



DOLLAR ACADEMY

FORM VI COURSE CHOICE INFORMATION

SESSION 2021/2022

*Form VI pupils are advised to consult the Form V booklet for other (Higher) Courses open to them. A booklet outlining modules on offer by departments will be made available in the Summer Term once staffing availability is known.

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This page should be read as a continuation of the introduction in the Form V booklet.

ADVANCED HIGHER COURSES

Nearly all pupils at Dollar Academy achieve good National 5 passes in Form IV and progress to Higher Courses in Form V, usually taking five Highers. Progress into Form VI allows both for deepening the curriculum by studying Form V subjects at Advanced Higher and for broadening the curriculum by taking new subjects.

Advanced Higher is the SQA level above Higher. The assessment procedures are similar to those of the Highers.

UNIVERSITY ENTRANCE

For university entrance, Advanced Higher and A-level are broadly equivalent.

SCOTTISH BACCALAUREATES

What is the Baccalaureate?

The SQA Scottish Baccalaureate is a qualification that builds upon the AH Courses that a Form VI pupil is taking and a H Course, usually taken in Form V. In addition to this the pupil must undertake an Interdisciplinary Project (IP). The IP is equivalent to half an AH and is skills based. It provides the opportunity for pupils to initiate, drive forward and conclude a research project of their own choosing.

To be awarded a Baccalaureate, passes are required in eligible Courses and, in addition, the completion of an Interdisciplinary Project. The Scottish Baccalaureate is awarded at Pass and Distinction. A Distinction requires a grade A in one eligible AH Course, one other grade A in any other component (AH, H or IP) and at least a grade B in all other components. A Pass will be awarded to those who achieve at least a grade C in all mandatory components and who do not meet the criteria for Distinction.

The Scottish Baccalaureate developed from a collaboration between Universities and the SQA, as Universities are keen to see improved independent learning skills in new undergraduates.

ENGLISH - ADVANCED HIGHER

ENTRY REQUIREMENT – Higher C

The subject is by its very nature inclusive and various, promoting individuality. This is as true of the literary tastes and interests of the different teachers in the department as it is of the range of pupils in the Form VI classroom. Many pupils go on to study the subject at university; all benefit from the high-level thinking skills required by the discipline. It is an excellent foundation for those considering careers in law, politics, languages, journalism, teaching and the media.

Certainly the subject appeals to those who love reading and want to be challenged by literature in its different forms. It also appeals to those who are keen to develop their creative and analytical skills, and who want to know more about how language is central to the working of the human mind and to our understanding of experience. The course significantly extends Higher work, but teaching sets are generally smaller and taught by several teachers. Classes are closer in form to the University seminar, with pupils benefiting from each other's ideas, able to argue a position persuasively, and to disagree thoughtfully. At all times we aim to deepen pupils' literary and critical awareness.

The teaching of **Literature** is central to the course and pupils are expected to read widely. The Literary Study paper requires the study of two Shakespeare plays. Wherever possible, we also offer a theatre trip to London and visit to The Globe to support our study.

Textual Analysis is a fundamental discipline and is given significant emphasis on the course, testing the ability to comment on the content and style of kinds of writing that may not have been encountered before. Pupils are taught to argue from the text, and so develop a more sophisticated sense of the relationship between reader and writer, and an understanding of the complexities of language, of its power to conceal as well as to reveal meaning.

Creative Writing is a third compulsory component. There is much room for experimentation here – in poetry, drama and prose, whether fictional or reflective – with a folio of polished work being produced in the spring. Many pieces go on to be published in *Fortunas*.

Finally the **Specialist Study** involves a new approach to learning, and the eventual production of a dissertation of up to 3,500 words. This kind of independent, self-disciplined activity is an invaluable preparation for the rigours of most university courses. Libraries are very important, and the tutor assigned to each pupil acts as an important resource for consultation and advice.

DRAMA –ADVANCED HIGHER

COURSE STRUCTURE

60% of the course is based on Practical skills- Acting, Directing or Design. Most pupils choose acting where they are required to perform a monologue and to present an interactive piece of Drama in front of an external examiner.

40% is a dissertation on an aspect of Drama

This is a Course which builds on expertise and skills learned during the Higher Drama Course. It intensifies the demands on the pupil in terms of self-discipline and self-study. The focus is on dealing with the major figures in European Theatre of the last hundred years.

Devised Drama: Pupils devise their own presentation based on a theme. Research for material and knowledge of various theatre forms and traditions are necessary. Some or all of the presentation is performed.

Twentieth Century Theatre: Theories of Performance: Pupils have to study two Theatre Practitioners from a list which includes: Brecht, Stanislavsky, Boal, Grotowski, Brook, Craig, Artaud et al. Their study will include analysis of a current production and the way it is influenced by the chosen practitioners.

Performance: Pupils study and devise performance ideas for a chosen set text. They will act an extract from their chosen text after discussion and planning with regard to their chosen performance concepts. They will also perform a monologue in a contrasting role.

Theatre visits will be an integral part of the Course, as Theories of Performance have to be observed in practice in theatre, and then discussed and analysed.

LATIN - ADVANCED HIGHER

Entry Requirement - Higher B

Mandatory Units

- Translating
- Literary Appreciation
- Project

Advanced Higher Latin is an interesting, wide-ranging and rewarding Course, as enjoyable as it is challenging. It allows pupils to develop further the sound language skills they have acquired at Higher, while studying the literary and cultural achievements of one of the greatest of all civilisations.

The Literary Appreciation Unit of the Course traces the development of love elegy, from its infancy with Catullus, through its variety of forms in the work of Tibullus, Propertius and Horace, to its eventual maturity in Ovid's subversive, witty, unforgettable *Amores*.

A range of other authors, writers of both verse and prose, are studied in preparation for the Translating Unit. This Unit provides learners with the opportunity to develop and extend the advanced language skills needed for accurate translation of complex unseen Latin verse and prose texts into English. Access to a comprehensive wordlist is permitted for Unit and Course assessment.

In the Project unit, pupils will produce a dissertation on an aspect of Latin language, literature or the Roman world, chosen by the learners as appropriate to their interests. Past topics have included the role of Cleopatra in the politics of the late Republic, and Roman beliefs in the afterlife. This final course element allows pupils to develop the kind of confidence in researching, selecting, evaluating and presenting evidence which is vital at university level.

Advanced Higher Latin provides opportunities to apply skills in practical and relevant contexts, and to appreciate more the legacy and influence of Roman civilisation on contemporary Scotland and the rest of the world in areas such as medicine, law, horticulture, drama, politics and the arts. The skills acquired by Classicists are valued highly by employers in all fields.

CLASSICAL STUDIES - ADVANCED HIGHER

Entry Requirement – Higher C in any social subject

COURSE STRUCTURE

Mandatory Units

- Social Aspects of the Classical World
- Researching Classical Studies Issues

Pupils who take Advanced Higher Classical Studies invariably look back on it as one of the most rewarding Courses they have ever studied. In particular, they regard this in-depth and academic study of the classical world as excellent training for university. The Course treats Form VI pupils like adults. It makes demands of them, but it develops exactly the sort of skills they need for success in higher education. It is also fun.

The course concentrates on the theme of 'Heroes and Heroism' in Greek and Roman Literature. Pupils study Homer's Iliad and Odyssey, Virgil's Aeneid, Euripides Trojan Women and Ovid's Heroides. Pupils explore the society within which the literature is set to gain an understanding of the key cultural concepts that have influenced the authors, their characters and themes. The course focuses on heroes and anti-heroes, the changing nature of heroism, morality and the hero, the hero and women and heroes as role models. Overarching this is also the perception of heroism in the ancient world and how this differs from modern ideals.

In addition to the final exam, pupils have the opportunity to research and write a dissertation on an aspect of the Greco-Roman World of their own choice. Again, this has proved to be excellent practice for university assessments. No previous experience of the subject is necessary: we find that pupils new to Classical Studies do very well indeed.

This depth of understanding of the continued significance and impact of the classical world, along with high-level skills in source analysis and synthesising information, is part of the Course's contribution to learners' skills and knowledge. The skills acquired by Classicists are valued highly by employers in all fields.

MODERN LANGUAGES – ADVANCED HIGHER FRENCH, GERMAN, MANDARIN and SPANISH

Entry Requirement - Higher C

COURSE STRUCTURE

The Course consists of language study, building on the fluency and knowledge pupils have acquired in previous years. An additional element is the study of life and culture of the country /countries where the language is spoken. In many cases, this will mean reading and researching a work of literature in the foreign language, although other aspects of culture and background (music, film, art, history, geography, current affairs) are alternatives.

The four skills of Listening, Reading, Speaking and Writing are assessed both internally and externally according to the following scheme.

Internal: Over the course of the year, pupils complete a series of tests comprising: A Reading Comprehension; a Listening Comprehension; a piece of discursive writing; and a Speaking Assessment based on chosen, topical themes.

External: The final exam in May/June will follow a similar pattern. It will consist of: a Reading Comprehension; a Listening Comprehension; an essay; and a Speaking Exam conducted by a visiting assessor. In addition, the pupils' Portfolio will count towards the final Course award: this consists of a report on one aspect of the literature/background selected for the Personal Study.

The course work is a step-up from Higher towards the kind of work expected at University level. As much of the class work as possible will be conducted in the modern language, and regular individual timetabled sessions with the Assistant will develop oral proficiency. The themes to be studied will be supported through work on written texts and recorded material, with follow-up in the form of written and spoken work in the modern language. In the Higher course emphasis was on familiar topics relating to pupils' own personal circumstances - family life, school life etc. Advanced Higher aims to equip pupils to appreciate and take part in debate and discussion of more general significance across a range of topics. The course enables pupils to expand their command of the language to the point where they can form and express rational opinions on issues considered relevant to educated young citizens of today's society.

For Beginners' Spanish, Italian and Mandarin modules, please see Form VI Modules booklet.

SPANISH – NATIONAL 5 BEGINNERS' SET

Entry Requirement - none

This course is intended for Form V or VI pupils 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, most pupils go beyond this, gaining in almost all cases a very creditable Higher Grade. This is particularly true of Form VI pupils who have already taken Higher in another language and are familiar with the requirements of the course.

ECONOMICS – ADVANCED HIGHER

Entry Requirement: A minimum grade high 'B' at Higher Economics or at the discretion of the Head of Department; it is **not possible** to take this course without having studied Higher Economics since the course relies on the higher syllabus.

COURSE STRUCTURE

Economic Markets: Structures and Intervention (40 hours)

National & Global Economic Issues (40 hours)

Researching an Economic Issue (40 hours)

The Advanced Higher in Economics is concerned with the application of economic concepts to the ways in which choices about the use of resources are made. It concentrates particularly on the analysis and evaluation of current economic issues and the implications which these have for individuals, organisations and society as whole. It develops skills in interpreting, analysing and evaluating the processes of economic change and development in contemporary society. The Course will enable pupils to appreciate that economic problems can be considered from a number of different perspectives. Hence, at this level, pupils are encouraged to think independently and to take greater responsibility for their own learning.

There are three main parts to the course. Firstly, Economic Markets: Structure & Intervention ("Theory of the Firm"), which is an extension of the work started in Higher, where we look at monopoly, oligopoly, perfect competition, monopolistic competition, and newer theories such as contestable markets. We also investigate market failure and externalities further. Secondly, current economic issues are studied in depth. This changes each year. Thirdly, a 4,400 word project, on a current economic topic of your choice, which is worth 30% of the final course award.

The study of Economics at Advanced Higher level will provide a strong foundation for those wishing to undertake further study in Economics. It will also be beneficial to those intending to progress into courses in areas such as business, finance, social studies and management, and into professional qualifications in law, accountancy, dentistry, GP etc. It will also be of benefit for anyone contemplating a career in central or local government, commerce or industry.

In lessons we use a wide variety of teaching methods, including pupil presentations, play the radio game 'Just a Minute' and "Have I Got News for You." The three distinct parts of this course are taught in very different ways. Economic Markets is taught mainly via teacher led presentations and videos, National & Global Economic Issues is via the discussion of articles from the media and Researching an Economic Issue is completed by the pupil, with guidance from the teacher.

ENVIRONMENTAL SCIENCE - HIGHER

Entry Requirement – Higher Geography and/or Higher Biology or at the discretion of the Head of Department.

The Higher Environmental Science Course develops learners' interest and enthusiasm for environmental science in a range of contexts, as well as their investigative and experimental skills. The Course provides a broad and up-to-date selection of ideas relevant to the central position of environmental science in society, as learners investigate key areas of the living environment such as biodiversity and interdependence, in addition to controversial issues such as fracking and climate change.

COURSE STRUCTURE

This course helps develop skills of scientific inquiry, investigation and analytical thinking in the context of environmental studies. Learners will research issues and communicate information related to their findings, which will develop skills of scientific literacy.

Unit 1: Living Environment

Learners develop knowledge and understanding of the living environment, focusing on the topics of; investigating ecosystems and biodiversity, interdependence, and human influences on biodiversity.

Unit 2: Earth's Resources

Learners develop knowledge and understanding of the Earth's resources, focusing on the topics of the Earth's systems and their interactions, the geosphere, the hydrosphere, the biosphere, and the atmosphere.

Unit 3: Sustainability

Learners develop knowledge and understanding on the environmental, economic and social components of sustainability, and the relationship between them. The topics focus on the sustainability of food, water, energy, waste management, and anthropogenic climate change in the context of developed and developing world countries.

External Assessment

This consists of two papers:

- Paper 1: problem solving using sources to make a decision based on an environmental issue (20 marks).
- Paper 2: short response questions (100 marks).

Assignment

The Assignment is a fieldwork investigation into a relevant topic covered in environmental science, with a particular focus on its impact on the environment/society. This will allow learners to gain a deeper understanding of an environmental topic they are interested in and apply practical skills to complete this investigation.

Elements of the Environmental Science course are linked to topics traditionally studied in Geography and Biology and pupils who have a background in these subjects may find studying this course beneficial. Environmental Science can be used as a broadening subject for the Scottish Baccalaureate in Science and is an excellent companion course to Higher Geography, Higher Biology or Advanced Higher Geography.

HISTORY – ADVANCED HIGHER

Entry Requirement - Higher C

The general aim is to proceed further with the study of History and so develop at greater depth the abilities and skills associated with it. These include the ability to:

- a) evaluate the opinions of secondary authorities who hold differing historical views;
- b) interpret source material;
- c) carry out an intensive study within a limited field, placing this field within its wider historical context.

There are eleven possible fields of study and, while the Department would wish to offer all possibilities, in recent years one in particular has proved to be most popular and profitable in terms of interest and availability of source material.

Russia: from Tsarism to Stalinism, 1914-1945, Field of Study 9, covers the transformation of Russia from a backward autocracy to a modern, Communist-governed, superpower. After an initial introduction to pre-Revolutionary Russia and to the ideas of Karl Marx, pupils concentrate on specific topics

- War and the breakdown of Russian society, 1914 to January 1917
- The February Revolution
- The Provisional Government and the October Revolution
- The international context 1917–24
- The Civil War
- The Soviet state from War Communism to New Economic Policy, 1918–24
- Stalin's struggle for power
- Industrialisation and collectivisation
- The political and social development of the Stalinist state
- The Great Patriotic War

Seminar essay papers are prepared by pupils on topics such as the nature of the February Revolution, the role of Lenin and the October Revolution, the Russian Civil War, the Leadership Struggle, the Nature of the Stalinist State, the Road to Terror and the Stalinist Purges, and the explanation for Soviet victory in the Great Patriotic War.

Attitudes and responses to central issues are considered in seminar papers, essay work and source analysis.

Assessment

This consists of a Dissertation (maximum 4000 words) and a written paper of 3 hours duration which will require the pupil to write 2 essays from across the chosen field of study and a further three source based questions on four primary and secondary sources. Each of the three elements – Dissertation, Essays and Source Work – has equal weighting.

MODERN STUDIES – ADVANCED HIGHER

Entry Requirement - Higher C

COURSE STRUCTURE

Social Issues and Research Methods : Law and Order

Advanced Higher Modern Studies aims to develop further the knowledge and understanding of the processes and skills acquired at Higher. The Course is concerned with the detailed study of selected aspects of contemporary society. It is structured to ease the transition from school to university education by developing new skills such as note-taking, tutorial participation and presentations. Pupils will also increase their understanding of social research methods.

In this study we consider a range of complex social issues in the United Kingdom (including Scotland). Throughout the study, an international comparative approach should be adopted.

Pupils will study in depth the theme of Law and Order. In particular, this will cover:

A. Understanding the criminal justice system

- ◆ Individual human rights and liberty in relation to criminal justice
- ◆ Judicial framework
- ◆ Current criminal justice issues

B. Understanding criminal behaviour

- ◆ The nature and extent of criminal behaviour
- ◆ Evaluation of theories of criminal behaviour
- ◆ The social and economic effects of criminal behaviour

This therefore considers the causes and effects of crime and the relationship between crime and factors such as social class, poverty, gender, ethnicity.

C. Responses by society to crime

- ◆ Theories and explanations of responses to crime
- ◆ Current responses to crime
- ◆ Evaluation of responses to crime

This might be expected to include the role of the police and the policies of the political parties towards law and order and the effectiveness of the penal system and comparisons with alternative systems abroad.

D. Research Methods

- ◆ Research methodology and related moral and ethical issues

Pupils will benefit from visiting speakers such as Prison Governors, and from study visits to prisons such as Barlinnie, Cornton Vale, Kilmarnock, Castle Huntly and Polmont

ASSESSMENT

The examination consists of a dissertation (maximum 5000) and a written paper of 3 hours duration which will require the pupil to write 2 essays and to answer questions on research methods. The dissertation is worth one-third of the final mark and will be based on the theme of Law and Order.

MATHEMATICS – ADVANCED HIGHER

Entry Requirement - Higher B (strongly advised)

There are three distinct qualifications available at this level:-

- AH Mathematics
- AH Mathematics of Mechanics
- AH Statistics

The skills in each of these Courses can be broken down into three units and the programmes on offer are as follows:

AH Mathematics

Methods in Algebra and Calculus

Develops advanced knowledge and skills in algebra and calculus that can be used in practical and abstract situations to manage information in mathematical form. The skills covered are 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.

Applications of Algebra and Calculus

Develops 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 skills covered include 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.

Geometry, Proof and Systems of Equations

Develops 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 skills covered are matrices, vectors, solving systems of equations, the geometry of complex numbers, as well as processes of rigorous proof.

AH Mathematics of MECHANICS

Linear and Parabolic Motion:

Newton's laws, relative velocity, projectiles, forces.

Force, Energy and Periodic Motion:

Motion in a circle, simple harmonic motion, centres of mass.

Mathematical Techniques for Mechanics:

A unit made up from a variety of topics from AH Mathematics.

AH STATISTICS

Data Analysis and Modelling:

Applying skills to data collection, presentation and interpretation, probability theory including Bayes' Theorem, discrete random variables and probability distributions.

Statistical Inference: Applying skills to sampling, the Central Limit Theorem, confidence intervals and bivariate analysis.

Hypothesis Testing:

Applying skills to parametric, non-parametric and bivariate tests.

All of the Courses summarised above offer an interesting, relevant development of the subject and can be recommended to those intent on a wide variety of future studies. Typically, prospective mathematicians, physicists and engineers would follow the AH Mathematics course, together with, in some cases, the AH Mathematics of Mechanics option. Those wishing to study medicine, biology, economics and a wide range of other fields will benefit greatly from the AH Statistics course.

The courses provide a full range of mathematical alternatives and provide sensible, useful courses for a wide range of individuals. Pupils who are uncertain as to which courses are best suited to their needs should seek advice from the Mathematics Department.

MATHEMATICS – HIGHER (Form VI)

A number of pupils sit Higher Mathematics at the end of Form VI. Some of these may have achieved National 5 in Form V, some will have followed the Higher course in Form V and others will not have studied the subject in Form V at all, but will have achieved a strong result at National 5 in Form IV. Form VI pupils join Form V sets and the exact allocation to classes will be at the discretion and judgement of the department.

BIOLOGY – ADVANCED HIGHER

Entry Requirement - Higher / Higher Human Biology B

The purpose of the Course is to build on the knowledge, understanding and skills developed by the learner in Higher Biology and Higher Human Biology, and to provide a useful bridge towards further study of biology.

The Advanced Higher Biology Course is based on integrative ideas and unifying principles of modern biological science. It covers key aspects of life science 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 Advanced Higher Biology Course aims to develop a sound theoretical understanding and practical experience of experimental investigative work in biological science.

The course is structured around 3 Units:

Cells and Proteins
Environmental Biology
Investigative Biology

The course involves a practical investigation which will be carried out during a four day stay at Millport Field centre on the Isle of Cumbrae in September. The trip to Cumbrae is subsidised by the department but there is still a charge for this trip.

PHYSICS – ADVANCED HIGHER

Entry Requirement - Higher B (advised)

COURSE STRUCTURE:

Rotational Motion
Astrophysics
Quanta and Waves
Electromagnetism
Investigating Physics

The Advanced Higher course has been designed to articulate with and provide a progression from the Higher Physics course. Study of Advanced Higher Physics fosters an interest in current developments and provides learning experiences through acquisition of knowledge, skills and attitudes within a modern society increasingly dependent on Science and Technology.

The AH course is assessed by an external SQA examination at the end of the course. The Investigating Physics Unit, which accounts for 25% of the final grade, gives an excellent opportunity for in-depth study in a particular area of the subject and helps develop skills of self-reliance, open-mindedness and willingness to recognise alternative points of view. The initial practical is carried out at Heriot Watt University's undergraduate Physics labs with further lab work in Dollar's Form VI Physics laboratory.

The course is ideally suited to pupils interested in Physics, Engineering, Computing, Architecture, Medicine and Science in its broadest sense.

CHEMISTRY – ADVANCED HIGHER

Entry Requirement - Higher – grade B (strongly advised)

COURSE STRUCTURE*Inorganic and Physical Chemistry*

- Electromagnetic radiation and atomic spectra
- Atomic orbitals and electronic configurations
- Shapes of molecules and polyatomic ions
- Transition metals
- Chemical equilibrium
- Reaction feasibility
- Kinetics

Organic Chemistry and Instrumental Analysis

- Molecular orbitals
- Molecular structure and stereochemistry
- Synthesis
- Molecules and colour
- Experimental determination of structure
- Drug interactions

Researching Chemistry

This practical unit develops key experimental skills by studying and carrying out different practical techniques and procedures and using some of them through the completion of a practical Project, which is externally assessed and is worth 20% of the pupils' final mark.

The study of chemistry at Advanced Higher level builds on Higher Chemistry to further develop the underlying theories of chemistry and the practical skills used in the chemical laboratory. The course is particularly suitable for pupils who wish to progress to degree courses either in chemistry or in subjects of which chemistry is a major component such as medicine, dentistry, chemical engineering, and the environmental, health and bio-sciences.

The course also aims to equip all pupils with the knowledge and skills to be able to reflect critically on scientific reports and media reports concerning chemistry and to make their own reasoned judgements on many issues within a modern society increasingly dependent on chemistry, science and technology.

COMPUTING SCIENCE – ADVANCED HIGHER

OVERVIEW

The Advanced Higher Computing Science course provides a broad and challenging exploration of computing technologies, focusing on developing advanced programming and research skills. Pupils learn to apply a rigorous approach to the design and development process. The course builds on the understanding and practical skills developed at Higher and provides a useful bridge towards further study of computing or computing related courses in higher education. This bridge is achieved by consolidating and extending learning, and the provision of opportunities for independent and investigative work, while encouraging teamwork. Integration of technologies is central to the course.

ENTRY REQUIREMENT – Higher B

COURSE STRUCTURE

The course consists of four areas of study (*Software design and development, Database design and development, Web design and development, and Computer Systems*) and the pupils develop knowledge, understanding, and advanced practical problem-solving skills in each of these areas. They do this through a range of practical and investigative tasks such as:

- Analysing, designing, implementing and testing object-oriented programs in Python.
- Using SQL to create and query relational databases.
- Building on the HTML and Cascading Style Sheets (CSS) skills learned at Higher.
- Writing PHP scripts.
- Converting hexadecimal numbers to binary/denary and vice-versa.

ASSESSMENT

The Course assessment consists of two components: a significant project and a final question paper (both 50% of the total marks). The project must be based on one of the practical sections of the course and must integrate with one of the other two practical sections.

PROGRESSION

Progression pathways from this course are wide, from direct entry to further study in areas such as software programming/engineering, databases, robotics, artificial intelligence, e-commerce, social networking and web design and development, to technical roles in networking, security, systems analysis and testing, and a wealth of others. Critically, many business and industry employers value computing skills as vital to their growth and sustainability, while a growing number of individuals use computing technologies as a way to create entrepreneurial, social and enterprise-building opportunities.

ENGINEERING SCIENCE – ADVANCED HIGHER

Engineering is vital to everyday life – socially, technologically and economically; it shapes the world in which we live and its future. Engineers play key roles in meeting the needs of society today and for the future, in fields as diverse as climate change, medicine, IT, aeronautics, the oil and chemical industries, infrastructure projects, transport and many more.

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. Pupils will deepen their understanding of core engineering disciplines – mechanisms, structures, control – but also have opportunities to choose and explore other areas of engineering, for example renewables technology, aeronautics or civil engineering. Because of its focus on developing transferable skills, it will be of value to many pupils, and particularly beneficial to pupils considering a career or further study in any branch 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 through independent learning
- ◆ understand and apply the relationships between engineering, mathematics and science
- ◆ develop skills in investigation and research in an engineering context
- ◆ analyse, design, construct and evaluate creative solutions to complex engineering problems
- ◆ communicate advanced engineering concepts clearly and concisely, using appropriate terminology
- ◆ develop an informed understanding of the role and impact of engineering in changing and influencing our environment and society, including ethical implications

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

Unit 1: Electronics and Control (Advanced Higher)

This Unit explores a range of key concepts and devices related to electronic control systems. Mathematical techniques, and skills in problem solving and evaluating, are developed through simulation and practical projects. Pupils will choose and investigate an aspect of engineering related to electronic, electrical or control engineering, and apply this in practical situations.

Unit 2: Mechanisms and Structures (Advanced Higher)

This Unit develops a deepening mathematical 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. Pupils will choose and investigate an aspect of engineering related to mechanical or civil engineering, and apply this in practical situations.

Unit 3: Engineering Project Management (Advanced Higher)

In this Unit, pupils will develop knowledge and skills of project management as it applies to an engineering project. Pupils will investigate an industrial engineering project, and consider its environmental, social and ethical impact. Pupils will develop a project brief, carry out research in relation to the brief, and develop a design to meet the brief. The design may be carried forward, implemented and evaluated as part of the Course assessment.

PRODUCT DESIGN – A Level

Entry requirement: B at Higher in Design and Manufacture or at the discretion of the Head of Department.

Imaginative practical work is at the heart of A level Product Design. Following on from Higher Design and Manufacture, pupils will develop intellectual curiosity about the design and manufacture of products. You will explore, design, create and evaluate innovative solutions in response to realistic design contexts through which you will demonstrate your knowledge and understanding of the core technical, designing and making principles for product design.

ASSESSMENT

- 50% exam
- 50% non-exam assessment (NEA)

AIMS OF THE COURSE

Through studying this course, pupils will be encouraged to take design risks, showing innovation and enterprise whilst considering their role as responsible designers. They will gain an insight into the creative, engineering and/or manufacturing industries whilst developing knowledge and experience of real-world contexts for design and technological activity. Pupils will be able to develop their abilities to make informed design decisions through an in-depth understanding of the management and development of taking a design through to a prototype/product. This builds upon the develop an in-depth knowledge and understanding of materials, components and processes associated with the creation of products that has been built up through the years of prior study of Design and Manufacture.

STRUCTURE OF THE COURSE

There are two broad subject areas that are covered in this course:

1. Technical principles
2. Designing and making principles

The Technical Principles unit develops the knowledge gained at Higher as pupils learn to provide detailed and justified explanations of why specific materials and combinations of materials are suitable for given applications with reference to:

- physical and mechanical properties (working characteristics)
- product function
- aesthetics
- cost
- manufacture and disposal.

The Designing and Making Principles unit ensures that pupils can explain, different approaches to user centred design. Pupils will appreciate that in approaching a design challenge there is not a single process, but that good design always addresses many issues, including:

- designing to meet needs, wants or values
- investigations to inform the use of primary and secondary data:
 - market research
 - interviews
 - human factors
 - focus groups
 - product analysis and evaluation
 - the use of anthropometric data and percentiles
 - the use of ergonomic data
- the development of a design proposal
- the planning and manufacture of a prototype solution
- the evaluation of a prototype solution to inform further development.

This course dovetails extremely well with the Higher Design and Manufacture course and is an ideal choice for a pupil considering a design or engineering based career.

ACCOUNTING – ADVANCED HIGHER

Entry Requirement – a minimum of a high 'B' at Higher or at the discretion of the Head of Department.

COURSE STRUCTURE

Financial Accounting

- Regulatory Framework
- Annual Reports
- Published Financial Statements of Public Limited Companies
- Notes to the accounts
- Consolidated Statement of Financial Positions
- Cash Flow Statements (as current FRS1)
- Partnership Accounts
- Financial Accounting Regulations
- Corporate Social Responsibility

Management Accounting

- Classification of Costs
- Elements of Cost – materials, labour, overheads
- Activity Based costing
- Standard costing and Variance Analysis
- Flexible Budgets
- Contract Costing
- Marginal and Absorption Costing
- Investment Appraisal
- Information Technology and Accounting
- Use of Spreadsheets

The external course assessment is a question paper which takes 2.5 hours and is out of 140 marks. There will also be a project worth 60 marks which should be worked on independently. The purpose of this project is to allow learners to demonstrate challenge and application. The project will provide learners with an opportunity to investigate and report on a contemporary accounting issue of a UK-based public limited company, and the disclosure of accounting information related to the issue, using knowledge of the accounting regulatory framework. The project will also require learners to demonstrate skills of research, analysis, report writing and application of knowledge and understanding.

The study of Accounting at Advanced Higher provides pupils with a basis for further study of accountancy, law or other business-related subjects at degree level at university. This qualification may also be used to enter the world of work for a wide variety of business occupations or they can undertake on-the-job accountancy training.

BUSINESS MANAGEMENT – ADVANCED HIGHER

Entry Requirement: A minimum grade ‘B’ at Higher Business Management
or at the discretion of the Head of Department. A strong pass in Higher English is desirable.

COURSE STRUCTURE

- The External Business Environment
- The Internal Business Environment
- Evaluating Business Information
- Project (33% of Course Award)

The course assumes a strong understanding of the Higher syllabus and revisits little of the topics directly. The external business environment unit is themed with global business; the focus is primarily on multinational trade and activity. The impact of transfer pricing, European Union (EU) and the Association of Southeast Asian Nations (ASEAN) membership, UK legislation, foreign direct investment (FDI) methods and operational technologies are explored in depth.

The internal business environment unit focuses on the academic analysis of management practice by examining the theorists eg Fayol, Mintzberg, Ford, Taylor etc. in order to evaluate management decisions made by multinational organisations today. The causes of change and the ways in which organisations can manage it effectively is also explored.

The evaluating business information unit requires pupils to examine plc annual accounts, compare financial reports between firms and evaluate the use of project management tools such as Gantt charts and key performance measures (KPMs).

The project is a 3,500 report which is externally marked and is worth one third of the overall award. It gives pupils the opportunity to investigate an organisation of their choice where they must carry out research to analyse a specific topic area related to the course.

NB. Pupils are required to be confident at handling and analysing literature and must do a significant amount of reading both in class and in their own time to cope with the demands of this course. The examination contains an extensive, unseen case study of which half of the examination questions are directly related.

ART and DESIGN – ADVANCED HIGHER

Entry Requirement - None

Pupils in Form VI may choose to study Art for different reasons: some opt for a Higher, others want to extend their interests by taking Advanced Higher Art but may also wish to build a folio for Art College.

ART and DESIGN – Advanced Higher

The new Advanced Higher Course offers pupils of all abilities the opportunity to extend their interest in the subject by creating a theme-based visual project. The pupil may choose either Expressive or Design for a major 80 hour Unit and Art and Design Studies, Design or Expressive for a 40 hour Unit. A unit requires a folio of just 10 works but may be produced up to 15.

ART and DESIGN – Art College Folio

It is recommended that those pupils who are considering an Art and Design based career such as Architecture, Product Design, Graphic Design or Fine Art , should opt for a double 10 hour Advanced Higher of both Design and Expressive. This will give the application a greater diversity and volume.

MUSIC – ADVANCED HIGHER

At Advanced level Music is a very demanding course designed to extend student's knowledge and skills beyond Higher. In the course learners will plan, organise and take responsibility for managing their learning. They will apply their critical thinking skills when reflecting on their performing skills and their own music compositions. They will review and refine their music performances and compositions.

Added value is assessed as follows:

Listening Question Paper 40 marks.
Pupils are required to identify sophisticated stylistic and compositional features relating to melody, harmony, rhythm, structure, timbre, genre, and form.

AND

Performance 60 marks (20 minute programme)
Instrument 1 - Solo and/or group performance and
Instrument 2 - Solo and/or group performance

OR

Portfolio 60 marks (12 minutes of original music)
Pupils create original music and assessment will involve both the process and products of learning. The pieces that make up the portfolio may be produced in a variety of ways and this may include using music technology.

All learners will demonstrate in-depth knowledge and understanding of music, music concepts and musical literacy developed across the units and the course.

If pupils do not wish to take the full course there are options to take individual units. The most popular of these is the Free-standing Unit on One Instrument or Voice.

MUSIC TECHNOLOGY – ADVANCED HIGHER

The course is designed for candidates with an interest and experience in music technology and its use throughout the 20th and 21st centuries. It also provides a pathway for those who want to progress to more specialised training and/or further education. It is practical and experiential in nature, and can be contextualised to suit a diverse range of candidate needs, interests, and aspirations.

The course has two areas of study:

- Sound recording and the creative industries
- Music technology skills

There is no external exam but there are two large pieces of coursework assessed by the SQA

1. Research Project – 30%
2. Production Project – 70%

ADMINISTRATION AND IT - HIGHER

COURSE STRUCTURE - The course has 3 mandatory units:

Administrative Theory and Practice covers the knowledge and understanding which underpins the role of information management, including knowledge of administrative tasks, performance and event management.

- Management of teams
- Leadership theories
- Time and task management
- Modern working practices
- Health and safety legislation
- Employment contracts
- Planning and conducting meetings
- Customer services

IT Solutions for Administrators concentrates on the use of business information technology, underpinned by numeracy and data handling, to solve complex problems.

- Advanced spreadsheets and formulae
- Relational databases and calculations
- Creation and formatting of business documents using a word processor

Communication in Administrators concentrates on the use of information technology to convey and present complex information.

- Internet technologies
- E-diary and e-mail management
- Presentation and desk-top publishing software

Administration and 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.

PHOTOGRAPHY - HIGHER

Entry Requirement - None

This highly creative new Course offers skills in all areas of photography and digital imaging. The pupil is asked to complete a project which involves Investigation of a Photographic topic, Development and Consideration of creative ideas and the production of a group of work.

Pupils must show evidence of knowledge of:

- lighting, composition and contrast;
- developing and printing;
- digital processing;
- movement, multiple exposure and photo montage.

The Course will enable pupils to compile a folio of work including trial pieces, technical samples and final outcomes.

Pupils will also learn to discuss their work and develop a critical judgement and appreciation of the works of famous photographers.

POLITICS – HIGHER

COURSE STRUCTURE

Political Structures (40 hours)

Political Representation (40 marks)

Political Theory (40 marks)

Politics is the study of power. Higher Politics follows the classic model of academic political science.

The Political Structures unit is a comparison between the functions of institutions in the most influential democracies in the world, the UK and the USA. The pupil compares President to Prime Minister, Congress to Parliament. They learn how the parts of a system relate to one another and where power is located. Does the US President dominate Congress or is it vice versa? Is the Supreme Court of the UK as powerful as that of the USA?

The Political Theory unit is about the philosophy of power. Who should have it? How should it be used? Pupils study Conservatism, Liberalism and Socialism, drawing on the great thinkers of each tradition - Marx, Mill and Burke - and theorists of the state, authority and legitimacy.

The Political Representation unit is about elections. Different systems are compared. Theories of voting behaviour are tested against case studies of recent elections. Do we vote based on class or are we swayed by the media? Do many people identify with political parties or do they make a rational choice at each election?

Higher Politics develops skills essential for future academic study. Pupils are required to test theories against evidence and to write structured, analytical essays under examination conditions. They analyse contemporary sources and draw reasoned conclusions. Above all, they engage with the world of Politics, deepening their understanding of the ideas and processes that will affect them throughout their lives.

PHYSICAL EDUCATION – ADVANCED HIGHER

Course Structure:

The Advanced Higher Physical Education course is split into 2 components:

Component 1: Performance

This section is worth 30 marks (30% of the total marks available).

The performance will take the form of a single, high-level performance requiring the pupil to demonstrate consistently complex movement and performance skills, with a high-level of fluency and control.

Component 2: Project

The project is worth 70 marks (70% of the total marks available).

The project is designed to assess pupils' research and investigation skills, as well as their ability to apply their knowledge and understanding to performance development. This research could be into a topic which impacts either on the pupil's performance, or the performance of another person, team or group.

The project will give pupils the opportunity to demonstrate the following:

- demonstrating independent research and investigation skills.
- investigating how factor(s) impact on performance.
- understanding and applying methods to develop performance.
- analysing and evaluating the process of performance development.

SCOTTISH BACCALAUREATE – SCIENCE

Entry Requirement

To be considered for the Science Baccalaureate a pupil should be taking, or have taken, two Advanced Highers and one Higher from the prescribed list. One of these subjects must be Maths or Applied Maths. The pupil must undertake an Interdisciplinary Project.

Eligible Courses offered at Dollar Academy are:

Mandatory Component

Mathematics / Applied Mathematics

Core Option (at least one course **MUST** be chosen)

Biology
Chemistry
Human Biology
Physics

Broadening Option (only one course may be chosen)

Computing
Graphic Communication
Environmental Science
Design and Manufacture
Engineering Science
Geography

What is the aim of the Interdisciplinary Project?

The broad aims of the Interdisciplinary Project are to develop the pupil's skills and abilities as an independent learner whilst researching a science-based project. As part of the Project, pupils will be encouraged to link with different departments within the Academy and to link with appropriate external providers, thus developing skills of value both at University and in the workplace.

Who chooses the Project?

The Interdisciplinary Project gives the opportunity to research a project of the pupil's own choosing – providing that it meets the requirements of the SQA. This provides the opportunity to explore an aspect of science within the context of the real-world. It has the potential to be a flexible Project, driven by the pupil who undertakes the planning, research and presentation of the work.

How is it assessed?

The Interdisciplinary Project is assessed by teachers at the Academy.

What grades are awarded?

The grade awarded for the Baccalaureate will depend upon the grades that achieved in the eligible AH and H subjects, plus the grade achieved for the Interdisciplinary Project. The Baccalaureate will be graded Pass or Distinction.

SCOTTISH BACCALAUREATE – LANGUAGES

These languages may be Classical or Modern or a mixture

Entry Requirement

To be considered for the Language Baccalaureate a pupil should be taking, or have taken, three language courses, two of which must be at Advanced Higher level. One of these courses must be English. The pupil must also undertake an Interdisciplinary Project.

Eligible specialist Language Courses taught at Dollar are:

Mandatory Component

English

Core Option (two courses MUST be chosen)

Latin
Greek
French
German
Italian
Russian
Spanish

What is the aim of the Interdisciplinary Project?

The broad aims of the Interdisciplinary Project are to develop the pupil's skills and abilities as an independent learner whilst researching a language-based project. As part of the Project, the pupil will be encouraged to link with different departments within the Academy and to link with appropriate external providers, thus developing skills of value both at University and in the workplace.

Who chooses the Project?

The Interdisciplinary Project gives the opportunity to research a project of the pupil's own choosing – providing that it meets the requirements of the SQA. This provides the opportunity to explore an aspect of language within the context of the real-world. It has the potential to be a flexible Project, driven by the pupil who undertakes the planning, research and presentation of the work.

How is it assessed?

The Interdisciplinary Project is assessed by teachers at the Academy

What grades are awarded?

The grade awarded for the Baccalaureate will depend upon the grades that achieved in the eligible AH and H subjects, plus the grade achieved for the Interdisciplinary Project. The Baccalaureate will be graded A, B or C.

SCOTTISH BACCALAUREATE – SOCIAL SCIENCES

Entry Requirement

To be considered for the Social Science Baccalaureate a pupil should be taking, or have taken, two Advanced Highers and one Higher from the following list. One of these subjects must be English, Maths or Applied Maths. The pupil must undertake an Interdisciplinary Project.

Eligible Courses offered at Dollar Academy are:

Mandatory Component

English

OR

Mathematics / Applied Mathematics

Core Option (at least one course **MUST** be chosen)

Classical Studies

Economics

Geography

History

Modern Studies

Politics

Broadening Option (only one course may be chosen)

Accounting

Business Management

What is the aim of the Interdisciplinary Project?

The broad aims of the Interdisciplinary Project are to develop the pupil's skills and abilities as an independent learner whilst researching a science-based project. As part of the Project, pupils will be encouraged to link with different departments within the Academy and to link with appropriate external providers, thus developing skills of value both at University and in the workplace.

Who chooses the Project?

The Interdisciplinary Project gives the opportunity to research a project of the pupil's own choosing – providing that it meets the requirements of the SQA. This provides the opportunity to explore an aspect of science within the context of the real-world. It has the potential to be a flexible Project, driven by the pupil who undertakes the planning, research and presentation of the work.

How is it assessed?

The Interdisciplinary Project is assessed by teachers at the Academy.

What grades are awarded?

The grade awarded for the Baccalaureate will depend upon the grades that achieved in the eligible AH and H subjects, plus the grade achieved for the Interdisciplinary Project. The Baccalaureate will be graded Pass or Distinction.

SCOTTISH BACCALAUREATE – EXPRESSIVE ARTS

Entry Requirement

To be considered for the Expressive Arts Baccalaureate a pupil should be taking, or have taken, two Advanced Highers and one Higher from the following list. One of these subjects must be English, Maths or Applied Maths. The pupil must undertake an Interdisciplinary Project.

Eligible Courses offered at Dollar Academy are:

Mandatory Component

English

OR

Mathematics / Applied Mathematics

Core Option (at least one course **MUST** be chosen)

Art & Design

Drama

Music (Performing or Performing with Technology)

Photography

Broadening Option (only one course may be chosen)

Graphic Communication

Physical Education

Design and Manufacture

What is the aim of the Interdisciplinary Project?

The broad aims of the Interdisciplinary Project are to develop the pupil's skills and abilities as an independent learner whilst researching a science-based project. As part of the Project, the pupil will be encouraged to link with different departments within the Academy and to link with appropriate external providers, thus developing skills of value both at University and in the workplace.

Who chooses the Project?

The Interdisciplinary Project gives the opportunity to research a project of the pupil's own choosing – providing that it meets the requirements of the SQA. This provides the opportunity to explore an aspect of science within the context of the real-world. It has the potential to be a flexible Project, driven by the pupil who undertakes the planning, research and presentation of the work.

How is it assessed?

The Interdisciplinary Project is assessed by teachers at the Academy.

What grades are awarded?

The grade awarded for the Baccalaureate will depend upon the grades that achieved in the eligible AH and H subjects, plus the grade achieved for the Interdisciplinary Project. The Baccalaureate will be graded Pass or Distinction.