Kilmarnock Academy

Progression Pathways for new S5 and S6 pupils

Subject Description Booklet

2018 -19

Economy and Skills
Depute Chief Executive and Chief Financial Officer:
Alexander McPhee ACMA

East Ayrshire Council
Comhairle Siorrachd Àir an Ear

Kilmarnock Academy
Head Teacher: Mr David Rose
Email: david.rose@east-ayrshire.gov.uk

January 2019

Dear Parent/ Carer

In S5 and S6, pupils continue their senior phase, building on their prior learning and attainment to continue to gain qualifications, skills and experiences which will lead them on to employment and or further / higher education. The senior phase is a three year opportunity for your young person to build up a portfolio of qualifications. Your child will shortly be asked to decide which courses they wish to study as they continue through the senior phase of their education and continue to achieve qualifications. This booklet gives you information on all the courses on offer.

Your child will also be issued with a form on which they can record their selections following discussion with their class teachers, their pastoral support teacher and discussions at home.

Each course is explained in terms of the course content they may experience at Advanced Higher, Higher and National 5 or 4 levels.

The important point to note is that pupils will progress through the senior phase attempting coursework and qualifications at a level in line with their ability and attainment profile.

Support for Pupils
Pupils should read this booklet at home and they will have a one-to-one interview with their Pupil Support teacher where they will select their choices for the next year. These will be noted on the form and your child will bring this home to discuss with you. You should then sign off the form or make appropriate changes if required. ***Options forms should be returned as soon as possible as spaces in some classes are limited.***

If you require any further information, please contact your child's Pastoral Support teacher or the S4 or S5 year head Mrs A Mossie (S4/5).

If there is a problem with the Options form in relation to your child's preferred choices, your child should bring this to the attention of the Pastoral Support teacher at the interview.

At the end of the Options programme (when all options are in) the Senior Leadership Team will look at issues raised and will try to address these.

Yours sincerely

David Rose

David Rose
Head Teacher

S5/6 Administration and IT

Course Content

At Higher pupils will be able to:

- *use the advanced functions of Microsoft Office to solve administrative problems*
- *create and edit complex business documents*
- *use IT to communicate information*
- *maintain the security and confidentiality of information*
- *understand the theory relating to administrative practice eg time and task management and customer care*

At National 5 pupils will be able to:

- *produce business documents eg forms and reports*
- *use complex formulae in a spreadsheet*
- *produce graphs and charts*
- *create queries, forms and reports in a database*
- *integrate data across applications eg mail merge*
- *create multimedia presentations and desktop publishing documents and communicate these electronically*
- *describe the role of administration in today's modern workplace – using this knowledge to support an event*

Assessment

National 5 Administration & IT has 2 assessments: Assignment (**70 marks**) – WP, DTP, Powerpoint and electronic communication. 10-18% of the marks are for administration theory. Question Paper (**50 marks**) – Spreadsheets and Databases. 14-26% of the marks are for administration theory.

Both assessments are set by SQA, conducted in class and submitted to the SQA for marking.

Higher Administration & IT has 2 assessments: Assignment (**70 marks**) – WP, Spreadsheets, Databases, electronic communication, presentations & DTP. This assessment is set by the SQA, conducted in class & submitted to SQA for marking. Question Paper (**50 marks**) – administrative theory and practice. This is a 1.5 hour exam in the SQA exam diet.

Skills for learning, life and work which are developed

Pupils will develop important skills, attitudes and attributes, including:

Communication	Problem-solving	Organisation
Teamwork	Resourcefulness	Management Skills
Task Management	ICT Skills	Customer Care

Career Options

Administrative Assistant	Receptionist	Personal Assistant
Charity Fundraiser	Company Secretary	Medical Secretary
Registrar	Health Service	Health and Safety
Trading Standards	Human Resources	Business Admin Apprenticeship

Additional Information

Pupils will develop an understanding of business administration in today's workplace. They will use their IT skills to perform relevant administrative tasks.

The course is for pupils who are interested in the practical uses of IT hardware and Microsoft software. Pupils will be able to use these skills in employment, in further training, at home and in their community.

S5/6 Art & Design

Course Content

At Higher pupils will be able to:

- *produce creative art and design works*
- *solve and evaluate design problems*
- *reflect on their own work communicate thoughts and ideas*
- *appreciate and understand social and cultural influences on art and design*
- *use a range of media, materials and techniques*
- *use a range of new media and technology*
- *develop their critical thinking skills*

At Higher pupils will be able to:

- *explore and develop thoughts and ideas to create practical art and design work*
- *experiment with media, equipment and materials to develop creative techniques*
- *develop their problem-solving skills through design tasks*
- *explore the possibilities of technology and new media*
- *investigate how artists and designers create and develop their work*
- *learn how to develop an appreciation of art and design practice*

Assessment

Pupils also sit a written examination, lasting 2 hours, demonstrating their knowledge of artists' and designers; work and their and understanding of art and design issues. Pupils also need to have an understanding of the social and cultural influences that have contributed to the artist/designer's work. This work is externally marked by SQA.

Skills for learning, life and work which are developed

- **using technology** - developing competence in using a range of equipment and software
- **creativity** - producing original ideas and designs
- **problem-solving** - finding solutions to design problems
- **organisation** - managing time and resources effectively and meeting deadlines
- **presentation** - preparing and presenting work for an audience
- **evaluation** - reflecting realistically on strengths and areas for development

Personal Qualities which are developed:

- determination
- confidence
- resilience
- self-expression
- awareness of social and cultural issues

Career Options

Artist	Interior Design	Product Design	Community Arts Teacher	Gallery Assistant
Designer	Florist	Architect	Merchandising Assistant	Museum Curator
Illustrator	Make-Up Artist	Landscape Design	Marketing	Exhibition Design
Cartoonist	Graphic Design	Art Teacher	Visual Merchandising	Exhibition Manager

Additional Information

Two units are covered:

EXPRESSIVE ART with ART STUDIES – drawing and painting folio and investigation in to the work of selected artists
DESIGN with DESIGN STUDIES – design folio produced in response to a design brief and investigation into the work of selected designers.

S5/6 Advanced Higher Art & Design

Course Content

At Advanced Higher pupils will be able to:

- *produce creative art and design works*
- *solve and evaluate design problems*
- *reflect on their own work*
- *communicate thoughts and ideas*
- *appreciate and understand social and cultural influences on art and design*
- *use a range of media, materials and techniques*
- *use a range of new media and technology*
- *develop their critical thinking skills*

At Advanced Higher pupils will be able to:

- *explore and develop thoughts and ideas to create practical art and design work*
- *experiment with media, equipment and materials to develop creative techniques*
- *develop their problem-solving skills through design tasks*
- *explore the possibilities of technology and new media*
- *investigate how artists and designers create and develop their work*
- *learn how to develop an appreciation of art and design practice*

Assessment

All coursework produced is submitted to SQA for external assessment: A statement of Intent
A practical Folio: 12 x A1 sheets and a dissertation on the work of the pupils selected artist /designer.

Skills for learning, life and work which are developed

- **using technology** - developing competence in using a range of equipment and software
- **creativity** - producing original ideas and designs
- **problem-solving** - finding solutions to design problems
- **organisation** - managing time and resources effectively and meeting deadlines
- **presentation** - preparing and presenting work for an audience
- **evaluation** - reflecting realistically on strengths and areas for development

Personal Qualities which are developed:

- determination
- confidence
- creativity
- self-expression

Career Options

Artist	Interior Design	Product Design	Community Arts Teacher	Gallery Assistant
Designer	Florist	Architect	Merchandising Assistant	Museum Curator
Illustrator	Make-Up Artist	Landscape Design	Marketing	Exhibition Design
Cartoonist	Graphic Design	Art Teacher	Visual Merchandising	Exhibition Manager

Additional Information

Pupils taking this course work quite independently as they have built up a wide range of skills. Teaching is done by tutorial in which they discuss their work with the teacher on a weekly basis and targets are agreed for the coming week. This simulates more of an Art School approach and allows the pupils to be creative and more independent.

S5/6 Biology

Course Content

At Higher pupils will be able to:

- *develop and apply knowledge and understanding of biology*
- *develop an understanding of biology's role in scientific issues and relevant applications of biology in society*
- *develop scientific inquiry and investigative skills*
- *develop scientific analytical thinking skills in a biology context*
- *develop use of technology, equipment and materials, safely, in practical scientific activities, including using risk assessments*
- *develop planning skills*
- *develop problem solving skills in a biology context*
- *use and understand scientific literacy to communicate ideas and issues and to make scientifically informed choices*
- *develop the knowledge and skills for more advanced learning in biology*
- *develop skills of independent working*

These are carried out across the three units; **DNA and the Genome, Metabolism and Survival and Sustainability and Interdependence.**

At National 5 pupils will be able to:

- *As per S4 National 5 course.*

Expand and develop upon National 4 work. There will be increased breadth and depth of knowledge required across the three units as shown below.

Cell Biology
- cell structure
- transport across cell membranes
- DNA and the production of proteins
- proteins
- genetic engineering
- and respiration

Multicellular Organisms
- Producing new cells
- control and communication
- reproduction
- variation and inheritance
- transport systems
- Absorption of materials

Life on Earth
- Ecosystems
- energy in ecosystems
- Distribution of organisms
- Photosynthesis
- Food production
- Evolution of species

Assessment

Assessment takes the form of a variety of unit assessments. In addition pupils complete an assignment that is worth roughly 20% of their final grade. There is also a final SQA exam.
Pupils for all Science subjects should realise the increase in expectations at Higher level. Pupils will be expected to significantly increase the time spent on independent learning if they are to be successful.

Skills for learning, life and work which are developed

Higher courses further develop and enhance skills in preparation for further education and work.

- **Team work-** ability to work with others within group activities and investigations
- **Communication**- debate and discuss scientific ideas and communicate findings and theories
- **Literacy and Numeracy**- writing up investigations and assignment
- **Practical investigative techniques**- used within assignment and practical investigations
- **Research and analysis**- skill for finding and analysis data and information for projects, investigations and homework

Personal Qualities – including work ethic, self-discipline, resilience, confidence, problem solving

Career Options

Used within:- Biotechnology, Medical and dental careers, Food production and Agriculture, Medical and pharmaceutical research, Education, Forensic sciences, Environmental Management and Conservation, Health Care

Additional Information

In Higher Biology the level of knowledge and content to learn is significantly increased.

National 5 in S5/6 could be an option for pupils stepping up from National 4 or looking to upgrade in National 5.

S6

AH Biology

Course Content

The aims of this Course are to enable learners to:

- develop a critical understanding of the role of biology in scientific issues and relevant applications, including the impact these could make on the environment/ society
- extend and apply knowledge, understanding and skills of biology
- develop and apply the skills to carry out complex practical scientific activities, including the use of risk assessments, technology, equipment and materials
- develop and apply scientific inquiry and investigative skills, including planning and experimental design
- develop and apply analytical thinking skills, including critical evaluation of experimental procedures, in a biology context
- extend and apply problem solving skills in a biology context
- further develop an understanding of scientific literacy, using a wide range of resources, in order to communicate complex ideas and issues and to make scientifically informed choices
- extend and apply skills of independent/autonomous working in biology

The course contains 3 units:- Cells and Proteins, Organisms and Evolution and Investigative Biology. These topics cover a wide range of biological concepts from cell structures, bio-chemistry through to Parasites and infections.

Assessment

Assessment takes the form of a variety of internal unit assessments. In addition pupils complete a dissertation style project that is worth roughly 20% of their final grade. There is also a final SQA exam lasting 2hrs 30 mins.
Pupils for all Science subjects should realise the increase in expectations at Adv Higher level. Pupils will be expected to significantly increase the time spent on independent learning if they are to be successful.

Skills for learning, life and work which are developed

Adv Higher courses further develop and enhance skills in preparation for further education and work.

- **Team work-** ability to work with others within group activities and investigations
- **Communication**- debate and discuss scientific ideas and communicate findings and theories
- **Literacy and Numeracy**- writing up investigations and assignment
- **Practical investigative techniques**- used within assignment and practical investigations
- **Research and analysis**- skill for finding and analysis data and information for projects, investigations and homework

Personal Qualities – including work ethic, self-discipline, resilience, confidence, problem solving

Career Options

Used within:- Biotechnology, Medical and dental careers, Food production and Agriculture, Medical and pharmaceutical research, Education, Forensic sciences, Environmental Management and Conservation, Health Care

Additional Information

In Advanced Higher Biology the level of knowledge and content to learn is significantly increased from the higher course. An A or high B is essential to progress. Higher maths and English will also be required.
Commitment to independent learning will also be essential to cope with the demands of the course.

S5/6 Business Management

Course Content

At Higher pupils will be able to:

- *understand how businesses are set up/managed*
- *identify key elements of human resource management*
- *identify sources of finance and evaluate financial records*
- *identify and describe the elements of the marketing mix*
- *describe methods of production and recognise the importance of quality control*
- *understand the impact of the environment on a business*

At National 5 pupils will be able to:

- *understand different types of business*
- *identify the aims, goals and objectives of a business*
- *recognise stakeholders and their influence on a business*
- *recognise the importance of customer service*
- *show an understanding of the 4 key areas of management – marketing, finance, people (human resources and operations/production*
- *use ICT in a business context*

Assessment

National 5 has 2 assessments: The Assignment is worth 30 marks. The assessment is set by the SQA, conducted in class and then submitted to the SQA for marking.

The Question Paper is a 2 hour SQA exam (set and marked by the SQA) and is worth 90 marks.

Higher has 2 assessments: The Assignment is worth 30 marks. This assessment is set by the SQA, conducted in class and submitted to SQA for marking.

Question Paper (70 marks) – case study and questions. This is a 2 hours and 15 minute exam in the SQA exam diet.

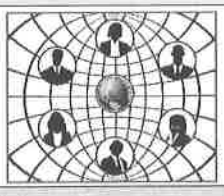
Skills for learning, life and work which are developed

Pupils will develop important skills, attitudes and attributes, including:

Communication	Entrepreneurial Skills	Employability
Leadership	Teamwork	Independence
Decision Making	ICT Skills	Analysing/Numeracy

Career Options

Marketing Manager	Entrepreneur	Human Resource Management
Accountant	Production Manager	Project Management
Business Advisor	Bank Manager	Hotel/Events Management
Tax Inspector	Logistics	Sales Executive



Additional Information

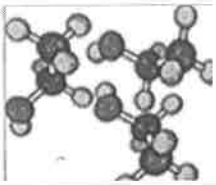
The aim of this course is to highlight the ways in which businesses operate and the steps they take to achieve their goals.

3 units – Understanding Business, Management of People and Finance and Management of Marketing and Operations.

National 5 Entry Requirements – pupils who have achieved National 4 Business.

Higher Entry Requirements – pupils who have achieved Business Management at National 5 or mature S6 pupils with a good standard of literacy (Higher English in S5). A major section of this course includes finance and a good standard of numeracy/mathematics is required to undertake the Financial Management unit.

S5/6 Chemistry



Course Content

At Higher pupils will be able to:

- *develop and apply knowledge and understanding of chemistry*
- *develop an understanding of chemistry's role in scientific issues and relevant applications of chemistry, including the impact these could make in society and the environment*
- *develop scientific inquiry and investigative skills*
- *develop scientific analytical thinking skills, including scientific evaluation, in a chemistry context*
- *develop the use of technology, equipment and materials, safely, in practical scientific activities, including using risk assessments*
- *develop planning skills*
- *develop problem solving skills in a chemistry context*
- *use and understand scientific literacy to communicate ideas and issues and to make scientifically informed choices*
- *develop the knowledge and skills for more advanced learning in chemistry*
- *develop skills of independent working*

These are carried out across the three units; **Chemical changes and structure (½ unit), Nature's Chemistry, Chemistry in Society and Researching Chemistry (½ unit).**

At National 5 pupils will be able to:

- *As per S4 National 5 course.*

Expand and develop upon National 4 work. There will be increased breadth and depth of knowledge required across the three units as shown below.

Chemical Changes and Structure ❖ rates of reaction ❖ atomic structure and bonding related to properties ❖ formulae and reaction quantities ❖ acids and bases
Nature's Chemistry ❖ homologous series ❖ everyday consumer products ❖ energy from fuels
Chemistry in Society ❖ metals ❖ properties of plastics ❖ fertilisers ❖ nuclear chemistry ❖ chemical analysis

Assessment

Assessment takes the form of a variety of unit assessments. In addition pupils complete an assignment that is worth roughly 20% of their final grade. There is also a final SQA exam.
Pupils for all Science subjects should realise the increase in expectations at Higher level. Pupils will be expected to significantly increase the time spent on independent learning if they are to be successful.

Skills for learning, life and work which are developed

Higher courses further develop and enhance skills in preparation for further education and work.

- **Team work**- ability to work with others within group activities and investigations
- **Communication**- debate and discuss scientific ideas and communicate findings and theories
- **Literacy and Numeracy**- writing up investigations and assignment
- **Practical investigative techniques**- used within assignment and practical investigations
- **Research and analysis**- skill for finding and analysis data and information for projects, investigations and homework

Personal Qualities – including work ethic, self-discipline, resilience, confidence, problem solving

Career Options

Used within:- Food production and Agriculture, Oil and Gas industries, Pharmaceutical research, Education, Forensic sciences, Medical and Health care.

Additional Information

In Higher chemistry the level of knowledge and content to learn is significantly increased.
National 5 in S5/6 could be an option for pupils stepping up from National 4 or looking to upgrade in National 5.

S5/6 Communication

Course Content

At Level 5 pupils will:

- *identify and summarise all the important ideas, key points, and supporting detail in a complex piece of non-fiction writing.*
- *evaluate how well a piece of writing meets its purpose and the needs of its intended readers, supported by evidence.*
- *communicate effectively individually and as part of a team*
- *demonstrate sound understanding of how language works and be able to independently apply this to their own writing.*

At Level 6 learners will:

- *identify and summarise all the important ideas, key points, and supporting detail in a complex piece of non-fiction writing.*
- *evaluate how well a complex piece of writing meets its purpose and the needs of its intended readers, supported by evidence.*
- *communicate effectively individually and as part of a team*
- *demonstrate sound understanding of how language works and be able to independently apply this to their own writing.*

Assessment

There is no formal examination however there are mandatory assessments noted below:

Level 5:

- Read a well-structured piece of non-fiction writing. They may then write a short report or the teacher may ask questions and make notes or record what they have said.
- Produce a document (or a series of related documents) totalling at least 500words that is concerned with the presentation and analysis of information and/or with developing an opinion or argument. At least one of the documents should be a substantive piece of no fewer than 300 words.
- Take part in a discussion or give a short talk to one or more people. The teacher will observe and make notes or a recording of the discussion.

Level 6:

- Read a complex piece of non-fiction writing. They may then write a short report or the teacher may ask questions and make notes or record what they have said.
- Produce a well-structured document (or a series of related documents) on a complex topic. The written communication should total at least 700 words. Information will be presented, analysed, and evaluated and/or ideas and opinions will be developed in relation to an issue that is explored in depth and considered from several perspectives, taking account of and refuting challenges. At least one of the documents (if a related set is used) should be a substantive piece of no fewer than 500 words.
- Take part in a discussion or give a short talk to one or more people. The teacher will observe and make notes or a recording of the discussion.

Skills for learning, life and work which are developed

The focus of the Unit is on transferable communication skills: reading, summarising, and evaluating, writing, speaking and, listening.
These skills should be useful to learners in their education, in their social and personal lives, or in current and future jobs.

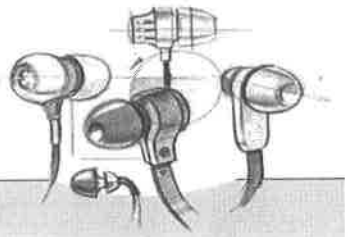
Career Options

Pupils will develop core life communication skills that can easily be transferred to a variety of working environments. Pupils will also gain 6 SCQF tariff points at Level 5 or 6 which can be used towards entry into further education.

Additional Information

This course is aimed at pupils with a National 4 English Qualification or a National 5 English C/D. The award given to pupils depends on the level of teacher support required. At level 6, pupils would be expected to work independently whereas pupils at Level 5 may require more direct support from their teacher.

S5/6 Design & Manufacture



Course Content

At Higher pupils will be able to:

- *Produce design proposals which meet a given brief or specification*
- *Produce prototypes of design ideas using a variety of manufacturing techniques and practical skills.*
- *Research and evaluate design problems to aid in the production of a design solution.*
- *Select and demonstrate and understanding of manufacturing processes and materials*
- *Demonstrate an understanding of the impact of design and manufacturing technologies on our environment and society*

At National 5 pupils will be able to:

- *Identify factors that influence design and apply these in a design task*
- *Develop and communicate design concepts for a design task*
- *Investigate materials for manufacturing tasks in a workshop context*
- *Prepare for manufacturing tasks in a workshop context*
- *Plan and implement a manufacturing 'sequence of operation' for a prototype*
- *Review the manufacturing process of finished prototypes*

Assessment

Knowledge and understanding of: Design - Analysing design information, understanding of design factors, idea generation techniques, graphic techniques, modelling techniques, planning and evaluation techniques, Manufacturing - Tools, materials, processes, manufacturing techniques, knowledge & understanding of commercial manufacturing, knowledge and understanding of the impact of design & manufacturing technologies on our environment and society. Both assessed through: Design Assignment, Practical Assignment and final exam.
N5 assessment structure: Design Assignment (55 marks), Practical Assignment (45 marks) & exam (80 marks).
Higher assessment structure to be confirmed by SQA during 2018-19. All assessment is quality assured by SQA.

Skills for learning, life and work which are developed

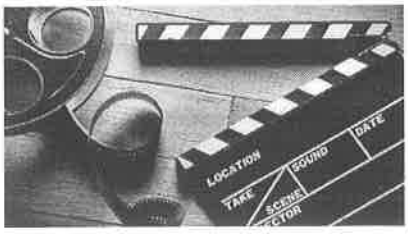
As with all D&T courses, pupils will gain valuable experiences in: numeracy, thinking skills, real life problem solving, employability skills, communication, ICT, Time management, planning, working with others, perseverance, being responsible, listening, resilience and becoming independent of teacher support.

Career Options

Qualification in Design & Manufacture can lead to employment in:
Building Technician, Fabrication & Welding, Film-set Design, Furniture Design, Industrial Design, Model Making, Toolmaking, interior Design, Shipbuilding, Vehicle Design, Digital Design, Multi-media Design, Architecture, Engineering, Computer Aided Design, Graphic Design, Product Design, Technical Illustrator, , Design & Technology Teacher etc.

Additional Information

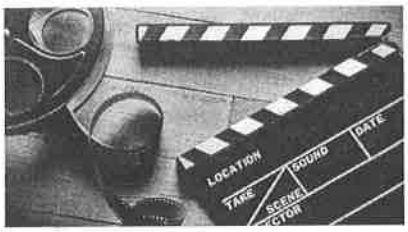
Higher Design & Manufacture is a further course offered by the D&T Department. It compliments Graphic Communication. It is also a challenging and creative course which blends practical and theoretical elements of product design, engineering and manufacturing. This course is directly relevant to co



S5/6 DIGITAL MEDIA

S5/6

DIGITAL MEDIA



Course Content

At Higher Level pupils will be able to:

- *analyse digital media content*
- *plan and create storyboards*
- *use digital media equipment such as cameras, camcorders and computers.*
- *use a variety of software, such as animation packages and film editing software*
- *manage digital files and organise workflow*
- *communicate and present thoughts and ideas*

At Higher Level pupils will be able to:

- *experiment with hardware and software to develop creative techniques*
- *developing their problem -skills through practical production tasks*
- *explore the possibilities of technology and new media*
- *create graphics, website designs, film and animation*
- *appreciate and understand social and cultural influences on digital media*
- *investigate the digital media industry*

Assessment

- Assessments are project based. A pass in this course is awarded on successful completion of the projects.
- *Three units are covered: Animation Skills, Digital Video Skills and Web Design.*

Skills for learning, life and work which are developed

- **using technology** - developing competence in using a range of equipment and software
- **creativity** - producing original ideas and designs
- **problem-solving** - finding solutions to design problems
- **organisation** - managing time and resources effectively and meeting deadlines
- **presentation** - preparing and presenting work for an audience
- **evaluation** - reflecting realistically on strengths and areas for development

Personal Qualities which are developed:

- determination
- confidence
- resilience
- self-expression

Career Options

Film Production	Radio Production	Web Designer	Social & Content Manager	Desktop Publishing Specialist
TV Production	Digital Project Assistant	Content Writer	Web Design Assistant	Web Developer
Game Design	Tv Researcher	Copywriter	Digital Designer	Model Maker
Graphic Designer	Film Researcher	Graphics Manager	Motion Graphic Designer	Colourist

Additional Information

Pupils selecting this course will have the opportunity to produce 3D animations, short films and learn how to design and develop a Web Site. Pupils who choose this subject will work independently and have a creative instinct.

S4 Drama

Course Content

Higher pupils will be able to:

- *demonstrate a knowledge and understanding of a range of social and cultural influences on drama*
- *work independently and in groups to devise, rehearse and refine dramas and scripts*
- *Use theatre arts technology to enhance mood and tension*
- *Express considered opinions on the experience of drama*
- *demonstrate their skills, knowledge and understanding to create and develop a creative concept for a text-based performance either as an actor or in a production role*

At National 5 pupils will be able to:

- *develop a knowledge and understanding of a range of social and cultural influences on drama*
- *develop a range of skills in presenting drama*
- *generate and communicate thoughts and ideas when creating drama*
- *work with others to share and use drama ideas*
- *using evaluative skills within the creative process*
- *demonstrate their skills, knowledge and understanding to create and develop a creative concept for a text-based performance either as an actor or in a production role*

Assessment

Performing feedback is given regularly during practical lessons. A formal Performing assessment also takes place once a term for a variety of audiences.

Subject knowledge is assessed by answering written questions and the practical demonstration of a range of skills.

Skills for learning, life and work which are developed

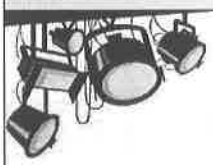
- **Team work** - ability to work with others to improve and develop skills
- **Communication** - being able to pass on and receive information from others

Personal Qualities which are developed:

- self-discipline
- confidence

Problem Solving

Career Options

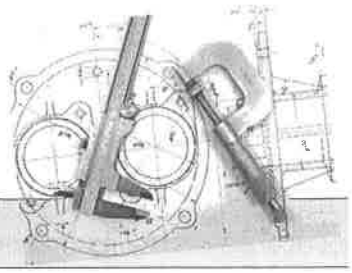


Actor	Community Arts Worker	Dancer
Primary Teacher	Community Drama Project Worker	Set/Lighting Designer
Drama Therapist	Music Therapist	Theatre Director
Arts Administrator	Broadcast Presenter	Further Education Teacher
Secondary Teacher	Theatre Stage Manager	Television Production Assistant
Make Up Artist	Radio Presenter	Theatre Fundraiser

Additional Information

NOTE: *A key element of this course is performance and group work. Regular opportunities to participate in extra-curricular activities are offered by the faculty and pupils are encouraged to participate to improve their all-round knowledge and confidence with performing.*

S5-6 Engineering Skills



Course Content

At National 5 pupils will be able to:

- learning in real workshop settings
- plan and carry out practical tasks and assignments
- use computer aided design within an engineering context
- reflect and evaluate learning, and consider points for action

Assessment

Engineering Skills at N5 is designed to help pupils develop an understanding of Engineering disciplines within industry. Course content includes 4 units: **Design Manufacture (Computer 3D modelling), Electronics & Electrical, Mechanical & Fabrication and Maintenance (Motorcycle maintenance).** Pupils develop important skills and develop a positive attitude required for future employment. Each unit, apart from Maintenance, has a project attached and all are pass or fail. This course compliments other courses associated with Science, Technology, Engineering and Maths (STEM). All assessment is quality assured by SQA.

Skills for learning, life and work which are developed

Pupils will gain experiences in: literacy, numeracy, thinking skills, real life problem solving, employability skills, communicating with others, improving time management, planning tasks, developing perseverance, taking ownership of learning, promoting responsibility and resilience, and working towards independent learning. Pupils will also gain an aptitude for graphical forms of communication by reading of basic engineering drawings and motivation to work as part of a team.

Career Options

National 5 in Engineering Skills may lead to:

Further education, employment or modern/foundation apprenticeship as; Welder, Fabricator, Sheet Metal Worker, Industrial Designer, Electrical Tradesman, Railway Maintenance, Metallurgy, Material Science, Plater, Mechanical Engineer, Electrical Engineer, Manufacturing Engineer, Aerospace Industry, Offshore Industry etc.

Additional Information

Engineering Skills at N5 is offered by the Design & Technology department and has been designed to provide a basis for progression into Computer Aided Drafting for Engineers at level 5 or 6, in S6. This is a computer based unit that solely focuses on AutoCAD. As an alternative, pupils can use this qualification as an entry point for further education or transferring to employment within an engineering sector. The overall purpose of Engineering Skills is to ensure that pupils start to develop generic and practical skills. It has a clear emphasis on employability skills, such as working with others, working in a safe manner. Both of which are of great desire within an engineering sector.

S5/6 English

Course Content

At Higher pupils will be able to:

- *create and produce complex texts with increasing independence*
- *understand, analyse and evaluate complex texts*
- *understand, analyse and evaluate sophisticated literature, language and media*
- *communicate effectively individually and as part of a team*
- *demonstrate sound understanding of how language works and be able to independently apply this to their own writing.*

At National 5 pupils will be able to:

- *create and produce more complex texts*
- *understand, analyse and evaluate more complex texts*
- *understand, analyse and evaluate literature, language and media*
- *communicate effectively individually and as part of a team*
- *demonstrate sound understanding of how language works and be able to apply this to their own writing.*

Assessment

National 5/ Higher:

There is one internally assessed listening and talking unit. Course assessment will consist of two components: a question paper titled 'Reading' and a portfolio titled 'Writing'.

The reading question paper will account for 70% of the overall mark. It will contain two sections:

Component One: Reading

Section One: Reading for Understanding, Analysis and Evaluation which will be worth 30 marks.

Section Two: Critical Reading which will be worth 40 marks.

Part 1 will involve pupils answering question on a Scottish Text worth 20 marks.

Part 2 will involve pupils writing a critical essay worth 20 marks.

Component Two: Writing

The pupil will produce a writing portfolio worth 30 marks. The portfolio will comprise two written pieces:

- one creative worth 15 marks
- one discursive worth 15 marks

Skills for learning, life and work which are developed

The aims of the courses are to enable pupils to:-

- *develop an understanding of how language works*
- *use language to communicate ideas*
- *to use creative and critical thinking to synthesise ideas*
- *develop critical literacy skills*
- *develop personal, interpersonal and team-working skills*
- *develop independent learning*
- *enhance their enjoyment and understanding of their own and other cultures*
- *apply knowledge in practical and relevant contexts*
- *gain confidence to undertake new and more challenging tasks in a variety of situations.*

Career Options

Journalist	HR Officer	Researcher	Art Auctioneer	Further Education Teacher
Primary Teacher	Training Manager	Magistrate	Gallery Curator	Recruitment Consultant
Editor	Copywriter	Publisher	Lawyer	Graphic Designer
Writer	Public Relations Officer	Secondary Teacher		

English is an essential skill in all career paths as it is central to communication with others.

Additional Information

Note: *There will be the option to complete Higher over two years.*

S5/6 Environmental Science

Course Content

At National 5 pupils will be able to:

- *develop and apply knowledge and understanding of environmental science*
- *develop an understanding of environmental science's role in scientific issues and relevant applications of environmental science, including the impact these could make in society and the environment*
- *develop scientific inquiry and investigative skills*
- *develop scientific analytical thinking skills in an environmental science context*
- *develop the skills to use technology, equipment and materials, safely, in practical scientific activities*
- *develop planning skills*
- *develop problem-solving skills in an environmental science context*
- *develop practical fieldwork skills in an environmental science context*
- *use and understand scientific literacy, in everyday contexts, to communicate ideas and issues and to make scientifically informed choices*
- *develop the knowledge and skills for more advanced learning in environmental science*
- *develop skills of independent working*

These are carried out across the three units; **Living Environment, Earth's Resources, Sustainability**

Assessment

Assessment takes the form of a variety of internal unit assessments. In addition pupils complete an assignment that is worth 20% of their final grade. There is also a final SQA exam.

Skills for learning, life and work which are developed

This course will look to further develop skills learnt during pupils science experiences.

- **Team work-** ability to work with others within group activities and investigations
- **Communication**- debate and discuss scientific ideas and communicate findings and theories
- **Literacy and Numeracy**- writing up investigations and assignment
- **Practical investigative techniques**- used within assignment and practical investigations
- **Research and analysis**- ability to find and analyse data and information for projects, investigations and homework

Personal Qualities – including work ethic, self-discipline, resilience, confidence, problem solving

Career Options

Used within:- Ecology, Environmental Management and Conservation

Additional Information

In Environmental Science the level of knowledge and content to learn is increased from National 4 science courses. Pupils looking to sit Environmental Science should have a good work ethic and will have performed well in National 4 Biology or achieved C/D in National 5 Biology in S4.

S5/6 Higher French / Spanish

Course Content

At Higher pupils will be able to:	At National 5 pupils will be able to:
• understand and use detailed and complex language in conversation • understand and use detailed and complex written language • apply knowledge and understanding in the language studied • develop the language skills of translation • apply grammatical knowledge and understanding	• understand and use detailed language in conversation • understand and use detailed written language • apply knowledge and understanding in the language studied • apply grammatical knowledge and understanding

Assessment

The final Higher exam currently consists of 2 papers:

Paper 1 :Reading and Directed Writing

Paper 2: Listening

The exam is balanced out as follows:

Reading & Translation -25% *(Pupils read a text and answer questions in English and are directed to translate a few lines of the reading text into English)*

Listening-25% *(Pupils listen to 2 texts: one monologue and one dialogue and answer questions in English)*

Writing – 25% *(In paper 1 Pupils are expected to write a Directed Writing essay on one of the contexts studied. Pupils also must complete a Writing Assignment during the session which is sent to SQA for marking.)*

Talking – 25% *(Pupils participate in a 10 minute conversation in the foreign language with their teacher. This takes place in February/March and is part of final exam)*

Skills for learning, life and work which are developed

⇒ **Independence** > learning to work and think for themselves

⇒ **Disciplined approach to learning** > learning to take responsibility for their own learning

⇒ **Skills for work and leisure** > learning to manage/enhance leisure time

Personal Qualities which are developed

⇒ **Confidence**

⇒ **Awareness of social and cultural issues**

⇒ **Appreciation of language and connections between languages**

Career Options

Armed Forces	Fashion Industry	Teacher (Nursery, Primary, Secondary)
Call centre work	Hospitality (hotel management)	Travel(flight crew, travel reps)
Catering (chef)	Interpreter/ Translator	Voluntary / Relief work abroad
Civil service/Diplomatic Service	International Law / Business	
Expressive Arts (ballet, opera)	Journalism	

Additional Information

The Final Talking Performance which is now worth 25% of the total mark is completed on a one to one with the class teacher and recorded for moderation purposes. This must be prepared for and completed to the deadlines set by the class teacher/PT Modern Languages.

S5/6 Geography

Course Content

At Higher pupils will be able to:

- use a range of mapping skills and techniques in physical environment contexts
- draw on and apply knowledge and understanding of the processes and interactions at work within physical environments on a local, regional or global scale
- use a range of research skills and techniques in human environment contexts
- draw on and apply knowledge and understanding of the processes and interactions at work within human environments Geography
- use a range of numerical and graphical skills and techniques in the context of global geographical issues
- draw on and apply knowledge and understanding of significant global issues

At National 5 pupils will be able to:

- demonstrate detailed knowledge and understanding of the physical environment of Scotland and/or the United Kingdom by giving detailed descriptions and explaining their formation
- give detailed explanations demonstrating knowledge and understanding of the human environment in a global context by giving detailed descriptions and explaining why the human environment exists in such ways
- give detailed explanations demonstrating knowledge and understanding of selected global issues by giving detailed descriptions which are mainly factual with some theoretical content and giving detailed explanations
- evaluate detailed sources, comment on their usefulness and answer questions on them

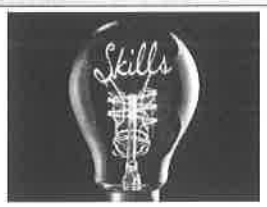
Assessment

Higher is assessed over 3 units by 2 exam papers. Paper 1 is 1 hour 50 minutes long and worth 100 marks and Paper 2 is out of 50 marks and is 1 hour 10 minutes long. An assignment completed in school is worth a further 30 marks.

National 5 is assessed over 3 units by a 2 hr 20 minute exam Question Paper worth 80 marks and a Geography Assignment completed in school worth 20 marks.

Skills for learning, life and work which are developed

Confidence	Creativity	Logical Thinking
Communication	Decision Making	Presenting
Cooperation	Evaluating and Analysing	Teamwork



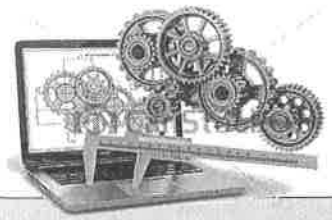
Career Options

Agriculture	Forestry	Local Government / Planning
Civil Engineering	Green Energy	Overseas Aid and Development
Countryside Ranger	Land Management	Teaching

Additional Information

Geography provides a broad balance to education and helps prepare young people for adult life. It stimulates curiosity and enables young people to develop an understanding of environmental issues and the world around them. It develops team working skills and boosts confidence.

S5/6 Graphic Communication



Course Content

At Higher pupils will be able to:

- *Produce and interpret 2D & 3D orthographic sketches1 and drawings*
- *Produce 2D & 3D computer-aided designed/drafted production drawings*
- *Produce preliminary 2D & 3D designs and illustrations for a multi-page promotional document*
- *Create a multi-page 2D & 3D promotional publication and a project set of promotional publications*

At National 5 pupils will be able to:

- *Develop skills in Graphic Communication techniques, including the use of materials, equipment and computer software*
- *Extend and apply knowledge & understanding of Graphic Communication standards, protocols and conventions, where these apply*
- *Develop an understanding of the impact of Graphic Communication technologies on our environment and society*

Assessment

Knowledge and understanding of: graphic types, manual and computer aided techniques, drawing standards, protocols and conventions, spatial awareness, design principles and elements, computer aided design, desktop publishing and impact of Graphic Communication on society. Both assessed through SQA: Design Assignment and final exam.
N5 assessment structure: Assignment 40 marks & exam 80 marks. Higher assessment structure to be confirmed by SQA during 2018-19). All assessment is quality assured by SQA.

Skills for learning, life and work which are developed

Pupils will gain further experiences in: numeracy, thinking skills, real life problem solving, employability skills, communication, ICT, Time management, planning, working with others, perseverance, being responsible, listening, resilience and becoming independent of teacher support.

Career Options

Qualification in Graphic Communication can lead to employment in:
Advertising, Desk Top Publishing, Marketing, Animation, Digital Design, Multi-media Design, Architecture, Engineering, Computer Aided Design, Graphic Design, Product Design, Illustrator, Web Design, Design & Technology Teacher etc.

Additional Information

Graphic Communication is a further course offered by the Design & Technology department. It is an exciting and very challenging course. It is enriching, fulfilling, very rewarding and has a strong identity within colleges and industry. Pupils utilise industry standard computer software to design and create artefacts. Pupils build upon previous design knowledge and experience. Pupils go on to learn more about the power of communicating through pictures, images and formal drawing.

S5/6

Health Sector

Course Content

At National 5 pupils will be able to:

Skills for Work courses are designed to help learners to develop:

- Skills and knowledge in a broad vocational area
- Skills for Learning, Skills for Life and Skills for Work
- Core skills
- An understanding of the workplace
- Positive attitudes to learning
- Skills and attitudes for employability

The particular course aims are:-

- encourage learners to consider a career in the health sector
- develop learner's understanding of health and safety responsibilities relevant to a range of activities in the health sector
- develop learner's abilities to benefit from further learning opportunities, study and training opportunities for careers in the health sector
- develop learner's awareness of the opportunities there may be within the health sector in terms of the type and range of career opportunities
- develop learner's awareness of the impact of the health sector in society
- develop learner's awareness of the responsibilities of the health sector in society
- allow learners to apply investigative skills using a variety of research methods
- develop learner's self-evaluation skills and confidence to seek feedback from others
- increase learner's awareness of the factors that impact on the health of individuals
- allow learners to develop the skills values and attitudes required for employment in the health sector

Assessment

Assessment takes the form of a variety of internal unit portfolio style assessments. This is throughout the course and involves some practical assessments. There is no final SQA exam.

Skills for learning, life and work which are developed

This course will look to further develop skills learnt during pupils science experiences.

- **Team work-** ability to work with others within group activities and investigations
- **Communication**- debate and discuss scientific ideas and communicate findings and theories
- **Literacy and Numeracy**- writing up investigations and assignment
- **Practical investigative techniques-** used within assignment and practical investigations
- **Research and analysis**- ability to find and analyse data and information for projects, investigations and homework

Personal Qualities – including work ethic, self-discipline, resilience, confidence, problem solving

Career Options

Used within:- Health and social care sector, nursing, independent health care, NHS setting, life sciences and voluntary sector.

Additional Information

Health sector would be open to pupils progressing from N4 biology or who have achieved N5 biology at C/D level who are wanting a Career in the Health Sector. Pupils wanting to enter this career path who come from other subjects would require work ethic, teamwork, communication skills and have suitable literacy and numeracy skills.

S5/6 History

Course Content

At Higher pupils will be able to:

- develop and apply skills, knowledge and understanding across contexts from Scottish, British and European and world history
- evaluate the origin, purpose, content and context of historical sources
- evaluate the impact of historical developments and synthesising information in a well-structured manner
- evaluate the factors contributing towards historical developments, and drawing well-reasoned conclusions supported by evidence
- research and analyse historical information
- develop a detailed and accurate knowledge and understanding of complex historical issues in Scottish, British, European and world contexts

At National 5 pupils will be able to:

- evaluate historical sources taking into account their origin, purpose, content and/or context
- describe, explain and analyse detailed and mostly accurate knowledge and understanding of themes and events within an area of Scottish history
- evaluate the impact of historical developments and present information in a structured manner
- describe, explain and analyse detailed and mostly accurate knowledge and understanding of themes and events within an area of British history
- evaluate the factors contributing towards historical developments, drawing reasoned conclusions supported by evidence
- describe, explain and analyse detailed and mostly accurate knowledge and understanding of themes and events within an area of European and world history

Assessment

Higher is assessed over three units by two 1 hour and 30 minute exams, worth a total of 80 marks and a History Assignment completed in school worth 30 marks.

National 5 is assessed over 3 units by a 2 hr 20 minute exam Question Paper worth 80 marks and a History Assignment completed in school worth 20 marks.

Skills for learning, life and work which are developed

Confidence	Creativity	Logical Thinking
Communication	Decision Making	Presenting
Cooperation	Evaluating and Analysing	Teamwork

Career Options

Archivist	Management	Social Work
Government	Law	Teaching
Journalism	Politics	Tourism

Additional Information

History provides a broad balanced to education and helps prepare young people for adult life. It stimulates curiosity and enables young people to develop their research, presentation and communication skills. It develops team working skills and boosts confidence. It develops analytical skills and enables young people to handle complex issues. History develops extended writing literacy skills which can be highly beneficial to young people in further education and adult life.

S5/6

HOSPITALITY: PRACTICAL COOKERY

Course Content

At Nat 5 pupils will be able to:

- *proficiently use a range of cookery skills, food preparation techniques and cookery processes when following recipes*
- *select and use ingredients to produce and garnish or decorate dishes*
- *develop an understanding of the characteristics of ingredients and an awareness of their sustainability*
- *develop an understanding of current dietary advice relating to the use of ingredients*
- *plan and produce meals and present them appropriately*
- *work safely and hygienically*

At Nat 5 pupils will be able to:

- *use food preparation techniques and cookery processes in the preparation of dishes*
- *understand and demonstrate knowledge of the importance of food safety and hygiene and its application in the practical context*
- *select, weigh, measure and use appropriate ingredients to prepare and garnish or decorate dishes*
- *understand and demonstrate knowledge of current dietary advice relating to the use of ingredients*
- *follow recipes in the preparation of dishes and carrying out an evaluation of the final product*
- *planning, costing, organisational and time management skills in a cookery context*
- *produce, correctly portioned and well-presented dishes*

Assessment

The candidates are assessed by a combination of a question paper, an assignment and a practical activity.
Component 1: question paper (25marks) 1 hour, Component 2: assignment (13 marks) Component 3: practical activity (62 marks)

Skills for learning, life and work which are developed

Money, time and measurement

- ***Employability***
- ***Thinking skills***
- ***Remembering***
- ***Understanding***
- ***Applying***

Personal Qualities which are developed:

- determination
- confidence
- resilience
- self-expression

Career Options

Film Production	Radio Production	Web Designer	Social & Content Manager	Desktop Publishing Specialist
TV Production	Digital Project Assistant	Content Writer	Web Design Assistant	Web Developer
Game Design	Tv Researcher	Copywriter	Digital Designer	Model Maker
Graphic Designer	Film Researcher	Graphic Designer	Motion Graphic Designer	Colourist

Additional Information

This course is also suitable for those S6 students who have a keen interest in food preparation and who would like to develop important life skills in cooking.

S5/6 Leadership Award

Course Content

At Level 6 pupils will be able to:	At Level 5 pupils will be able to:
• take responsibility for their own learning but the tutor may explain and interpret if requested. • take responsibility for a range of tasks and, where appropriate, for the work of others. • produce factual and theoretical knowledge of a range of ideas and practices • draw conclusions and suggest solutions.	• negotiate, put forward suggestions and ideas and agree a way forward. • show knowledge of a range of simple ideas and facts. • use some abstract constructs, e.g. draw conclusions.

Assessment

There is no formal examination however there are two mandatory units in the course as noted below:

Leadership: An Introduction

In this Unit, pupils carry out research to find out about leadership styles and the skills and qualities found in effective leaders. They are required to produce a report on their findings and evaluate their own potential for leadership.

Leadership in Practice

In this Unit, pupils take a leading role in an activity. They will prepare to carry out the activity by considering the factors involved, such as resources, people, time and risk. Candidates then carry out the activity, monitoring progress and making changes as needed. At the end, they will review their experience, drawing conclusions about themselves as a leader.

Skills for learning, life and work which are developed

The Leadership Award develops knowledge of leadership skills, styles and qualities. It is designed for pupils who take, or plan to take, a leading role for an activity. The Award allows pupils to build self confidence and self esteem and encourages pupils to respect the cultures and beliefs of others working alongside them.

Career Options

The Leadership Award seeks to develop pupils' potential as employable, contributing members of society through the development of leadership skills and knowledge. Pupils will find out about different leadership styles and qualities. They will also gain knowledge about themselves as leaders. Pupils are given the opportunity to take ownership for a particular activity or to take on a leading role within a wider activity. Thus pupils may be able to develop lifelong, transferable skills which could serve them well in employment. This will complement and enhance learning in other areas giving pupils the potential to achieve success in the new and challenging situations that the world of employment may present.

Additional Information

The award given to pupils depends on the level of teacher support required. At level 6, pupils would be expected to work independently whereas pupils at Level 5 may require more direct support from their teacher.

S5/6 Applications of Mathematics

I ♥ Maths²

Course Content

At National 5 pupils will be able to:

- *select and apply mathematical skills to tackle straightforward real-life situations*
- *develop the ability to analyse real-life problems or situations with some complex features involving mathematics*
- *develop confidence in the subject and a positive attitude towards the use of mathematics in straightforward real-life situations*
- *develop the ability to select, apply, combine and adapt mathematical operational skills to new and unfamiliar situations in life and work to an appropriate degree of accuracy*
- *develop the ability to use mathematical reasoning skills to generalise, build arguments, draw logical conclusions, assess risk, and make informed decisions.*
- *Communicate mathematical information in an appropriate way*

At National 4 pupils will be able to:

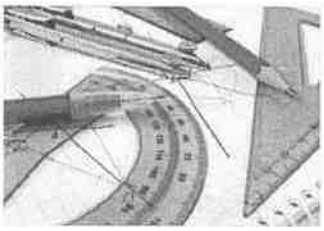
- *select and apply mathematical skills to tackle straightforward real-life problems or situations*
- *develop the ability to interpret straightforward real-life problems or situations involving mathematics*
- *develop confidence in the subject and a positive attitude towards the use of mathematics in straightforward real-life situations*
- *apply mathematical operational skills with an appropriate degree of accuracy*
- *Use mathematical reasoning skills to assess risk, draw conclusions and explain decisions*
- *Communicate mathematical information in an appropriate way*

The Course includes the freestanding Unit in Numeracy at SCQF level 4. The Course has four Units, totalling 24 SCQF credit points.

Assessment

External assessment will provide the grading attainment (A – D) for the course award for National 5 Applications of Mathematics. This assessment consists of a non-calculator question paper worth 45 marks and a calculator paper worth 65 marks.
To achieve the National 4 Applications of Mathematics Course, learners must pass all of the required Units, including the Added Value Unit. The N4 award is not graded. Assessment for National 4 is completed internally and may be completed using SOLAR online assessments.

Skills for learning, life and work which are developed



These courses develop confidence and independence in being able to handle mathematical processes and information in a range of real-life contexts. The Course also enables learners to draw conclusions, assess risk and make informed decisions based on data presented in a variety of forms.
The mathematical skills within this Course are underpinned by numeracy, and are designed to develop learners' mathematical reasoning skills relevant to learning, life and work in an engaging and enjoyable way.

Career Options

These courses develop mathematical and operational skills which would enable candidates to respond to the mathematical situations which arise in any workplace.

Additional Information

These courses provide candidates with the opportunity to develop their literacy skills by analysing real-life contexts and communicating their thinking by presenting mathematical information in a variety of ways. This could include the use of numbers, formulae, diagrams, graphs, symbols and words.

Please note: Successful completion of the National 5 course does **not** lead to progression to Higher Mathematics.

S5/6

National 5 Mathematics

I ♥ Maths

Course Content

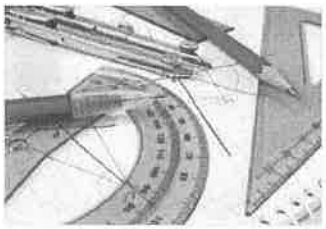
At National 5 pupils will be able to:

- *Develop an understanding of applying mathematical skills in Algebra, Geometry, Trigonometry, and Statistics*
- *Develop skills in simplifying and solving problems*
- *Develop skills in selecting and applying mathematical techniques to real-life contexts*
- *Make connections and informed predictions*
- *Use mathematical language and exploring mathematical ideas*
- *Develop resilience and confidence in problem-solving*
- *Develop analytical and evaluative skills*
- *Interpret, communicating and managing information in mathematical form*
- *Develop logical reasoning skills*
- *Assess risk and making informed decisions*
- *Develop creativity and the ability to think in abstract ways*
- *Manipulate abstract terms to solve problems and generalise*

Assessment

External assessment will provide the grading attainment (A – D) for the course award for National 5 Mathematics.
The external assessment for this qualification will take the form of an examination which consists of 2 papers. The first paper consists of short answer and extended response questions and is non-calculator. This is worth 50 marks. The second paper is extended response questions and candidates are allowed a calculator for this paper. This paper is worth 60 marks.
There are unit assessments associated with the qualification but they are no longer a required element.

Skills for learning, life and work which are developed



Employability skills developed include the mathematical operational skills, knowledge, understanding, and attitudes required in changing economic environments.
The mathematical operational and reasoning skills developed in this course aim to enable candidates to confidently respond to the mathematical situations that can arise in the workplace. It aims to provide candidates with the opportunity to analyse a situation, decide which mathematical strategies to apply, work through those strategies effectively and make informed decisions based on the results.

Career Options

These courses have obvious relevance for candidates with interests in fields such as commerce, engineering and science where the Mathematics learned will be put to direct use. For other candidates, the course can be used to gain entry to a Higher Education institution. All candidates taking these Mathematics courses, whatever their career aspirations might be, should acquire an enhanced awareness of the importance of Mathematics to technology and to society in general.

Additional Information

The National 5 course builds on learners previous experiences from the BGE and the National 4 course. Learners must have already achieved a ***good quality*** pass at National 4 to be able to select the National 5 course. National 5 introduces many of the more technical aspects of Mathematics (like Trigonometry, Quadratic Theory, factorisation, simultaneous equations) and is a necessary precursor to the Higher Mathematics course.

S5/6

Higher Mathematics

I ♥ Maths

Course Content

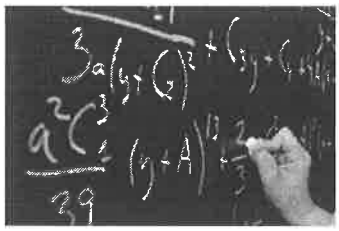
At Higher pupils will be able to:

- *select and apply mathematical techniques in a variety of mathematical situations*
- *develop confidence in the subject and a positive attitude towards further study in mathematics and the use of mathematics in employment*
- *deliver in-depth study of mathematical concepts and the ways in which mathematics describes our world*
- *interpret, communicate and manage information in mathematical form; skills which are vital to scientific and technological research and development*
- *develop their skills in using mathematical language and exploring advanced mathematical ideas*

Assessment

External assessment will provide the grading attainment (A – D) for the course award for Higher Mathematics.
The external assessment for both qualifications will take the form of an examination which consists of 2 papers. The first paper consists of short answer and extended response questions and is non-calculator. The second paper is extended response questions and candidates are allowed a calculator for this paper.
There are unit assessments associated with the Higher qualification but they are no longer a required element.

Skills for learning, life and work which are developed



The Higher Mathematics course has the particular objective of meeting the needs of candidates at a stage of their education where career aspirations are particularly important. Using Mathematics enables us to model real life situations and make connections and informed predictions. It equips us with the skills we need to interpret and analyse information, simplify and solve problems, assess risk and make informed decisions.

Career Options

These courses have obvious relevance for candidates with interests in fields such as commerce, engineering and science where the Mathematics learned will be put to direct use. For other candidates, the course can be used to gain entry to a Higher Education institution. All candidates taking these Mathematics courses, whatever their career aspirations might be, should acquire an enhanced awareness of the importance of Mathematics to technology and to society in general.

Additional Information

As with all Mathematics courses, Higher Mathematics aims to build upon and extend candidates' mathematical skills, knowledge and understanding in a way that recognises problem solving as an essential skill and enables them to integrate their knowledge of different aspects of the subject.
Mathematics is important in everyday life, allowing us to make sense of the world around us and to manage our lives. Using mathematics enables us to model real-life situations and make connections and informed predictions. It equips us with the skills we need to interpret and analyse information, simplify and solve problems, assess risk and make informed decisions.
To have success at Higher Mathematics, pupils need to have secured a good quality pass at National 5 Mathematics.

S6 Advanced Higher Mathematics

I ♥ Maths²

Course Content

The Advanced Higher Course extends learners' mathematical knowledge in algebra, geometry and calculus. It includes matrix algebra, complex numbers and vectors and formalises the concept of mathematical proof.
This course is designed to:

- Select and apply complex mathematical techniques in a variety of mathematical situations, both practical and abstract
- Extend and apply skills in problem solving and logical thinking
- Extend skills in interpreting, analysing, communicating and managing information in mathematical form, while exploring more advanced techniques
- Clarify thinking through the process of rigorous proof

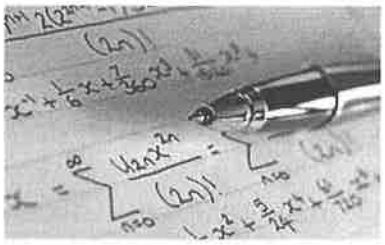
Advanced Higher Mathematics consists of 3 units and an external assessment. The course is at SCQF Level 7 and attracts 32 SCQF credit points overall. The units are:

- Methods in Algebra and Calculus
- Applications of Algebra and Calculus
- Geometry, proof and Systems of equations

Assessment

External assessment will provide the grading attainment (A – D) for the course award for Advanced Higher Mathematics. The external assessment will take the form of an examination which consists of 1 paper lasting 3 hours.
There are also 3 unit assessments associated with the Advanced Higher qualification.

Skills for learning, life and work which are developed



Pupils who complete this course will develop abilities to think logically and utilise mathematical reasoning skills to provide justification and solve problems. The skills they acquire will enable progression to further learning and to employment. The abstract content of the course will greatly benefit students who wish to pursue a career in pure mathematics and the more practical aspects of the course will benefit those intending to study any of the many courses which utilise mathematics.

Career Options

Mathematics at Advanced Higher provides the foundation for many developments in the sciences and in technology as well as having its own intrinsic value. This course helps develop skills in number theory (which helps keep the internet secure), complex numbers (the uses of which range from solving equations to the descriptions of electronic circuits) and matrices (used in game theory and economics). There are applications in computer technology, encryption security, equipment design and in the design and analysis of experiments and tests. There is use throughout the financial services sector, such as in economics, accountancy and actuarial work.

Additional Information

This course is suitable for learners who are secure in their attainment of the Higher Mathematics course.