



BROOKE HOUSE COLLEGE
University Foundation Programme

Course Options
and
Assessment Methods

Summary of Courses and Assessment Methods

CORE MATHEMATICS (Course Code CM) [Term 1, Level 0]

This module is covered by every foundation student. Basic Pure (Arithmetic and Algebra) is revised and is of Higher GCSE level standard, whilst some Decision Maths and extra Statistics of AS Level standard is also covered to extend beyond GCSE level in order to prepare for the extensive choice of option courses offered in Terms 2 and 3:

BUSINESS MATHEMATICS (Course Code BM) [Term 2, Level 1]

This option should be useful for students of Business, Economics, Social and Biological Sciences. Pure Maths is kept to a minimum; the Statistics content reaches AS level (“S1”) and the Decision Maths is part of its AS level counterpart (“D1”)

SCIENCE MATHEMATICS (Course Code SM) [Term 2, Level 1]

This option should be useful for students of Engineering, Architecture and the Physical Sciences. Pure Maths is kept to a minimum and the course covers basic Statics and Dynamics – the two components of Mechanics. The course reaches AS level (“M1”)

PURE MATHEMATICS (Course Code PM) [Term 2, Level 1]

This option covers some of the Pure Maths topics required to support the parallel Business and Science Maths courses. It is useful to follow this course if you intend to apply for the more ‘mathematical’ courses at University such as Physics, Engineering, Economics and Mathematics. The work covered is of AS Core Maths standard (“C1 & C2”)

EXTRA BUSINESS MATHEMATICS (Course Code XBM) [Term 3, Level 2]

If you wish to extend your knowledge of Statistics and Decision Maths, this course continues to build on the topics met in CM and BM. It covers work that is of A-level A2 standard (“S2”) and broadly speaking completes the content of Decision Maths (“D1”) to AS level. Two Pure topics are also covered.

EXTRA SCIENCE MATHEMATICS (Course Code XSM) [Term 3, Level 2]

If you wish to extend your knowledge of Mechanics, this course continues to build on the topics met in SM and reaches work of A2 standard (“M2”) of A-level. An extra topic is included for Architects and two Pure topics are also covered.

EXTRA PURE MATHEMATICS (Course Code XPM) [Term 3, Level 2]

If you intend to study rather more ‘mathematical’ degrees, this course should be useful in extending your knowledge of Pure Maths. The course continues to build on those met in PM and reaches A2 Core Maths level (“C3 and C4”) in the topics covered. It is intended to broaden your mathematical experience and includes topics you have probably never met before – ‘Complex Numbers’, ‘Polar Coordinates’ and Conic Sections’ – plus further work on ‘Trigonometry’, ‘Calculus’ and ‘Matrices’.

Each unit will be assessed with a written exam

BUSINESS STUDIES

Business Studies 1: Business Basics (Starting a Business) and Marketing

- Enterprise and business ideas
- Transforming resources
- Business plans
- Legal structure and raising finance
- Locating the business and employing the people
- Financial planning
- Market research

Business Studies 2: Marketing in a Competitive Environment Marketing

- Understanding markets
- The marketing mix and the 4 Ps Marketing and competitiveness

Business Studies 3: Human Resources and Operations Management

- Human Resources
- Organisational structures
- Communication
- Management and leadership
- Motivation
- Measuring the Effectiveness of the Workforce
- Recruitment, Selection and Training
- Making operational decisions
- Technology
- Quality and Customer Service

Method of Assessment: End of unit examination

Communication Studies

Communication is the means whereby one can transmit ideas and information to others in a form that all the parties involved are able to understand. The purpose of this course is to allow students to gain the necessary skills in the modern world such that they are able to transmit what they want to communicate using the various means that are available.

The course is constructed such that the student will learn the skills required to:

- Give presentations
- Deal with questions.
- Participate actively in meetings.
- Use the telephone and teleconference facilities with confidence. Network at all levels.
- Write business letters, effective e-mails, agendas and minutes of meetings, mission statements and quality statements.

Skills:-

- Listening and discussion.
- Reading and language comprehension.
- Speaking and writing.

The course is examined by a presentation assignment and written exam.

Maximum total contribution for Communication Studies to the Foundation Course is 10%

Accounting

Accounting 1: Financial Accounts

- Introduction to accounting, assets, liabilities and capital, the accounting equation
- Double entry bookkeeping, trial balance
- Accruals, prepayments, bad debt and other adjustments
- Capital and revenue, depreciation
- Profit and loss statements
- Balance sheets
- Ratio analysis : profitability, liquidity, gearing, ROCE
- Introduction to accounting standards and conventions
- Shares, dividends, company structures

Accounting 2: Management Accounts

This unit is only available to students who have completed Accounting 1

- Introduction to management accounting, definitions
- Manufacturing accounts
Contribution and marginal costing
- Breakeven analysis, margin of safety, breakeven graphs
Overhead absorption
- Cash Budgets
- Standard costing and variance analysis
Investment appraisal

Accounting 3: Financial Services

- Key personal savings products
- Key forms of finance
- Forms of finance available to businesses
- Foreign services supplied by the UK clearing banks
- Savings managed in a tax efficient manner.
- The role of accountants and financial advisors in the investment management process
- Financial Services Authority

Method of Assessment: End of unit written examination

Introduction to Economics (Microeconomics)

1) Understanding the Nature of Economics as a subject

- Definitions of Economics
- Economy & its Four Agents
- Economic Methodology
- Major Economic Goals
- Foundations of the Science of -Economics
- Economic Systems
- Divisions of Economics

2) Introduction to Product and resource Markets

- Product Markets- buyers and sellers
- Resource markets- buyers and sellers
- Finished goods and services, factors of production, money and specialisation
- Circular flow of income/ expenditures in the economy
- Circular flow of income between product & resource markets

3) Introduction to the theory of demand and Supply

- Effective demand / supply & quantity demanded/ supplied
- Opportunity cost & consumer choice & producers actions
- The law of demand/supply & reasons for it
- Individual demand & supply Curves
- Market demand & supply Curve
- Movement along the curves & shifting of curves
- Demand and supply curves shifters

Method of Assessment: End of unit written examination

Law

Criminal Law

Course content: Principles of criminal liability: actus reus, mens rea, strict liability; Offences against the person: murder, involuntary manslaughter; Offences against property: theft, robbery, burglary.

Contract Law

Course content: Formation of a contract: offer and acceptance, consideration, legal intent; Contents of a contract: contractual terms, types of terms, exemption clauses; Privity of contract; Vitiating factors: misrepresentation, mistake, economic duress, undue influence, restraint of trade.

Sources of Law

Course content: Doctrine of precedent: mechanics of precedent, stare decisis, obiter dicta, ratio decidendi, hierarchy of the courts, binding and persuasive precedent, overruling, reversing, distinguishing, law-making potential, the role of judges; Legislation: acts of parliament, green papers, white papers, legislative stages, delegated legislation, Orders in Council, statutory instruments, bylaws, control of delegated legislation, reasons for delegating legislative powers.

Method of Assessment: End of unit examination

Government and Politics 1: Introduction to Politics, and Outline of U.K. Political System

What is politics?

What is democracy? – Liberal democracy

Political culture

The U.K. constitution

Parliament

Prime Minister and Cabinet

Elections

Parties

Method of Assessment:

1. 60% Examination
2. 25% 1000 word essay outlining (history, constitution, legislature, executive, parties and elections) the politics of student's own country
3. 15% Portfolio containing organised notes, and annotated handouts providing clear evidence of attentiveness, understanding and study skills

Politics 2: Outline of U.S Political System, and Introduction to International Relations

The U.S constitution

Congress

The President

Elections and Parties

Theories of international relation

Case study of international institution e.g. E.U., U.N to be agreed

Case study of international issue e.g. Palestine, Global Warming to be agreed

Case study of international issue e.g. Nuclear Proliferation, Afghanistan to be agreed

Method of Assessment:

1. 60% Examination
2. 25% 1000 word essay, topic to be agreed, on an international issue of relevance to student's homeland
3. 15% Portfolio containing organised notes, and annotated handouts providing clear evidence of attentiveness, understanding and study skills

Physics

D.C. Electricity

Potential, and potential difference, electrostatics, lighting, circuits, current, charge, Kirchoff's laws, resistance, Ohm's law, resistivity, $I = nAvq$

A.C. Electricity and Electronics

Introduction to the theory of alternating currents.

Kirchoff's laws.

Overview of a.c. generator.

Frequency and periodicity.

Sinusoidal voltages and currents.

Angular frequency.

Phase angle and phase difference.

Average value of a sine wave.

The effective value of a sine wave.

Resistance, inductance and capacitance in a.c. circuits.

- The pure resistive circuit.

The pure inductive circuit.

- Inductive reactance X_L .
- Inductive susceptance B_L .

The pure capacitive circuit.

- Capacitive reactance X_C .
- Capacitive susceptance B_C .

Series and parallel a.c. circuits.

- Impedance (Z) and admittance (Y).

The transformer – Basics.

- Derivation of $V_1/V_2 = N_1/N_2$.

Rectification.

- Half wave.
- Full wave.

Operational Amplifiers

An example of an Integrated circuit.

Difference amplifier.

Large Open-loop gain.

Large input resistance.

Explanation of power supply configuration.

Schematic diagram illustrating basic connections.

Inverting input.

Non-inverting input.

The consequence of saturating of output.

Define gain – negative feedback principle.

Inverting amplifier.

Non-inverting amplifier.

Unity gain amplifier.

Instability and frequency response.

Comparator circuits.

Timer applications.

Offset control.

Use of relays.

Atoms Particles and Radioactivity

Plum pudding model. Evidence for subatomic particles, properties of alpha and beta radiation, radioisotopes, the

nature of radioactive decay, half-life, decay constant. Rutherford's alpha scattering experiment, evidence and

properties of the nucleus, comparison of protons and neutrons, evidence for quark structure, definition of leptons and baryons, antiparticles, neutrinos.

Nature of gamma radiation. Strange and heavy particles. The search for new particles. Models for the electron, Energy transitions, $E=hf$. Subatomic

transitions, use of baryon and lepton numbers. Nuclear power, cases for and against, study of Chernobyl incident.

Materials

Topics studied include: Solids, Liquids and Gases, Elasticity, Hooke's Law, Stress, Strain, Young's Modulus.

Mechanics

Topics to be studied include:

Linear motion with constant acceleration

Scalar and Vector quantities.

Projectile Motion

Conservation of Linear Momentum

Work, Energy, Power and Efficiency

Use of Dimensions

Principle of Moments, Centre of Mass, Equilibrium

Mechanics 2

Dynamics and circular motion, satellites, tides

Angular Momentum

Oscillation and waves, SHM, diffraction

Fields: gravitational, electric and magnetic

Thermal Physics

This course is theoretical in nature. Students are introduced to the concepts of:

Heat and temperature

Kinetic theory

Basic thermodynamics.

Method of Assessment: End of unit written exam

Chemistry: Structure, Bonding and the Mole

- Atomic structure in terms of protons, neutrons and electrons, isotopes and the use of the mass spectrometer. Relative Atomic Mass. The electron configuration of atoms, quantization of energies, electron spin and “electrons in boxes”, wave nature of the electron, shapes of s & p orbitals.
- Conductivities of solutions of molecular and ionic compounds, electron configuration and relative sizes of simple atoms, normal and dative covalent bonds, electron diagrams of common molecules, polar covalency and Pauling’s electronegativity scale, electronegativity difference and intermediate types of bonds, shapes of molecules, the polarity of molecules, metallic bonding.
- The relationship between boiling point and intermolecular forces, Van-der-Waal’s forces, dipole-dipole attraction, hydrogen bonds. The relationship between boiling point and solubility in water and a non-polar solvent. Examples of metallic, ionic, molecular and giant molecular crystals. The relationship between crystal structure and melting point.
- Calculations of the mole and Avogadro constant, percentage composition, empirical and molecular formulae, reacting masses and percentage yield, the molar volume of gases.

Method of assessment: Practical 20%, Examination 80%

Physical Chemistry

This unit requires Structure, Bonding and the Mole to have been completed.

- Electronic definitions and ionic redox half-equations, constructing complete redox equations from ionic half equations, oxidation numbers.
- Factors affecting rate of chemical reactions, collision theory, Maxwell-Boltzmann curves, the intermediate compound theory of catalysts, activation energy, reaction energy profiles, the order of reaction.
- Reversible reaction, equilibrium in a closed system, Le Chatelier’s principle, K_c and K_p .
- Enthalpy changes, standard states, Hess’ law, bond enthalpies, bond length, bond order, calculation of enthalpy of reaction.

Preparation of molar solutions, titration techniques, acid/alkali titrations and calculation of results.

Method of assessment: Practical 20%, Examination 80%

Inorganic Chemistry

This unit requires Physical Chemistry to have been completed

- Group I: physical properties, storage, reaction with water, air and alcohol, reactivity trends, physical properties of salts, thermal stabilities of nitrates, carbonates and hydrogen carbonates, hydrolysis of carbonates.
- Group II: consideration of properties in comparison with Group 1.

- Group VII: physical properties, reactivity trends and comparison with Gp 1, displacement reactions, disproportionation reactions of chlorine, properties of hydrogen halides, tests for halide ions using silver nitrate.
- Trends across the periodic table: consideration of the third period, atomic radius and ionisation energies, properties of oxides, hydroxides and chlorides.
- Group IV: trend in atomic size and ionisation energy, change from non-metal to metal, consideration of oxides (except Pb_3O_4) and chlorides.
- Transition Metals: the distinction between these and d-block metals, major characteristics and examples (paramagnetism, coloured complex ions, variable oxidation state, catalytic ability), comparison with s and p block elements.
- Acids and bases: historical ideas, Arrhenius' theory, pH scale, calculation of pH, buffer solutions, acid/base indicators, Bronsted-Lowry theory

Method of assessment: Practical 20%, Examination 80%

Organic Chemistry

- Structure: shape of organic molecules, types of formulae, homologous series, nomenclature, use of mass spectra and IR spectra.
- Isomerism: structural, geometrical and optical
- Petroleum: origin and occurrence, refining, fractionation, cracking, reforming, uses of fractions.
- Alkanes: properties, lack of reactivity, combustion with excess and restricted oxygen, reaction with chlorine.
- Alkenes: structure of ethane, pi bond, reactivity comparison with alkanes, laboratory preparation from ethanol, addition reactions with Br_2 and HBr , polymers and their uses.
- Halogenoalkanes: physical properties, preparation from alcohols, relative reactivity of chloro, bromo and iodo compounds, substitution reactions, tests using silver nitrate solutions.
- Alcohols: properties, test using $\text{Pb}(\text{OAc})_2$, primary, secondary and tertiary alcohols, use of potassium dichromate (VI) solution to test.
- Practical techniques: heating under reflux, distillation and fractional distillation, recrystallisation, use of melting point or boiling point to test for purity.

Method of assessment: Practical 20%, Examination 80%

Biology

Title : Unit 1 Cells and Molecules

Content: Carbohydrates, lipid, protein and DNA structure and function and classification. DNA replication semi conservative replication Protein synthesis. Cell membranes, transport - diffusion, facilitated diffusion, active transport and endo/exocytosis. Cell organelles. Mitosis, meiosis process for gamete formation.

Title: Unit 2 Ecology and Physiology

Content: Ecosystems, abiotic (light temperature pH salinity soil type aspect) and biotic (intra and interspecific competition disease predation) factors in ecosystems. Sampling techniques. Transport in mammals - the heart structure and function (cardiac cycle), muscle structure and contraction sliding filament hypothesis.

Title: Unit 3 Inheritance and Co- ordination

Content: Genes, alleles, pheno and genotype, heterozygous and homozygous, recessive and dominant characteristics. Monohybrid inheritance and pedigrees. Enzymes, lock and key theory of action. Active site structure and denaturation Neurone structure motor and sensory neurones. Synapses. Nerve impulse sodium potassium pump depolarisation action potential and repolarisation. All or nothing response.

Unit assessment : 1hr 30 min theory paper 80% practical exam 20%

Computing Unit 1:

In this course, you will learn the basics of programming using the C++ language. C++ is a programming language widely used in University and industry and the basic commands that you will learn can easily be applied to other languages that you may study in the future including Microsoft C# and Java. This is a mainly practical course and each week we will work through simple programs that will produce a text based output. Examples have included simple games and utilities such as a calculator program. The examination begins with a short test (around 10 marks) with the remainder being a practical programming activity taken in the computer room. If you intend to study computer science or software engineering at university, then this module should provide a valuable head start.

Computing Unit 2:

This course will extend the knowledge and skills learned during the first module. You will learn about object orientated programming techniques as well as the use of pointers and references to access specific memory locations. We will also look at binary number systems and encryption methods. Again, this is a mainly practical course and each week we will work through more complex programs that will produce a text based output. Examples have included games and utilities such as a program for calculating the volume and area of 3D shapes. The examination begins with a short test (around 10 marks) with the remainder being a practical programming activity taken in the computer room. If you intend to study computer science or software engineering at university, then this module should provide a valuable head start.

Each unit is examined by an 1 hour 30 minutes exam which includes a written part and practical task.

Computing Unit 3:

This unit is a theoretical module, where the focus shifts away from the coding covered in the previous modules and moves on to look at computer hardware and the underlying mathematical theory.

Topics covered will include:

- Boolean mathematics and simplification of discrete algebra
- Logic and logic gates
- Computer system architecture
- Simple assembly language
- External hardware devices
- Local and wide area networks
- Computer security, ethics and legal issues

Unit assessment : 1hr 30 min theory paper (100%)

Art Units

Whilst there is a degree of flexibility within these courses depending upon individual students needs, it is however, expected that students start these courses with a competent level of technical skill and creativity.

It is recommended that students study the following combination of areas of study depending what they what to read at university. All of the areas of study are linear and taken over a full year.

Any Art and Design course at university/art school, excluding architecture or product design

- Fine Art
- Graphic Communication
- Model making
- History of Art

Those wishing to study Architecture

- Art for architecture
- Model making
- History of Architecture

Those wishing to study Product Design

- Art for architecture or Graphic design
- Model making

A student may take either Fine Art, Graphic Communication or Visual Communication as a separate unit (3 terms) providing that they study other subjects at the same time eg: Fine Art or Graphics

Fine Art

Candidates will be introduced to a variety of experiences and explore a range of fine art media, techniques and processes.

Candidates will explore relevant images, artefacts and resources relating to fine art, past and present, European and non-European. This will be integral to the investigating and making process allowing the candidates to demonstrate their understanding of different styles, genres and traditions.

Candidates should explore drawing using a variety of methods and media and should use sketch books/workbooks/journals to underpin their work and realise the importance of process as well as product. Areas of study may include

- Painting and drawing,
- Mixed media, including collage and assemblage.
- Mono-printing
- Photography.

Skills

- Appreciation of colour, tone, texture, shape and form.
- Understand pictorial space and composition.
- Different approaches to recording images, such as observation, analysis, expression and imagination.
- Understanding the conventions of figurative/representation and abstraction/non-representational imagery or genres.

Knowledge and Understanding

- How ideas and feelings and meanings can be conveyed and interpreted in images and artefacts.
- Historical and contemporary developments and different styles and genres.
- How images and artefacts relate to social, environmental, cultural and/or ethical contexts and to the time and place in which they were made.
- Continuity and change in different styles, genres and traditions relevant to Fine Art.
- The working vocabulary and specialist terminology.

Content

- Observational drawing/painting.
- Thematic work and how to research and develop ideas.

Assessment.

This will be continuous over the first two terms and will make up the course work portfolio and will carry 50% of the marks. A set project will be given at the end of the Spring Term which will carry the remaining 50% of the marks.

Graphic Communication

Candidates will be introduced to a variety of experiences and explore a range of graphic media, techniques and processes.

Candidates will explore relevant images, artefacts and resources relating to fine art, past and present, European and non-European. This will be integral to the investigating and making process allowing the candidates to demonstrate their understanding of different styles, genres and traditions.

Candidates should explore drawing using a variety of methods and media and should use sketch books/workbooks/journals to underpin their work and realise the importance of process as well as the product.

Areas of study may include

- Illustration
- Advertising
- Packaging Design

Skills and Techniques.

- Understand the meaning, function, style, scale, colour and content.
- Awareness of their intended audience.
- Ability to respond to an issue, concept or idea, working within a brief.
- Appreciation of the relationship of form and function.
- Appreciation of the appropriate use of typography, signs and symbols.
- Understand the variety of materials and genres within graphics.

Knowledge and Understanding

- How ideas and feelings and meanings can be conveyed and interpreted in images and artefacts.
- Historical and contemporary developments and different styles and genres.
- How images and artefacts relate to social, environmental, cultural and/or ethical contexts and to the time and place in which they were made.
- Continuity and change in different styles, genres and traditions relevant to Graphics.
- The working vocabulary and specialist terminology.

Content

- Typography
- Packaging
- Public awareness campaigns

Assessment

This will be continuous over the first two terms and will make up the coursework portfolio and will carry 50% of the marks. A set project will be given at the end of the Spring Term which will carry the remaining 50% of the marks.

Art for Architecture

Candidates will be introduced to a variety of experiences and explore a range of fine art media, techniques and processes.

Candidates should explore drawing using a variety of methods and media and should use sketchbooks/workbooks/journals to underpin their work and realise the importance of process as well as product.

Areas of study may include

- Painting and drawing,
- Mixed media, including collage and assemblage.
- Photography

Skills

- Appreciation of colour, tone, texture, shape and form.
- Understand pictorial space and composition.
- Different approaches to recording images, such as observation, analysis, expression and imagination.
- Understanding the conventions of figurative/representation and abstraction/non-representational imagery or genres.

Knowledge and Understanding

- How ideas and feelings and meanings can be conveyed and interpreted in images and artefacts.
- How images and artefacts relate to social, environmental, cultural and/or ethical contexts and to the time and place in which they were made.
- The working vocabulary and specialist terminology.

Content

- Tone, line and mark making. Scale.
- Observational drawing from man-made and natural forms.
- Thematic work and how to research and develop ideas.

Assessment

- Assessment is continuous for the first two terms. An exam project/ theme, will be set at the end of the Spring term and will be completed during the summer term.
- The theme will be an open brief – ie the project could be tackled in a number of ways, but it **must** have relevance to the set theme.

Model Making

- This course has been primarily set up for those wishing to study architecture, however, it is of use for anyone wishing to study art and design.
- Candidates will be introduced to a variety of experiences and explore a range of techniques and processes using primarily paper and/or card.
- Candidates will explore relevant images, artefacts and resources relating to 3D forms past and present, European and non-European. This will be integral to the investigating and making process allowing the candidates to demonstrate their understanding of different styles, genres and traditions.
- Candidates should explore drawing using a variety of methods and media and should use sketch books/workbooks/journals to underpin their work and realise the importance of process as well as product.

Areas of Study may include

- Product design.
- Jewellery/body adornment.
- Basic architectural design.

Skills and Techniques

- Appreciation of solid, void, form, space, scale, rhythm and movement.
- Appreciation of the the relationship of form and function.
- The ability to respond to a concept and work within as brief, theme or topic.
- Understand working methods, research and development of ideas.

Knowledge and Understanding

- How ideas and feelings and meanings can be conveyed and interpreted in images and artefacts.
- Historical and contemporary developments and different styles and genres.
- How images and artefacts relate to social, environmental, cultural and/or ethical contexts and to the time and place in which they were made.
- Continuity and change in different styles, genres and traditions.
- The working vocabulary and specialist terminology.

Content

- 2D to 3D, cut and folding paper. Cross sectioning.
- Positive and negative space.
- Body adornment
- Shoe design.
- Chair Design.
- Additions/ subtractions to a house of known dimensions.

Assessment

Assessment is continuous for the first two terms. An exam project/ theme, will be set at the end of the Spring term and will be completed during the summer term.

The theme will be a closed brief – ie although the project has a number of different solutions there are specific instructions that must be followed.

History of Art

This course is intended as an introduction to the development of Western art through social and technological changes.

Areas of study may include.

- Perspective and picture and pictorial space.
- A brief guide to pre and post-Renaissance.
- Impressionism.
- Cubism
- The development of non-representational art.
- Abstract Expressionism and Colourfield Painting.
- Op and Pop Art.

Skills and techniques

- The ability to analyse a work of art using specialist terminology.
- The ability to make critical judgement.
- To express themselves coherently both verbally and on paper.
- The ability and confidence to express and communicate knowledge and understanding.

Knowledge and Understanding

- The foundations and knowledge and understanding of art historical movements, practitioners and works, considering the way that these change and evolve within chronological order and other frameworks.
- Awareness of art historical terms, concepts and issues.
- Knowledge and understanding of the significance of techniques and materials in the creation of artefacts.
- Understand the principal methods of analysis and interpretation.
- Understand the relationship between society and art within historical and other frameworks.

Assessment

Coursework essays and a written 1.5 hour exam

The History of Architecture

This course is intended as an introduction to the development of Western architecture through social and technological changes.

Areas of study may include:

- An introduction to RIBA.
- Basic classical orders of architecture.
- Traditional materials.
- Architectural terminology.
- Iron and steel, the development of the skyscraper and the Chicago School.
- Concrete and the First Generation, Perret, Behrens and Lloyd Wright.
- The International Style/ Second Generation, Gropius, Mies van der Rohe, Le Corbusier.
- Post Modernism, Venturi, Graves, Stirling.
- Brutalism.
- Hi-Tech, Foster, Rogers.
- Deconstructivism, Libeskind, Gehry, Hadid.
- The Stirling Prize.

Skills and techniques

- The ability to analyse a building using specialist terminology.
- The ability to make critical judgements.
- To express themselves coherently both verbally and on paper.
- The ability and confidence to express and communicate knowledge and understanding.

Knowledge and Understanding

- The foundations and knowledge and understanding of architectural movements, practitioners and works, considering the way that these change and evolve within the chronological order and other frameworks.
- Awareness of architectural terms, concepts and issues.
- Knowledge and understanding of the significance of techniques and materials in the creation of a building.
- Understand the principal methods of analysis and interpretation.
- Understand the relationship between society and architecture within historical and other frameworks.

Assessment. Coursework essays and a written 1.5-hour exam

Visual Communication

This course is intended for those with an interest in Business, Advertising and/or the Media. It is part practical and part theoretical and combines elements of Graphic design and Media studies. The aim of the course is for students to become aware how businesses and/or organisations promote themselves and their services visually.

Areas of study

Media theories of language, representation, institution and especially audience.

How to read the media.

Advertising and its aims.

Advertising markets.

Types of advertising, both page and time based eg, products, advertising TV programmes and film , public awareness campaigns.

Advertising techniques, eg Synergy and empty referencing.

Advertising and the law.

Studying such advertising as produced by companies such as Coca-Cola, Flora, Honda and M&S.

Skills and techniques

The ability to analyse advertising or package design using specialist terminology.

The ability to make critical judgements.

To express themselves coherently both verbally and on paper.

The ability and confidence to express and communicate knowledge and understanding.

Knowledge and Understanding

The foundations and knowledge and understanding the principals of advertising, practitioners and works, considering the way that these change and evolve within chronological order and other frameworks.

Awareness of advertising and media terms, concepts and issues.

Knowledge and understanding of the significance of techniques and materials in the creation of an advertisement or package design.

Understand the principal methods of analysis and interpretation.

Understand the relationship between society and advertising within historical and other frameworks.

Assessment

Essays and practical projects throughout the year.

An end of year exam consisting of a project and a written analysis of an unseen text.

Physical Education

Unit Title: Physiology and Fitness

Unit number: 1

Unit Summary: Components of Fitness and Nutritional Guidance in preparation for coursework.

Content: Lungs, structure and function.

Unit Information in Detail: Analysing the components of fitness and choosing the relevant components for coursework. Nutrition breakdown into food groups and preparing/ designing a six-week nutritional program. Breathing system structure and function with gaseous diffusion and partial pressures. Spirometer tidal volume, residual volume and inspiratory reserve volume. Inspiration and expiration process. Spirometer readings to include tidal volume and minute ventilation. Definition of partial pressures and the process of gaseous exchange. The long-term effects of training on the lung function.

Assessment Method: 1.5 hours written exam

Unit Title: Theory Coursework & The Pulmonary system

Unit number: 2

Unit Summary: Introduction to coursework specification, Program design, booklet guidelines, training vs theory,

Unit Information in Detail: Designing their program and layouts, contents of the booklet, practical sessions to mirror theory applications. Polysaccharide, disaccharide and monosaccharide structure and function and uses in cellular respiration. Protein structure and function. Lipid-saturated and unsaturated to include LDLs and HDLs leading to CVD.

Assessment Method: Coursework booklet and 1 hour written exam

Unit Title: Practical Coursework

Unit number: 3

Unit Summary: application of SMARTER goals, the heart and blood.

Unit Information in Detail: gym sessions, circuit training, specific muscle exertion. The heart and blood vessel structure and double circulation. Cardiac cycle at rest and during exercise. Anticipatory rise and Starling's law. Venous return and vascular shunting.

Assessment Method: Practical exam at the fitness centre with outside moderation and 1 hour written exam