

The Music performing course is practical in nature and includes flexibility in the contexts for learning. Pupils develop their skills and creative capabilities as musicians. They perform and create music and learn to confidently discriminate between music concepts and styles. The course has three main components: performing; composing; and understanding. Pupils perform two instruments or one instrument and voice and can incorporate group performing into their programmes. Pupils use Sibelius 7.5 software for composition.

The Units are internally assessed as follows:

- Composing: composition folio. Pupils use complex compositional methods and music concepts in creative ways to realise their creative intentions and demonstrate their understanding and analysis of social and cultural influences on composers and their music.
- Understanding: regular listening assessments. Pupils will listen to a wide variety of music and apply their knowledge of musical concepts and a range of music signs and symbols in music notation.
- Performing: two or three performances and self-evaluation tasks. Pupils will play a selection of challenging level-specific music extracts (minimum of AB grade 4) showing technical, interpretive skills and musicality.

The Course is **externally** assessed as follows:

Listening Question Paper	40 marks. Candidates are required to identify stylistic and compositional features relating to melody, harmony, rhythm, structure, timbre, genre and form.
Performing	60 marks. Solo or Group performances on two instruments or one instrument and voice (12 minutes, minimum of 4 minutes on one instrument/voice)

## MUSIC TECHNOLOGY – HIGHER

### COURSE STRUCTURE

Pupils have the opportunity to develop skills as performer, listener and sound engineer. The course has two main components: Music Technology and Listening, however pupils will have the opportunity to complete a Free Standing Unit in Performing. Pupils record audio using Pro Tools software.

The Units are internally assessed as follows:

- Listening: regular listening assessments, presentations and reports focussing on 20<sup>th</sup> and 21<sup>st</sup> century music.
- Music Technology Skills: Technology tasks and mini assignments, using pro tools software and music hardware.
- Music Technology in Context: A minimum of 2 folio pieces demonstrating capturing and manipulating audio in a range of contexts eg a radio broadcast and a live recording.

Some pupils will take an additional National 5 or Higher unit in Performing

The Course is **externally** assessed as follows:

Listening Question Paper	30 marks. Candidates are required to have a knowledge and understanding of 20th and 21st century music styles and genres, music concepts and aspects of music technology.
Music Technology Folio	70 marks. This is a folio lasting a minimum of 4 minutes and demonstrating at least two types of recording context eg live recording within a radio broadcast OR live recording within a folio of film soundtrack. The folio must include a log book, plan and evaluation.

## **PHYSICAL EDUCATION – HIGHER**

### **COURSE STRUCTURE**

*Performance Unit (60 hours)*

*Analysis of performance Unit. (40 hours)*

Participation is active and demanding and pupils will work and learn with their class colleagues in a challenging and rewarding environment.

Physical Education at this level is useful for the pupil's own interest and self development, as a subject to add breadth and balance to other subjects and as part of entry requirements for further and Higher Education. This is especially true if the pupil wants to study Physical Education at a more advanced level, perhaps with a view to following a career in sport and related industries.

The four activities chosen by the Physical Education department are hockey, basketball, swimming and rugby.

Assessment is carried out by the member of staff teaching the activity and feedback on improvement is given. The pupil is given details about performance and when it is at the required level to achieve the Unit.

In the Analysis-of-performance Unit there are three areas.

Skills and Techniques.

Structures, Strategies and Composition.

Preparation of the Body.

To achieve a Unit in Analysis of Performance pupils will be assessed in the Academy. The work is marked by the teacher taking the group. The Course assessment is by a written examination. In this exam three questions must be undertaken, each from a different area of Analysis of Performance. The exam at Higher level lasts two and a half hours.

When the pupil completes all the Course assessments a final mark will be calculated. This final mark is based on the following weighting.

Performance - 40%

Analysis of performance -60%