

AS and A Level  
Subject  
Information  
Booklet 2012



## Introduction

This booklet provides guidance for parents and pupils regarding subject choices for AS and A level. All pupils will begin studying four subjects at AS level and most reduce to three subjects in Year 14. Continuing to study four subjects throughout Year 13 is recommended as AS subjects attract UCAS tariff points and a high grade in a fourth AS subject can lead to a reduced A level offer for university in Year 14.

The information in this booklet, together with reports on recent examinations and teachers' advice will enable parents and pupils to make informed choices. Every Year 12 pupil has been offered an individual careers guidance interview with one of the local careers officers.

## Other Post-GCSE Options

Pupils should consider carefully whether returning to school to undertake further academic study is the most suitable course of action for them. Other post GCSE options should be considered. These are explained to pupils in the Year 12 careers programme and include:

- **Studying applied (vocational) subjects**, including applied A levels at colleges of further and higher education, such as Northern Regional College, and Belfast Metropolitan College ([www.belfastmet.ac.uk](http://www.belfastmet.ac.uk)). Open days are held at these colleges in March and applications for places need to be submitted in June. Some local secondary schools also offer a range of applied courses.
- **Modern apprenticeships**. These are advertised in the local press from February onwards. See also [www.apprenticeships.org.uk](http://www.apprenticeships.org.uk).
- **Employment**. Pupils should study job advertisements in the local press.

Should you require further advice, please contact the school and the Head of Careers will provide assistance.

## Choosing AS and A level Subjects

The following advice is offered, regarding AS and A2 level subject choices.

Great care must be taken with A level subject choices as Higher Education and career options can be ruled out by incorrect selections.

If you have an idea as to what career you might wish to pursue or what degree course you might wish to study, you must check carefully which, if any A level subjects are essential or recommended. Some general guidelines are outlined below. Details can be obtained on [www.ucas.com](http://www.ucas.com) and [www.prospects.ac.uk](http://www.prospects.ac.uk).

- You may not know what career, or Higher Education course you are interested in at present, but try to think of general areas in which you would like to work.
- Choose subjects which you are good at. Getting the highest possible A level grades is very important.
- Choose subjects which you find interesting.
- Choose subjects in which the methods of assessment suit you.

Avoid choosing subjects because

- Your friends are choosing them.
- You like the teacher (you may have a different teacher in Year 13).
- You can't think of anything else.
- You have been told that it is 'easy'.
- If in doubt, consult subject teachers or your careers teachers for further guidance.

## Careers

Year 12 pupils have been introduced to the world of work, options after GCSE and labour market information during timetabled careers classes in 12. They have had the opportunity to research their own career and to have an individual careers guidance interview with one of the local careers officers. Members of the Careers department are also available each morning, during registration, in the careers room to give information, advice and support. Parents wishing to have further advice about their child's subject or career choice are invited to contact the Head of Careers, Mrs R Cooper.

The information provided on the following pages gives general guidance regarding Higher Education courses which require specific A level subjects. It is by no means exhaustive and **pupils are urged to undertake careful research into the entrance requirements for any Further or Higher Education Courses which they are considering.** A level entry grades are high at the two local universities owing to the high demand for places. Courses with lower entry grades can be found in GB.

### **Entry Requirements for Higher Education Courses (based on 2012 entry)**

Note that these may include specific GCSE and/or A level subjects; specific grades or UCAS tariff points (see below) in A level or even GCSE subjects and a range of non academic requirements such as relevant work experience, extra-curricular activities, evidence of personal qualities and skills and motivation for the choice of degree course. For full details of the entry profiles for specific courses, see [www.ucas.com](http://www.ucas.com).

### **UCAS Tariff Points**

| AS Level Grade | UCAS Tariff Points | A level Grade | UCAS Tariff Points |
|----------------|--------------------|---------------|--------------------|
|                |                    | A*            | 140                |
| A              | 60                 | A             | 120                |
| B              | 50                 | B             | 100                |
| C              | 40                 | C             | 80                 |
| D              | 30                 | D             | 60                 |
| E              | 20                 | E             | 40                 |

N.B.

- The A\* was first awarded in 2010 at A2 level (i.e. full A level). Currently very few universities are making offers that require an A\* but this is likely to change in the next few years.
- UCAS tariff points are also awarded (by some universities) for practical and theory examinations in music from grades VI to VIII and for Advanced Extension Awards.

### **CAO Tariff Points**

Applications to universities in the Republic of Ireland are centralised through the CAO. No fees are currently charged by institutions in the ROI, but those interested in law, medicine, dentistry and veterinary medicine/science should note that **four A levels are required** (there are several other subjects that may need 4 A levels). Its system of tariff points is listed below. Details may be obtained at [www.cao.ie](http://www.cao.ie).

| <b>GRADE</b> | <b>GCE A level</b> | <b>GCE Advanced<br/>Subsidiary Level</b> |
|--------------|--------------------|--|
| <b>A*</b>    | <b>150</b>         | <b>N/A</b>                               |
| <b>A</b>     | <b>135</b>         | <b>65</b>                                |
| <b>B</b>     | <b>120</b>         | <b>60</b>                                |
| <b>C</b>     | <b>100</b>         | <b>50</b>                                |
| <b>D</b>     | <b>75</b>          | <b>35</b>                                |
| <b>E</b>     | <b>40</b>          | <b>20</b>                                |

CAO points for ROI universities.

### **Admissions Tests**

Students applying for some courses are required to sit an admissions test as part of the application process. Some examples are given below and an up-to-date list of tests can be found on [www.ucas.com/tests/index.html](http://www.ucas.com/tests/index.html).

Admissions tests are a way to manage application numbers for high-demand courses by helping to differentiate fairly among well qualified applicants. Admissions tests broaden and complement other selection criteria as they often assess aptitude and reasoning rather than achievement and recall.

Admissions tests include:

- BioMedical Admissions Test (BMAT) is used for entry to medical and veterinary schools.
- History Aptitude Test (HAT) is used for entry to History courses.
- National Admissions Test for Law (LNAT) is used for entry into Law courses.
- Sixth Term Examination Papers (STEP) are used for entry into Mathematics courses at the University of Cambridge.
- UK Clinical Aptitude Test (UKCAT) is used to aid the selection of applicants for medical and dental degree programmes.
- HPAT is used for allied health courses at the University of Ulster.

## **Entry Requirements for Specific Degree Courses**

NB. This list provides general guidelines illustrated by a few specific examples of the A level subjects and grades required for entry into some degree programmes. Full details should be investigated at [www.ucas.com](http://www.ucas.com). Rankings of university courses can be found in "The Times Good University Guide" or "The Guardian University Guide" (both books may be found in the library).

### **Accountancy/ Finance**

- GCSE Mathematics is usually essential at Grade B or above.
- Some courses require A level Mathematics, e.g. some courses at Edinburgh, Dundee, Strathclyde.
- AAA needed at A level for Accounting at QUB and AAA- AAB for University of Ulster.
- Association of Chartered Certified Accountants - [www.acca.org.uk](http://www.acca.org.uk)
- Chartered Institute of Public Finance and Accountancy - [www.cipfa.org.uk](http://www.cipfa.org.uk)
- Institute for Financial Services - [www.ifslearning.co.uk](http://www.ifslearning.co.uk)
- Institute of Chartered Accountants - [www.icaew.co.uk](http://www.icaew.co.uk)
- Chartered Institute of Management Accountants - [www.cimaglobal.com](http://www.cimaglobal.com)

### **Architecture**

- ABB needed at A level for QUB and BBB (300 tariff points) at Ulster.
- Ensure that courses have been validated by RIBA.
- QUB prefers A levels in Art and Design (Design and Technology is not considered an alternative subject to Art) and a mathematical subject.
- Some universities, e.g. Manchester require some combination of Art, Mathematics and Physics. Others do not specify any particular A level subjects, e.g. Newcastle and Liverpool.
- Royal Institute of British Architects - [www.architecture.com](http://www.architecture.com)
- Royal Institute of Architects in Ireland - [www.riai.ie](http://www.riai.ie)

### **Art and Design**

- A good grade in A level Art and Design and a portfolio are required.
- Artists Information Company - [www.a-n.co.uk](http://www.a-n.co.uk)
- Chartered Society of Designers - [www.csd.org.uk](http://www.csd.org.uk)
- Artquest - [www.artques.org.uk](http://www.artques.org.uk)

### **Computing/IT**

- Many courses require A level Mathematics, e.g. Edinburgh, Dundee, Bath, Glasgow, Newcastle, Northumbria, Reading, St. Andrews and York.
- Entry grades are AAB-BBB at QUB and BBC (300 to 280 tariff points) at Ulster.

### **Dentistry**

- A high demand course requiring very good GCSE grades, e.g. 32-34 points from A\* and A grades at QUB (e.g. five A\*s and four As).
- Two or three sciences are required at A level at grades AAA QUB, Bristol, Dundee, Newcastle or AAB (at a few including Glasgow). QUB also requires an A in a fourth AS level subject.

- Good grades is not enough for successful entry to this degree course.
- A wide range of extra-curricular activities, evidence of manual dexterity and of the ability to work in a caring role are also required. Most courses require a good score in the UKCAT test.
- British Association of Dental Therapists - [www.badtorg.uk](http://www.badtorg.uk)

### **Dietetics/ Food/ Nutrition**

- A level Chemistry is generally the essential subject.
- At Queen Margaret University, Biology or Chemistry is acceptable. (200 points for Dietetics; 160 points for Nutrition). Similar grades at Robert Gordon University.
- BBB at A level at Ulster for Dietetics to include two Sciences, preferably Chemistry. Home Economics is acceptable and a good score in the HPAT test.

### **Education**

- Declining populations mean fewer places for teacher training in NI at Stranmillis and St. Mary's University Colleges.
- Very competitive in NI e.g. AAB for primary most courses at Stranmillis ([www.stran.ac.uk](http://www.stran.ac.uk)).
- Need to have experience of working with children.
- Admissions procedure includes an interview.
- Lower grades in GB institutions.
- Need English Literature at GCSE level for many Scottish colleges.

### **Engineering**

- A level Mathematics and Physics are essential for any aspect of engineering.
- Engineering mainly requires very good mathematical ability.
- Grades AAB for MEng and BBB for BEng at A level are required for most courses at QUB QUB while BEng courses are available at Ulster with 300-280 UCAS tariff points.
- Engineering Council- [www.engc.org.uk](http://www.engc.org.uk)
- Engineering Subject Centre - [www.engsc.ac.uk](http://www.engsc.ac.uk)
- Institute of Mechanical Engineers - [www.imeche.org.uk](http://www.imeche.org.uk)
- Institution of Electrical Engineers - [www.iee.org.uk](http://www.iee.org.uk)
- Civil Engineering Careers Service - [www.ice.org.uk](http://www.ice.org.uk)
- Engineering Training Council- NI - [www.etcni.org.uk](http://www.etcni.org.uk)

Note that 'engineering' covers a wide variety of specialisms which should be investigated fully before choosing one area to which you plan to apply.

### **Forensic Science**

- One or two scientific or mathematical subjects at A level are often required, often Chemistry.
- Grades range are typically CCC e.g. Abertay and Robert Gordon University.
- QUB offers Chemistry with Forensic analysis at grades BBB and requires A level Chemistry.

### **Law**

- Entry into top courses is very competitive and A\* and A grades in GCSE are required.
- No specific A level subject requirements.
- All Law courses at QUB require AAA at A level. Ulster requires ABB.
- English law is offered at Dundee and requires ABB. Lower entry grades are offered at some

- Law Careers Advice Network - [www.lcan.org.uk](http://www.lcan.org.uk)
- Institute of Legal Executives - [www.ilex.org.uk](http://www.ilex.org.uk)

### **Medicine**

- Very high GCSE grades required by all medical schools, e.g. 32-34 points from A\* and A grades at QUB (the equivalent of five A\*s and four As). Edinburgh University has stated an average applicant will have 6A\* at GCSE and the top one third between 8A\* and 11A\*.
- Entry grades are typically AAA (an A in fourth AS required for many universities e.g.QUB).
- A wide range of extra-curricular activities is also essential as well as work experience, motivation, knowledge of current issues and developments in medicine and evidence of being able to work in a caring capacity.
- Most courses now use an admissions test and an interview as part of the selection procedure.
- A level Chemistry is essential, usually along with another science and any other subject; sometimes a third science is required.
- NHS Careers - [www.nhscareers.nhs.uk](http://www.nhscareers.nhs.uk)

### **Nursing**

- Can be studied as a diploma or a degree subject - see [www.nmas.com](http://www.nmas.com)
- Entry grades to the degree courses are BBC at Ulster and CCD at QUB with at least one science A level or CCC with no science A levels.
- Lower entry grades are offered at a number of universities in GB.
- Four types of nursing are offered: adult, children's, mental health and learning disability nursing.

### **Optometry**

- AAB at Glasgow Caledonian (two Science subjects – they do have a list of subjects that are not acceptable for this course).
- AAB at Ulster (2 Science/Mathematics subjects at Grade A plus a B in any other subject).

### **Occupational Therapy**

- BBB at Ulster - any A level subjects. (HPAT test)
- 260 points at Queen Margaret University – A discursive subject and Biology or Chemistry are recommended.
- CC at Glasgow Caledonian - A level Biology and AS level English.
- 240 -260 points at Robert Gordon University - one science A level and a subject requiring the use of English.

### **Pharmacy**

- Good GCSE grades required.
- A level Chemistry is essential either with one other science/Mathematics or two science / Mathematics subjects.
- Grades range from AAB at QUB to ABB at the Robert Gordon University.

## **Physiotherapy**

- One or two science/Mathematics A levels required.
- Entry grades are generally around BBB, e.g. at Ulster where an admissions test also forms part of the entry requirements.
- Good GCSEs and evidence of the ability to work in a caring profession are also essential in this very competitive area.

## **Psychology**

- No specific subject requirements at A level at the two local universities. Some universities prefer a science A level.
- BBB points at Ulster and ABB at QUB. Grades vary, e.g. from BCC at Dundee to AAA at St. Andrews.

## **Radiography**

- BBB at Ulster, including one Science or Mathematics and a satisfactory score in the HPAT test.
- BB or 200 points at Queen Margaret University including Mathematics or any Science subject.

## **Speech and Language Therapy**

- BBB at Ulster, including Mathematics, English a Modern Foreign Language or a Science.
- AAB or 340 points at Queen Margaret University, including a Science, a Language (including English) or Psychology.

## **Sports Science/Studies**

- An A level science required at the University of Ulster for Sports Sciences.
- Many courses are very competitive, so good GCSE grades and a high level of performance in a particular sport are advantageous.
- AAB required at Ulster, BBC/BCC at Edinburgh, BCC at Stirling, CCC at Aberdeen and at Robert Gordon University. Lower grades are offered elsewhere.

## **Surveying**

- ABB or 320 points at Ulster at A level. All subject areas considered.
- Royal Institution of Chartered Surveyors - [www.rics.org](http://www.rics.org)

## **Veterinary Medicine/Science**

- A very high demand course, needing a strong GCSE performance, similar to Medicine and Dentistry.
- A very broad range of work experience is also required during which a diary should be kept.
- A level grades generally range from AAB to 390 points in UK to AAAA at ROI universities.

## Tuition Fees

Please note any information given in this section is very much subject to change with the current debate on student finance.

Indicative Fees for commencing higher education in 2012/13

|                      |                  | Country of Study |              |              |              |                     |
|----------------------|------------------|------------------|--------------|--------------|--------------|---------------------|
|                      |                  | Northern Ireland | England      | Scotland     | Wales        | Republic of Ireland |
| Country of Residency | Northern Ireland | £3,465           | Up to £9,000 | Up to £9,000 | Up to £9,000 | €2,000 paid by DEL. |

### **Tuition fees are not charged in the ROI. All students pay a registration fee.**

Amounts charged may vary between different universities and colleges and even courses at the same institution. These do not have to be paid up front as students will automatically qualify for a loan. This loan is paid off after graduation when earnings reach £15,795.

See [www.studentfinancenl.co.uk](http://www.studentfinancenl.co.uk) for more information.

R Cooper (Mrs)

Head of Careers

## **ART AND DESIGN**

### **OVERVIEW**

AS / A level Art and Design will provide a natural progression for pupils who have studied GCSE. It will meet the needs of the following types of students (a) Those who undertake further study in Art and Design. (b) Those that will study subjects or take up careers for which Art and Design education is relevant. (c) Those that, while having interest and aptitude in the subject, will benefit from the course yet are not intending to study the subject further. (d) Those that go directly into employment.

The aims of the course will encourage students to develop (1) intellectual, imaginative creative and intuitive powers; (2) investigative, analytical, experimental, practical, technical and expressive skill, aesthetic understanding and critical judgement. (3) Observational and recording skills. (4) Experience working with a range of traditional and new media. (5) Knowledge, understanding and application of art in current and past societies and cultures.

Interest and enjoyment is central to the aim of study.

### **COURSE CONTENT**

Students are required to complete 2 modules for AS and 2 modules for A2 Advanced level. A thematically based, externally set assignment at each level, offering exciting stimuli for interpretation in a wide range of media. AS 1 consists of a coursework portfolio with a final response in a media of the student's choice. Painting and Drawing using a range of media, Printmaking, Textiles/Fashion Design, Ceramics/Sculpture, and digital photography are explored. A2 1 A Personal Investigation unit is a visual and written module.

### **ASSESSMENT**

All students work is internally assessed with external moderation from CCEA in the summer term.

Course Structure Year 13: September – February AS 1 Fine Art or 3 Dimensional Design

This module is a compulsory coursework component that contributes 50% of total AS Level.

In February E.S.A (Externally Set Assignment) is released and contributes the remaining 40%.

Students will have approximately 6 – 8 weeks for preparation work and similar to produce a final outcome in 2D or 3D.

Course Structure Year 14: September – February module A2 1 Practical coursework and extended essay forming the Personal Investigation unit - 60% of total A2 Level.

In February E.S.A. arrangements similar to Year 13.

### **TEACHING METHODS**

Much of the curriculum time is devoted to practical work. A variety of teaching methods used include, note taking, whole class teaching, paired and group work, discussion, personal research, collaborative work, investigation, use of ICT, design and experimentation using a variety of media. Visits to galleries and museums.

### **CAREERS & FURTHER STUDY**

There is a breadth of Art and Design courses available of which a Foundation course is the usual requirement for entry. BA Honours courses would include Fine Art, Fashion Design, Graphic Design and Multi Media, Illustration, Interior design, Photography and Digital Imaging, Textile Design, Product Design, Architecture Studies (also Landscape Architecture), Ceramics and Sculpture. A level Art and Design would be desirable qualification in entry to History of Art, Conservation and Museum Restoration work. Post graduate qualification would include teaching and further specialisation courses at Master's level. All the above would lead directly into employment opportunities in the local, global and industrial environments.

## **BIOLOGY**

### **OVERVIEW**

Biology A level provides the opportunity to study in depth the complex and fascinating world of plant and animal structure and function from single cells to whole systems and to investigate heredity, the environment and how biology applies to today's society.

Students are advised to have at least BB from double award science with preferably greater than 70 % in the biology paper.

### **COURSE CONTENT**

Both AS and A2 Biology are CCEA specification. There are two theory and one coursework module for each level.

At AS Module 1 involves the detailed study of cell structure and function, tissues, organs and DNA technology while Module 2 looks at plant and animal biology in relation to gas exchange and transport and examines ecology, adaptation, natural selection and biodiversity. The coursework module at AS involves carrying out, interpreting and evaluating two full investigations.

At A2 Module 1 involves the study of homeostasis, nervous systems, hormones, immunity, the biology of populations, cycles and the impact of human activity on ecosystems. Module 2 looks at the biochemistry of respiration and photosynthesis, genetics, gene technology and classification. At A2 similar skills are assessed on the coursework as at AS but with greater depth and with the addition of planning and the use of statistics to analyse experimental results.

### **ASSESSMENT**

Each theory module at is assessed by a written paper lasting 1 hour 30 minutes at AS and 2 hours at A2. Coursework is assessed throughout the course

At AS each written paper makes up 40% and coursework 20% of the final marks.

At A2 the AS marks make up 50 % of the marks. The remaining marks are made up of the two written papers (20% each) coursework (10%). At A2 the papers contain an element of synoptic assessment which requires knowledge from different parts of the course.

### **TEACHING METHODS**

Detailed course notes are provided for all AS and A2 students. Teaching methods include whole class teaching, group work, active learning tasks, discussion, personal research, use of ICT, creative activities and role play. The theory is supported by many practical investigations and fieldwork is carried out at a local beach. A programme of homework and tests, all compiled from past examination questions, is used to help teachers and pupils assess understanding and learning.

### **CAREERS & FURTHER STUDY**

Biology is useful for courses and careers such as Medicine, Dentistry, Pharmacy, Forensic Science, Nursing, Physiotherapy, Radiography, Audiology, Occupational Therapy, Health Care, Biochemistry, Genetics, Physiology, Psychology, Agriculture, Environment, Horticulture, Forestry, Teaching, Medical Laboratory Work, Marine Biology, Botany, Zoology, Sports Studies, Equine Studies and Veterinary Science.

## **BUSINESS STUDIES**

### **OVERVIEW**

The AQA business studies specification has been designed to provide candidates with a critical understanding of:

- the internal functions of business organisations;
- the dynamic external environment within which businesses operate;
- the major topical issues that can generate change for business organisations and methods of response;
- and a range of stakeholder perspectives.

The study of this course will allow for the acquisition of important and transferable skills such as:-

- data skills;
- presenting arguments, making judgements and providing recommendations;
- recognising the nature of problems, solving problems and making decisions using appropriate business tools and methods;
- planning work and time management;
- conducting research;
- and challenging assumptions.

This specification provides a smooth transition from GCSE, ***although this is not a pre-requisite for studying this subject to AS/A level.*** However, a grade B or above at GCSE would show a good aptitude for the subject. It lays an appropriate foundation for further study of the subject or indeed many related subjects in higher education. In addition, it provides a worthwhile course for every candidate in terms of general education and lifelong learning. The results achieved by candidates in the Business Studies department are consistently among the best in the school.

### **COURSE CONTENT**

AQA AS Modules and weighting:-

- Planning and Financing a Business (Unit 1, 40% of AS marks/20% of A level marks)
- Managing a Business (Unit 2, 60% of AS marks/30% of A level marks)

AQA A level and weighting;

- Strategies for Success (Unit 3, 25% of A level marks)
- The Business Environment and Managing Change (Unit 4, 25% of A level marks)

For more information visit: [www.aqa.org.uk](http://www.aqa.org.uk)

### **ASSESSMENT**

#### **AS Level**

Unit 1 is assessed through an examination lasting one hour and fifteen minutes comprising short answer questions and extended responses based on a mini case study.

Unit 2 is assessed through a one hour and thirty minute examination paper consisting of compulsory, multi-part data response questions.

#### **A level**

Assessment for Unit 3 is through a business decision making case study lasting one hour and forty five minutes which requires candidates to answer a number of compulsory questions.

The final paper, Unit 4, has the same duration as Unit 3 and includes a pre-release research task leading to the first section of a two section examination. The second section consists of a choice of essays. All questions will be essay style and will draw upon knowledge from all four units.

### **TEACHING METHODS**

A variety of teaching methods are used to deliver the course, for example, case studies, DVDs and industrial visits. However, much learning is based on discussion and debates on recent, topical business and Government events and actions. A major focus when preparing candidates for AS and A level Business Studies is on the key assessment objectives. As such, ample training is provided to build the application, analytical and evaluative skills required.

**AS level students in this department will be given the opportunity to apply to take part in the Institute of Directors' shadowing scheme.**

**CAREERS & FURTHER STUDY**

Business Studies is a very flexible qualification. It can aid many further and higher education courses in areas such as Accountancy, Business Studies, Economics, Marketing, Law, Finance, Management and many others. We have had many students who have studied A level Business Studies and followed a diverse range of career paths. Some examples include Dentistry, Medicine, Engineering, Agriculture, Teaching, and Physiotherapy to name a few.

## CHEMISTRY

### OVERVIEW

AS and A2 Chemistry builds on the work started in GCSE (e.g. Atomic Structure, calculating numbers of atoms using the Mole Concept, Organic Chemistry, Energy Changes, etc.) but the emphasis is on how to analyse data and the application of knowledge to unfamiliar situations. As with all A levels, there is an increase in the level of the work since you will be expected to make more use of your knowledge rather than just recall facts. The material is aimed at giving you a good understanding of how atoms, molecules and ions react and why they do so and hence you are introduced to a wider variety of reactions and situations than at GCSE level. At the end of a period studying Chemistry you will be numerate, analytical, and practical and have good problem solving, presentation and communication skills.

Chemistry is the central science and impacts on all facets of our lives. An understanding of chemistry is necessary to all other sciences from astronomy to zoology. All of the materials used by engineers and technologists are made by chemical reactions and we all experience chemical reactions continuously, whether it be breathing or baking a cake, driving a car or listening to a battery driven i-pod. Chemistry is concerned with all aspects of molecules, their physical and chemical properties, their composition and structure, their synthesis and use in the 21st century.

You should choose Chemistry at A level if you have a definite career in mind which requires Chemistry or if you enjoy Chemistry and feel confident in many of the topics (one or two take some time to 'click' even for the top candidates at GCSE level) and if you wish to study a practically based subject.

You must have at least a BB in the Double Award Science to consider Chemistry at A level (\* \* or AA is obviously more highly recommended). If you are uncertain, ask your Chemistry teacher for advice.

### COURSE CONTENT

The AS Course (Year 13) consists of:

Unit 1: Atomic Structure, Amount of Substance, Bonding and Organic Chemistry (1<sup>1</sup>/<sub>4</sub> hour paper in January)

Unit 2: Energetics, Kinetics, Equilibria, Redox Reactions, Periodic Table and further Organic Chemistry (1<sup>3</sup>/<sub>4</sub> hour paper in June)

Unit 3: Laboratory chemistry - Assessment of Experimental Skills as practicals are performed during the year. (Internal Assessment throughout the year)

The A2 Course (Year 14) consists of:

Unit 4: Kinetics, Equilibria, Acids and Bases, Further Organic Chemistry (including Polymers and Organic Analysis) (1<sup>3</sup>/<sub>4</sub> hour paper in January)

Unit 5: Redox Equilibria, Periodicity, Transition Metal Chemistry and Thermodynamics. (1<sup>3</sup>/<sub>4</sub> hour paper in June)

Unit 6: Laboratory chemistry - Assessment of Experimental Skills as practicals are performed during the year. (Internal Assessment throughout the year)

## **ASSESSMENT**

The AS Course (Year 13) consists of:

Unit 1:  $1\frac{1}{4}$  hour paper in January (16% of marks)

Unit 2:  $1\frac{3}{4}$  hour paper in June (24% of marks)

Unit 3: *Internal Assessment of practical skills throughout the year* (10% of marks).

The A2 Course (Year 14) consists of:

Unit 4:  $1\frac{3}{4}$  paper in January (20% of marks)

Unit 5:  $1\frac{3}{4}$  paper in June (20% of marks)

Unit 6: *Internal Assessment of practical skills throughout the year* (20% of marks) and a 1 hour 30 minute paper in June (10% of marks).

## **TEACHING METHODS**

The Chemistry Department uses a variety of teaching methods. Outline notes are given but understanding is developed by the use of illustrative practical, modelling, practice of calculations, discussion, personal research, paired and group work. Practical assessments are used as a teaching tool and these involve planning, manipulative skills, observation and recording of experimental findings and interpretation of the results. Where appropriate, use is made of ICT.

## **CAREERS & FURTHER STUDY**

Degrees in sciences lead to a vast variety of job opportunities and a list of potential jobs will have been supplied to you by your Chemistry teacher. Some guidance is offered below:

### **A Level Chemistry**

If you are considering a career which involves laboratory work (also, see Biological Sciences below), development of materials or any career associated with Chemistry you will need A-level Chemistry.

### **A Level Biology and Chemistry**

If you are considering a career as a Doctor (Medicine), Dentist or Vet you will be required to reach a high standard in Chemistry and Biology at A level to be accepted into these courses at university.

If you are interested in Biological Sciences (Agriculture, Horticulture, Anatomy, Physiology, Biochemistry, Biomedical Science, Biotechnology, Microbiology, Food Science, Forensic Science, Environmental Science, Genetics or Pharmacy) you should choose Biology and probably Chemistry to at least AS level. (Check individual courses for their requirements as they vary and some e.g. Biochemistry require A level Chemistry).

### **Useful websites for research:**

The Royal Society of Chemistry: [www.rsc.org/](http://www.rsc.org/)

New Scientist (Jobs section) [www.newscientistjobs.com](http://www.newscientistjobs.com)

## COMPUTING

### OVERVIEW

The aim of the Computing A level course is very different from the ICT course studied at GCSE in school. In broad terms, GCSE ICT is focused on how we can use computers to solve problems and concentrates on the application of computer technology in a variety of contexts. Computing, on the other hand, is concerned with how computers, networks, etc actually function.

Most pupils enjoy GCSE ICT and find it relatively easy to obtain a good grade - we expect around 80% of the current year 12 to obtain an A or A \* grade. However, pupils find that there is a significant increase in difficulty between GCSE and A level. Pupils should have an A grade at GCSE before they should consider attempting this subject.

*Anyone considering a career in the Computing industry should study this subject rather than ICT. The course is similar in nature to Mathematics and Physics. Do note that Mathematics is normally the essential subject for Computing degrees. The AS course has a straightforward theory module and the practical module allows pupils to discover whether programming is a skill they wish to develop further. Your ICT teacher will be happy to give you further information and help you with your choice.*

*It is not generally possible to study this subject as well as studying ICT at AS or A2 level.*

### COURSE CONTENT

The course will have four modules. The module titles are reasonably self explanatory and are listed below:

#### **AS**

- Module 1 Problem Solving, Programming, Data Representation and Practical Exercise
- Module 2 The Computer Components, The Stored Program Concept and the Internet

#### **A2**

- Module 3 Problem solving, Programming, operating Systems, Databases and Networking
- Module 4 The Computing Practical Project

Module 1 above involves developing a programming solution to a practical problem decided by the examination board - in this context the ability to think logically is crucial - as well as answering some theory questions. At A2 module 4 is practical and the problem to be solved is of an individual nature. This coursework element gives pupils a chance to put into practice the ideas they have learnt during theory lessons but requires independent work and is time consuming.

The examination board we use is AQA and further details are available from [www.aqa.org.uk](http://www.aqa.org.uk).

### ASSESSMENT

At AS level module 1 is worth 30% of the marks, while module 2 is worth 20% of the marks. At A2 module 3 is worth 30% of the marks, while module 4 is worth 20% of the marks. So, overall, the coursework accounts for roughly 40% of the total marks available in this subject.

### TEACHING METHODS

In theory modules some material will be taken from a textbook written specifically for the course. Extensive use will also be made of PowerPoint presentations. For the practical side of the course time will be spent at the beginning of each section looking at the skills required to complete the coursework tasks. At A2 once the coursework begins, tuition will often be on a one-to-one basis, due to the individual nature of this work.

### CAREERS & FURTHER STUDY

This course should be undertaken by anyone wishing to study Computing at university. The logical approach required to programming and problem solving skills developed in producing practical solutions to problems are of great use in the academic and business communities.

## DESIGN AND TECHNOLOGY – RESISTANT MATERIALS, PRODUCT DESIGN

### OVERVIEW

- Students embarking on an AS level are expected to have achieved a minimum grade B at GCSE (but preferably grade A or above) in Technology and Design.
- An ability to **work independently** and with understanding in the coursework element along with **high level graphic skills with imagination and flair in designing** will be essential.
- Throughout the AS and A2 course, pupils will **develop** their own **imagination and creativity through Design and Technology capability**, to recognise and to produce high quality three dimensional products.
- **Apply essential knowledge**, understanding and skills of design production processes to a broad range of technological activities and develop an understanding of the manufacturing processes within the industrial context.
- **Students must be able to use ICT** to enhance their design capability through the application of **Computer Aided Design and Manufacturing software** (ProDesktop and/or SolidWorks) to a high level and to enhance presentation of design portfolios.
- Develop an understanding of the social, moral, spiritual and cultural values inherent in design and technology activity and to develop critical evaluation skills in technical, aesthetic, economic, environmental, social and cultural contexts.
- **The main emphasis of the course is on product design, therefore an ability to produce detailed, creative and imaginative 3D design is essential. This will include detailing every aspect of a product for manufacture including the use of assembled CAD drawings with production plans and working drawings.**

### COURSE CONTENT

The examining Board for the subject is Edexcel. Full details of the specification can be found and downloaded at <http://www.edexcel.com/quals/gce/gce08/dt/product/Pages/default.aspx>

The course is covered through two modules at AS and two modules at A2 level. Unit 1; Product Development (coursework folder (divided into 3 inter-related activities including manufacture), Unit 2; knowledge and understanding of product design, Unit 3; further study of product design, Unit 4; commercial product development (coursework folder and manufacture to include CAC/CAM activities).

### ASSESSMENT

In each of the levels at AS and A2, 60% of the final mark is in design and manufacturing (coursework) while the remaining 40% is examined through the application of theoretical knowledge as applied to industrial design and manufacture. Units 2 and 3 are examined through a 2 hour written paper in June of each year of the examination series. The paper will be a question and answer booklet. The coursework elements, Units 1 and 4 are internally assessed and externally moderated. There are no January examinations in this subject.

### TEACHING METHODS

A variety of teaching methods are used from whole class teaching and note taking, personal research, discussion, investigations, designing, use of ICT, use of resources and practical work.

### CAREERS & FURTHER STUDY

The AS and/or A2 qualification in Design and Technology could lead to Higher Education courses in the following areas;

Engineering - Electrical/Mechanical//Civil/Structural etc

Product design

Architectural Courses (for some universities – e.g. QUB prefer Art)

Teaching

Other courses where a non specified subject is required.

## **ENGLISH LITERATURE**

### **OVERVIEW**

English Literature at AS level aims to encourage students to develop their interest and enjoyment in literary studies through reading widely, independently and critically. Students will enhance their ability to express themselves through speech and writing and be assessed on the latter. While these aims consolidate the aims of GCSE English Literature, the depth of analysis needed will be significantly greater, the range of literature studied will broaden and the sophistication of writing will increase.

In order to take this subject at AS level, it is recommended that students have studied English Literature at GCSE. Exceptions may be made to this rule, but only if a good grade in English has been attained. It should be emphasised, however, that students without experience of GCSE English Literature often struggle at AS level.

### **COURSE CONTENT**

At Lame Grammar School we take CCEA English Literature. See website for greater detail: [www.ccea.org.uk](http://www.ccea.org.uk)

Four modules are studied over the two years, two at AS and two at A2.

AS level

Module 1: The Study of Drama

Module 2: The Study of Poetry Written after 1800 and the Study of Prose 1800-1945

A2 level

Module 3: The Study of Poetry 1300-1800 and Drama

Module 4: Study of Prose. Theme based.

### **ASSESSMENT**

With one module of coursework being taken at AS level, there is only exam module in the first year. Examinations are offered in January and in June.

Module 1 AS (40%); A2 (20%)

Module 2 AS (60%); A2 (30%)

Module 3 A2 (50%); A (25%)

Module 4 A2 (50%); A (25%)

### **TEACHING METHODS**

At AS/ A level classes are conducted largely on a seminar basis. Discussion of the texts is the basis of our classes with all members of the class sharing their views and analysis. Whole class teaching will be employed when necessary. Personal research and wider reading is essential and ICT will be used when necessary.

### **CAREERS & FURTHER STUDY**

English Literature A level has always been highly regarded and a degree in this subject is viewed in a similar light. Jobs in Law, Journalism, Teaching, Broadcasting and Librarianship are just a few of the areas that an English degree can help you access.

## FRENCH

### OVERVIEW

At AS/ A2 level we aim to develop understanding of spoken and written forms of French from a variety of registers, to communicate confidently through both the written and spoken word, to develop critical insights into, and contact with, the contemporary society, cultural background and heritage of countries or communities where French is spoken and to develop positive attitudes to language learning. The transition from GCSE to AS/ A2 is gradual with students being encouraged to develop their knowledge of topics covered at GCSE and to explore new and wide-ranging issues such as delinquency, fashion and current affairs. The study of a literary / civilisation topic is one aspect of the course that students would not have encountered before.

### COURSE CONTENT

At AS level, students undertake 2 compulsory modules: module 1 is speaking and module 2 is listening, reading, and writing. At A2 level, there are 2 further compulsory modules: module 1 is speaking and module 2 is listening, reading, and writing. Topics studied during the course focus on family life and relationships; personal and interpersonal relationships; physical and mental well-being; interests; influences on young people; education and career planning; equality; multi-cultural society; democracy and conflict; conservation; energy and climate change. At A2 level there will be an introduction to French Literature through the study of Albert Camus' *L'Etranger*, as well as a study of French region of *Bretagne*, focusing on elements of the region's history, economy, industry, tourism and culture. Students will also have an allocated time with the French assistant which will enhance their spoken French and give them a greater insight into French culture. The exam board is CCEA and further information on their syllabus can be found on the website: [www.ccea.org.uk](http://www.ccea.org.uk)

### ASSESSMENT

#### AS:

Module 1: Speaking – topic-based presentation &  
17.5% conversation (13 minutes)

Module 2: Section A – Listening (40 minutes)  
32.5% Section B – Reading-comprehension  
-translation into English } (2hr5min)  
Section C – Writing (Topic-based essay)

#### A2:

Module 1: Speaking – discussion based on societal theme &  
17.5% conversation (15 minutes)

Module 2: Section A – Listening (40 minutes)  
32.5% Section B – Reading-comprehension  
-translation into French } (2hr20min)  
Section C – Writing (Literature-based essay)

### TEACHING METHODS

The French course incorporates a variety of teaching methods including paired work, use of ICT for individual and group presentations, personal research into various topics, listening exercises, reading comprehensions, translation activities, and use of the language assistant.

### **CAREERS & FURTHER STUDY**

The French course has been designed to provide a suitable foundation for further study and/or practical use of French, as well as a coherent, satisfying and worthwhile course of study for students who do not progress to further study in the subject. Career paths taken with the study of French include: Interpreting, Translating, Diplomatic Work, Teaching, International Business, Journalism, Immigration and Customs, International Sales, Voluntary Service Overseas and many more.

## **GEOGRAPHY**

### **OVERVIEW**

Switch on your television, listen to the radio or pick up a newspaper and the environment seems to be top of everyone's agenda. We are constantly bombarded with facts and figures relating to the need for energy conservation and climate change. The study of Geography involves the synthesis of facts, figures, ideas and perspectives to help us understand and protect the world we live in. By studying Geography, students learn about important contemporary issues like global warming, desertification, deforestation, loss of biodiversity, contrasts in development and natural disasters.

Students are advised to have at least a B grade from GCSE Geography.

### **COURSE CONTENT**

Both AS and A2 Geography follow the CCEA specification. There are two examination modules for each level.

As Module 1 involves the study of fieldwork skills, rivers, ecosystems and extreme weather events, while As Module 2 involves the study of fieldwork skills, population, settlement and development. The fieldwork skills are taught during a two day residential field work course at Magilligan, Co. Londonderry.

A2 Module 1 involves the study of human geography and global issues. A2 Module 2 involves the study of physical geography and decision making skills. Both A2 Modules involve optional topics.

### **ASSESSMENT**

AS Module 1 and AS Module 2 are assessed by a written paper lasting 1 hour 30 minutes. The fieldwork is assessed as part of paper 1 therefore there is no requirement for the production of a fieldwork project.

A2 Module 1 is assessed by a written paper lasting 1 hour 30 minutes. A2 Module 2 is assessed by a written paper lasting 2 hours 30 minutes.

Each paper is worth 25% of the full A level.

### **TEACHING METHODS**

The increased flexibility in the Revised A level Geography specification has allowed the Geography Department to adopt active learning and teaching strategies. This allows the pupils to develop their skills and abilities in line with their geographical knowledge and understanding. This approach actively engages students in their learning, making it a more relevant and enjoyable experience. Detailed course notes are provided and are supported by a programme of homework and tests. Past paper questions are also studied and examination techniques are highlighted.

### **CAREERS & FURTHER STUDY**

GCSE Geography is a requirement for the study of A level Geography which is accepted for the reading of numerous degree subjects including Accountancy, Finance, Business and Management, Dentistry, Law, Engineering and Medicine. Related careers include Cartographer, Landscape Architect, Town Planner, Civil Engineer, and careers in Travel and Tourism.

Geography is an adaptable subject and is in the unique position of qualifying as an arts or a science subject at university. This makes it an ideal additional A level to core career subjects.

## HISTORY

### OVERVIEW

The study of History is the exploration of the story of human kind. It examines the events of the past, explores the circumstances in which they unfolded, explains why they happened as they did; it ultimately reveals the answers to how and why our lives are as they are, and who we are today. GCE History is interesting and enjoyable, a subject for those with an inquiring mind.

### COURSE CONTENT

We study units offered by the local examination board CCEA, four units in total, and we focus on elements that look at the modern period:

- AS, 1, Option 5 (Historical Investigations and Interpretations) is Germany, 1918-45. We study the Weimar Republic and the rise of the Nazi Party between 1918-33, and Nazi Germany between 1933-45.
- AS, 2, Option 6 (Conflict and Change in Europe) looks at Italy, 1914-43. It focuses on Italy and the First World War, the rise to power of Mussolini and his domestic policies, 1919-43, and Italian foreign policy from 1922-43.
- A2, 1, Option 5 (Change over Time) deals with the Clash of Ideologies, 1900-2000. The course starts with a study of the foreign policy of Tsarist Russia and goes on to deal with the advance of Communism outside the USSR.
- A2, 2, Option 4 is entitled Partition of Ireland, 1900-1925. Study commences with an analysis of the Home Rule Crisis, 1900-14, continues with a study of political events in Ireland during World War 1, and ends with an exploration of events in Ireland from 1919-1925.

### ASSESSMENT

AS1 and AS2 are assessed in 1hr. 30 minute external examinations, both taken at the end of the Year 13. Each examination is worth 50% of the AS grade, 25% of the A2 grade.

A2, 1 (Clash of Ideologies, 1900-2000) is assessed in a 1hr 15 minute external examination and involves answering one essay question. A2, 4 (Partition of Ireland, 1900-1925) is assessed in a 2 hour external examination. It comprises source questions and one essay. Both examinations are taken at the end of Year 14.

### TEACHING METHODS

Staff provide all the material necessary to ensure that course content is covered, and teaching is by whole class teaching, group work, discussion, personal research, etc. as required by the task. Homework tasks, often based on past examination questions, are used to help teachers and pupils assess understanding and learning.

### CAREERS & FURTHER STUDY

History helps you develop skills to look beyond the headlines to ask questions properly and express your own opinions. It helps you develop an understanding of both past and present. A lack of historical knowledge prevents people from truly understanding the world they live in. History provides you with the skills employers are looking for.

Related careers include those of Solicitor, Barrister, Archaeologist, Museum/Gallery Worker, Journalist, Media Researcher, Teacher and Diplomat. A good grade in History at A level and beyond is considered to be evidence of an ability to think and to communicate.

## HOME ECONOMICS

### OVERVIEW

The central focus of Home Economics education is the health and wellbeing of people in their everyday lives. Opportunities are provided to study the complex and fascinating interrelationships between diet, lifestyle and health.

Home Economics is concerned with the management of human and non-human resources and with making informed decisions about nutrition and consumer issues.

Students studying Home Economics should be equipped with skills needed for a variety of careers, together with essential life skills.

A good standard in GCSE in Home Economics is useful but not essential.

### COURSE CONTENT

Four modules as outlined below following the Northern Ireland CCEA specification.

**Unit 1: AS 1: Nutrition for optimal health.** This includes the study of micro and macro-nutrients and other dietary constituents as well as nutritional considerations throughout the life span.

**Unit 2: AS 2: Priority health issues.** Inter-relationships between diet, lifestyle and health are examined.

**Unit 3: A2 1: Consumer issues.** This unit focuses on the main consumer issues in today's society such as food safety and ethical issues as well as consumer information and protection.

**Unit 4: A2 2: Research based assignment.** Students choose a research area from any of the other units and produce a report of no more than 4,000 words.

Further information can be obtained from [www.ccea.org.uk/home\\_economics](http://www.ccea.org.uk/home_economics).

### ASSESSMENT

| Unit                              | Assessment  | Weighting                       | Availability       |
|-----------------------------------|---|---------------------------------|--------------------|
| AS 1 Nutrition for Optimal Health | 1 hour 30 minutes examination   | 50% AS<br>25% of advanced level | January and Summer |
| AS 2 Priority Health Issues       | 1 hour 30 minutes examination   | 50% AS<br>25% of advanced level | January and Summer |
| A2 1 Consumer Issues              | 2 hour examination  | 25% of advanced level           | Summer only        |
| A2 2 Research based assignment    | Internal assessment.<br>4,000 word assignment assessed by the teacher and | 25% of advanced level           | January and Summer |

### TEACHING METHODS

A variety of teaching methods are used including: whole class teaching, paired and group work, discussion, personal research, practical work, investigations, use of ICT, use of resources, role play, and visiting speakers.

### CAREERS & FURTHER STUDY

Home Economics is useful for a variety of careers. These include dietician, nutritionist, environmental health officer, food scientist, trading standards officer and health promotion officer, as well as a range of careers in the food and drink industry and Department of Agriculture, Fisheries and Food. Former students have gone on to study a wide variety of degree courses including Teaching, Environmental Health, Social Work, Physiotherapy, Biomedical Studies, Dietetics, and Law. Home Economics is a recommended subject for Higher Education Courses such as Food and Nutrition, Dietetics and Food Technology.

## ICT

### OVERVIEW

The aim of the ICT A level course is similar to the ICT course studied at GCSE in school. In broad terms, ICT is focused on how we can use computers to solve problems and concentrates on the application of computer technology in a variety of contexts. However, the style of questions is different from GCSE and pupils need to be able answer in a much fuller way.

This is the sixth year that we will offer this course and pupils have consistently scored better in this subject than the other subjects they study at A level. Each year we have used The Welsh Examination Board and further details are available from their website, [www.wjec.co.uk](http://www.wjec.co.uk).

*This subject should **not** be considered by someone looking a career in the Computing Industry. A wide range of pupils have found that ICT is a very useful subject that complements their other subject choices. Your ICT teacher will be happy to give you further information and help you with your choice.*

*It is generally not possible to study this subject as well as studying Computing at AS or A2 level.*

### COURSE CONTENT

The ICT course has four modules. The module titles are given below:

|                   |  |
|-------------------|--|
| <b>AS</b>         |  |
| <b>Theory</b>     | Information Systems – this module will also involve some practical spreadsheet work                              |
| <b>Coursework</b> | Presenting Information – practical work involving DTP, Mail-merge and PowerPoint                                 |
| <b>A2</b>         |  |
| <b>Theory</b>     | Use and Impact of ICT  |
| <b>Coursework</b> | Relational Databases – a major piece of individual work covering all aspects of developing a new computer system |

The two practical elements above involve developing computer systems to solve particular problems. At AS level a variety of packages will be used to solve a number of smaller problems, while at A2 pupils will focus on an extensive problem that will be solved by use of a database.

### ASSESSMENT

At AS level the theory module is worth 60% of the marks, while the practical module is worth 40% of the marks. At A2 the theory module is worth 60% of the marks, while the practical module is worth 40% of the marks. So, overall, the coursework accounts for 40% of the total marks available in this subject.

### TEACHING METHODS

In theory modules some material will be taken from a textbook written specifically for the course. Extensive use will also be made of PowerPoint presentations. For the practical side of the course time will be spent at the beginning of each section looking at the skills required to complete the coursework tasks. Once the coursework begins, tuition will often be on a one-to-one basis, due to the individual nature of this work.

### CAREERS & FURTHER STUDY

This course should be undertaken by pupils wishing to demonstrate knowledge of the use of computers to solve problems in a wide variety of contexts. In the current climate the skills gained should be much sought after in the academic and business communities.

## **MATHEMATICS**

### **OVERVIEW**

A level Mathematics is based on the study of two areas of Mathematics:- Pure Mathematics and Mechanics. The content of the course builds upon the knowledge, skills and understanding established at GCSE. It seeks to provide a suitable foundation for the study of mathematics and other subjects in further and higher education, and for a range of interesting careers.

AS Mathematics is suitable for pupils who have achieved a good grade in GCSE Additional Mathematics and/or a grade A\* - B in GCSE Mathematics at Higher Tier. AS can be taken as a stand alone course or as a foundation for A2.

### **COURSE CONTENT**

#### **AS Modules**

In Year 13 the material taught is based on the CCEA modular syllabuses for AS LEVEL MATHEMATICS.

#### **Module C1 - AS Core Mathematics 1**

This is a Pure Mathematics module including work on indices, surds, quadratics, Remainder Theorem, transformation of graphs, straight lines and differentiation.

#### **Module C2 - AS Core Mathematics 2**

This is a Pure Mathematics module including work on circles, sequences and series, trigonometry, logarithms and integration.

#### **Module M1 - Mechanics 1.**

This is a Mechanics module including work on displacement, velocity and acceleration, force, friction, equilibrium, Newton's laws of motion and impulse and momentum.

#### **A2 Modules**

In Year 14 the material taught is based on the CCEA modular syllabuses for A LEVEL MATHEMATICS. The A2 modules assume knowledge of and extend the skills and understanding of the AS modules.

#### **Module C3 - A2 Core Mathematics 1**

This is a Pure Mathematics module including work on partial fractions, modulus functions, parametric equations and further study of trigonometry, calculus and graphs.

#### **Module C4 - A2 Core Mathematics 2**

This is a Pure Mathematics module including work on vectors, functions and further study of trigonometry and calculus.

#### **Module M2 - Mechanics 2**

This is a Mechanics module including work on projectile motion, circular motion, vectors, work, power and energy, velocity, displacement and acceleration.

More information can be found at [www.ccea.org.uk](http://www.ccea.org.uk)

### **ASSESSMENT**

Pupils are assessed by means of six assessment units; three for AS and an additional three A2 units for those taking the full Advanced GCE.

AS Mathematics is assessed at the end of Year 13 by three equally weighted 1½ hour papers.

The A2 modules are assessed during Year 14 by three equally weighted 1½ hour papers. C3 is sat in January or June and C4 and M2 are sat in June.

The AS modules can be repeated during Year 14, in either January or June, and the best result will count towards the final grade awarded.

There is no coursework component to the course.

### **TEACHING METHODS**

There are usually two A level Mathematics classes. Each class is taught by two teachers: - one teaching Pure Mathematics and the other Mechanics. Teaching methods are similar to those used

at GCSE.

**CAREERS & FURTHER STUDY**

Mathematics is an excellent foundation for studying higher level qualifications and is a valuable preparation for numerous careers. It would be essential for the study of any mathematics, statistics or engineering course and useful for many other courses, in particular Accountancy, Finance, Business, Information Technology, Architecture, Medicine, Dentistry, Optometry, Pharmacy, Physiotherapy, Teaching and Veterinary Medicine. This list is by no means exhaustive.

## MUSIC

### OVERVIEW

Music AS and A2 level provide pupils with the opportunity to study in depth the development of music and the orchestra. It is a worthwhile, satisfying, and complete course of study that broadens pupils experience; develops their imagination, musical technique and talent; fosters their creativity and composition styles, while promoting their personal, social and cultural development.

**It is not essential that a student has GCSE Music in which to sit AS level music but we recommend that students possess some skill in vocal or instrumental performance.** They should also have some understanding of basic theory and staff notation.

### COURSE CONTENT

Both AS and A2 Music are CCEA specification. The course incorporates the three fundamental musical activities of composing, performing and listening and aims to meet the needs and interests of a wide variety of students by providing flexibility within the assessment units.

For AS level the Listening element of the course consists of studying 2 areas of study.

One compulsory – Music for Orchestra, 1700 to 1900

One choice - either Chamber Music, Music for Solo Piano or the Musical 1900 to Today.

Pupils also have a choice of option when it comes to performing and composing.

Option 1 – Core solo performance (5-8 mins) and a composition task

Option 2 – Core ensemble performance (5-8 mins) and a composition task

Option 3 – Core composition task and solo performance (3-5 mins)

Option 4 – Core composition task and ensemble performance (3-5 mins)

### ASSESSMENT at AS Level

|                                       |   |     |                  |
|---------------------------------------|---|-----|------------------|
| Listening (2 areas of study)          | - | 36% | - 2 examinations |
| Composing and performing (option 1-4) | - | 64% |                  |

### TEACHING METHODS

The teaching methods for AS and A2 level are similar to GCSE music. Detailed notes and musical scores are provided for all students. Teaching methods include whole class teaching, group work, discussion, personal research, one on one teaching, use of ICT – namely through composition.

The listening component is taught through analysing live and pre recorded music, notating scores, studying set pieces of music and composers, ranging from Bach to Dvorak to Schumann to Gershwin to Lloyd Webber.

The performance component is taught through pupils' lessons with individual musical tutors and also regular practise and performance time. All pupils studying AS and A2 music are encouraged to be involved in musical groups within the school, as this helps to develop both their individual and ensemble performance skills.

The composing component is taught largely through one on one time. All pupils will be trained or updated in the use of Sibelius, music composing software, and this will be the main software used for the composition tasks.

Students will make use of ICT across all areas of musical activity. They will develop knowledge, understanding and skills relating to ICT in present day music making, for example through the use of sequencing, multi-tracking, Turntablism and Musical Instrument Digital Interface (MIDI) technology as techniques used when composing, performing, recording, editing and notating music. Regular trips to the theatre are also organised, in which pupils can study the performance skills of others and gather inspiration for their own compositions.

### CAREERS & FURTHER STUDY

There are many opportunities for students who wish to progress beyond AS or A level music. There are a wide range of further and higher education courses in music or performing arts and the AS or A level qualification can also be used to access other degree level courses.

A music qualification can lead to employment in various areas such as Teaching (primary or secondary), Performing (on stage, in a band, orchestra, choir, opera) Musician (band or orchestral), Conducting, Composing, careers in the recording industry (sound technician, sound engineer), Television/Radio Presenter, Television/Radio Researcher, Music Therapist, Arts Administrator/Manager, Music Retailer/Publisher.

## **PHYSICS**

### **OVERVIEW**

The Physics A level specification is intended to encourage pupils to develop an understanding of the physical world. The ability to cope with basic mathematical processes would be essential at AS level. At A2 level the mathematical requirements would be a little more rigorous. This course would appeal to those students who are keen to have a comprehensive science background and, in particular, to those who would be interested in an engineering and/or mathematical career.

### **COURSE CONTENT**

The AQA specification A Physics syllabus is used. The AS course in year 13 consists of three units:

Unit 1:- Particles, Quantum Phenomena and Electricity

Unit 2:- Mechanics, Materials and Waves

Unit 3:- Investigative Skills

The A2 course in year 14 consists of three units

Unit 4:- Fields and Further Mechanics

Unit 5:- Nuclear Instability and Medical Physics

Unit 6:- Investigative Skills

Website: [www.aqa.org.uk](http://www.aqa.org.uk)

### **ASSESSMENT**

The assessment is by written examinations in January and June.

Unit 3 and unit 6 have components which consist of a practical examination carried out in school and internally marked.

### **TEACHING METHODS**

The main teaching method is whole class teaching but the students often carry out practical work either individually or in pairs. Topics which are currently in the media are used to stimulate classroom discussion.

### **CAREERS & FURTHER STUDY**

Careers requiring physics are:-

Mechanical, Electrical, Civil, Electronic, Aeronautical and Marine Engineering, Medical Physicist, Astronomer, Meteorologist and Air Traffic Controller etc.

Careers for which Physics is useful are:-

Forensic Scientist, Architect, Pilot, Pharmacist, Environmental Scientist, Computing etc

## **PSYCHOLOGY**

### **OVERVIEW**

Psychology at A level has been offered at Larne Grammar School for over ten years in response to student interest. Larne Grammar school was one of the few grammar schools to offer this course at this time. Psychology is “the Science of Mind and Behaviour”. You will learn to think critically. By the end of the course you will appreciate the appliance of scientific approach to many aspects of being human.

### **COURSE CONTENT**

There are two units for AS level. In unit one you will study and understand Memory (“cognitive” psychology), Emotional / Social Development in childhood, namely Attachment and the effects of Deprivation and Institutionalisation. Also in unit one you will study Research Methods so that you can answer a question on doing research.

In unit two the three areas of training are Biological Psychology, Social Psychology and Human Mental Abnormality and Psychological Therapies.

At A2 level there are two units. In unit 3 we study biological rhythms, sleep and sleep disorders, human relationships, effects of childhood, eating behaviour and eating disorders.

In unit 4 the following topics are covered: Psychopathology (understanding schizophrenia and Psychology in Action, which focuses on media psychology).

### **ASSESSMENT**

The AQA exam board is used. At AS level, two modules are taken. Both AS units require you to answer short structured compulsory questions and a short essay. These are worth 50% of the final A level mark. At A2 level, unit 3 requires you to write three essays, one for each area of study. Unit 4 requires you to write two essays on the topics - psychopathology (schizophrenia) and the psychology of media. Your knowledge of scientific psychological research is tested using a structured question about psychological investigation.

### **TEACHING METHODS**

At AS level the teacher respects the fact that this is a new subject area and is careful to ensure that all students are comprehending new concepts and terms to help make the content refreshing and absorbing. Ongoing assessment helps the teacher identify any learning support requirements e.g. in essay and brief answer technique.

Exercises in applying knowledge, short exam type question, short essays and timed exercise help build confidence through digesting manageable amounts of information.

Students are trained in critical thinking and practical relevance of topics. The subject lends itself to short video clips about topics and film of actual research. As with all AS/A2 level course, 3 hours of homework is expected each week.

### **CAREERS & FURTHER STUDY**

Psychology may be studied at university as either an arts or a science degree. A single honours degree in Psychology admits the graduate to membership of the British Psychology Association. A Psychology degree provides the basis for further study in one of the many applications of psychology in health, business or sport or as a relevant discipline for life and for employment in areas such as business education, media and research. Typically a Psychology degree will require further vocational postgraduate study.

## **RELIGIOUS STUDIES**

### **OVERVIEW**

Religious Studies at AS and A2 is a very different subject than at GCSE. In order to consider it students should have at least a grade B at GCSE. At AS and A2 the emphasis changes and becomes much more focussed on a particular area of study. In other words the GCSE course gave a broad base of study while AS and A2 then zoom in on particular areas as described in the next section. This subject requires good linguistic skills necessary for writing coherent and sensible essays at this level as well as a commitment to hard work and an interest in the subject.

### **COURSE CONTENT**

The AS course involves 2 modules covering an Introduction the Church in the Roman World up to AD325 as well as an Study of Ethics and Contemporary Issues. With each topic in the modules there is an opportunity to relate the topic area to contemporary religion and other aspects of human experience. The A2 syllabus involves further study of the same modules but covering different topics and making links between both parts of the course based on themes issued by CCEA. The full course content can be seen on the CCEA website at [www.ccea.org.uk](http://www.ccea.org.uk).

### **ASSESSMENT**

AS4 paper which lasts for 1 hour 20 minutes. One question out of a choice of two for Section A and the same for Section B.

AS6 paper - as above

A24 paper lasts for 2 hours. Two essays from Section A out of a choice of four and one essay in section B which forms a synoptic question for the course.

A26 paper - as above.

### **TEACHING METHODS**

A variety of teaching methods are employed including the use of handouts, taking and making notes, discussion, whole class teaching and small group work, essay planning in groups, group feedback, ICT, personal research and presentation to the class. This list is not exhaustive but gives a flavour of what might be expected.

### **CAREERS & FURTHER STUDY**

This subject is a very good companion for History, English and Languages but has also been studied along with Science subjects in order to give a broader choice of future career path. It is useful for further study in Law, Teaching, Ministry, History, Journalism, Youth Work, Social Work and Anthropology to name some of the main subjects.



The Spanish course has been designed to provide a suitable foundation for further study and/or practical use of Spanish, as well as a coherent, satisfying and worthwhile course of study for students who do not progress to further study in the subject. Career paths taken with the study of Spanish include: Interpreting, Translating, Diplomatic Work, Teaching, International Business, Journalism, Immigration and Customs, International Sales, Voluntary Service Overseas and many more.

## SPORT AND PHYSICAL EDUCATION

### OVERVIEW

Many candidates who have been successful at GCSE PE and Biology, opt for this course for their L6 / U6 years - a 'B' grade at GCSE is essential and an 'A' desirable. Unlike GCSE, the bias is 60%-40% for theory against practical. Although the topics covered are essentially the same as at GCSE, there is a significant increase in the depth of study. Unlike GCSE when 4 practical activities are assessed, only two activities are covered at AS and one at A2. For AS it is vital that all candidates are strong performers in one sport. The second practical activity at AS will require candidates to be strong officials in volleyball and build on the level of officiating started at GCSE.

### COURSE CONTENT

AS 1 – Includes;

- Movement analysis (which muscles cause which movement)
- Physiology of heart and lungs when exercising
- Skill acquisition (how do I learn sports skills)
- Development of physical education (history of public schools)

AS 2 – Practical;

- Assessment as a performer
- Assessment as a volleyball official

A2 essentially covers the same areas but in greater depth.

To access the detailed AQA PE specification go to;

[http://web.aqa.org.uk/qual/gce/pe/pe\\_materials.php?id=08&prev=08](http://web.aqa.org.uk/qual/gce/pe/pe_materials.php?id=08&prev=08)

### ASSESSMENT

AS – 1 written examination, 1 adopted role (volleyball coach), 1 practical activity.

A2 - 1 written examination, 1 practical activity including an analysis of others' performance

### TEACHING METHODS

The course is taught in a similar fashion to any other AS/ A2 subject. Most allocated time is committed to the theoretical areas with 1 to periods per week allocated to volleyball officiating.

**Students are expected to be doing a competitive sport in their own time.**

A lot of the classwork is based around the C2K Learning Resources with students accessing lesson notes prior to the lesson taking place.

Frequently candidates choose a sport that they compete in outside of school. While this is perfectly acceptable it is vital that pupils, and indeed their parents, are motivated to gather video evidence of themselves competing for their team. Failure to provide this evidence will mean marks cannot be awarded.

### CAREERS & FURTHER STUDY

This subject is particularly suitable for those wishing to study Teaching, Leisure Management, Physiotherapy, Psychology, or Sports Development.

## **Collaboration Subjects**

The following subject is available for our students to study at Larne High School:

- Health and Social Care

Further information on this subjects will be made available to students at a later date.