



Mander Portman Woodward



Easter Revision

Course Outlines

M|P|W

**Mander Portman Woodward
Birmingham**

EASTER REVISION

2022

COURSE OUTLINES

Week 1: 4 th April – 8th April

Week 2: 11th April – 15th April

Week 3: 18th April - 22nd April

INTRODUCTION

Thank you for your interest in our Easter Revision courses.

This booklet has been designed to help you select the most appropriate course and provide you with a guide to the course content. A brief explanation of the method of approach is followed by an outline of the material which can be covered on each course.

Our Easter Revision courses are suitable in most cases for students sitting examinations on any board, as they cover the subject's core content (common to all specifications) and give guidance on the varying formats and question styles of the different examination boards. Examination practice, which forms an integral part of each course can be board specific.

Students are expected to be driven and committed for the duration of their courses and regular testing is an essential part of the revision process. Course materials are provided, and students will need stationery and the motivation to succeed.

Most of our courses are organised into half-day sessions which provide three hours tuition operating from 9.00am to 12.30pm or 1.00pm to 4.30pm.

We recommend that lower sixth students attend all five sessions of an AS Level course. Second year A Level students studying the reformed specifications are recommended to attend all AS and A Level sessions to ensure they cover all content they will be examined on this summer.

If you wish to study a subject which is not covered in this booklet, please feel free to contact me to discuss your requirements which may be met by a programme of individual tuition.

We hope we can lead you to success in your coming examinations and we look forward to you joining our Easter Revision programme.

Ryan Moran
Course Director

For further help or information please telephone the college (0121 454 9637) or e-mail ryan.moran@mpw.ac.uk

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A LEVEL

Course Outlines

A Level Course Outlines

Accounting

The course covers the following topics that are common to all specifications:

Topic 1 (AS) – Double Entry Book Keeping System: Purposes of accounting; Accounting records including subsidiary books and ledger accounts based on source documents.

Topic 2 (AS) – Final Accounts: Trading and profit and loss accounts and balance of sole traders with some simple adjustments.

Topic 3 (AS) – Verification of Accounting Records: Preparation of trial balances, bank reconciliation statements, and sales and purchases ledger control accounts; Error corrections.

Topic 4 (AS) – Further Aspects of the Preparation of the Final Accounts: Accounting concepts; making adjustments for bad debts recovered, income due and received in advance, provisions for doubtful debts, provision for depreciation and disposal of fixed assets; Capital and revenue expenditure and income.

Topic 5 (AS) – Limited Companies and Management Accounting: Types of business organizations; Internal final accounts of limited companies and rights and bonus issues; Ratio analysis and the assessment of business performance; Introduction to budgeting and budgetary control, and cash budget; The impact of ICT in accounting.

Topic 6 (2nd Year) – Incomplete Records: Different types of business finance; Preparing and commenting on final accounts and balance sheet of sole trader based on incomplete records.

Topic 7 (2nd Year) – Partnership Accounts: Profit and loss appropriation accounts, capital and current accounts of partners, changes in a partnership and dissolution of a partnership.

Topic 8 (2nd Year) – Other Aspects of Financial Accounting: Published accounts of limited companies; Cash flow statements; Accounting standards; Stock valuation.

Topic 9 (2nd Year) – Manufacturing Account and Cost Management: Preparing and commenting on the final accounts and balance sheet of manufacturing organization; Marginal, absorption and activity based costing; Standard costing and variance analysis.

Topic 10 (2nd Year) – Other Aspects of Management Accounting: Capital investment appraisal including payback and net present value (discounted cash flow) methods; Further considerations of budgeting including purchases, sales, production, labour, debtor and creditor budgets and their relationship with the master budget; Other factors affecting decision making.

A Level Course Outlines

Biology

The course covers the following topics that are common to all specifications, but students should check carefully that sessions are relevant to their own particular studies:

Topic 1 – Biological Molecules and Cells: Carbohydrates, proteins, lipids; enzymes; cell structure; transport across membranes; studying cells.

Topic 2 – Nucleic Acids and Protein Synthesis: Structure of DNA and RNA; Semiconservative replication; Protein synthesis; The genetic code; Cell cycle; Mitosis; Meiosis.

Topic 3 – Exchange Surfaces and Transport Systems in Plants and Animals: Gas exchange in mammals, insects and fish; Haemoglobin; Cardiovascular system; Xylem and phloem.

Topic 4 – Health and Disease: Pathogens; The immune system and principles of immunology; Primary and Secondary immune response; Vaccination; Uses of antibodies; HIV.

Topic 5 – Biodiversity and Evolution: Biodiversity; Classification systems; Principles of taxonomy; Species diversity; Variation.

Topic 6 – Genetics and Gene Technology: Inheritance; Gene therapy; Genetic fingerprinting; Control of gene expression; Human genome projects.

Topic 7 – Photosynthesis and Respiration: Adaptations of leaves for photosynthesis; Light dependent and independent stages of photosynthesis; Glycolysis; The link reaction and Krebs cycle; Electron transport chain; Anaerobic respiration.

Topic 8 – Homeostasis: Endocrine glands of mammals; Control of blood glucose; Control of heart rate; Kidneys and control of blood water potential.

Topic 9 – Nervous Control: Structure of sensory and motor neurones; The action potential and its propagation; Structure and function of synapses and reflex arcs; The brain; Muscles.

Topic 10 – Environment, Ecology and Speciation: Natural selection and speciation; Nutrient cycles; Energy flow in ecosystems; Food production; Succession; Ecological techniques.

A Level Course Outlines

Business Studies (AQA 2310)

This revision course, like previous courses, is intended to reinforce individual areas of weakness and to focus heavily on exam practice to develop the techniques necessary to produce high exam scores. The following course outlines can be varied in line with the requirements of a particular student cohort.

1 – What is Business? Managers, Leadership and Decision Making (AS):

Common Objectives, business forms, external environment, leadership, decision making, stakeholders.

2 – Decision Making to Improve Marketing Performance (AS):

Marketing objectives, understanding markets, positioning, marketing mix.

3 – Decision Making to Improve Operational Performance (AS):

Operational objectives, operational performance, efficiency and productivity, improving quality, inventory and supply chains.

4 – Decision Making to Improve Financial Performance (AS):

Setting financial objectives, analysing financial objectives, sources of finance, improving cash flow.

5 – Decision Making to Improve Human Resource Performance (AS):

Setting HR objectives, analysing HR performance, improving organisation, motivation, employee relations.

6 – Analysing the Strategic Position of a Business (2nd Year):

Mission, corporate objectives and strategy, internal/external position, external opportunities and threats, the competitive environment.

7 – Ratio Analysis and Investment Appraisal (2nd Year):

Key Ratios, Quantitative measure, Payback, NPV, ARR.

8 – Choosing Strategic Direction (2nd Year):

Strategic direction, strategic positioning, markets and products.

9 – Strategic Methods: How to Pursue Strategies (2nd Year):

Change in scale, innovation, internationalisation, digital technology.

10 – Managing Strategic Change (2nd Year):

Managing change, Organisational culture. Strategic implementation, problems with strategy and why they fail.

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A Level Course Outlines

Chemistry

This course covers the following topics that are common to all specifications but students. This course covers the following topics that are common to all specifications, but students should check carefully that sessions are relevant to their own particular studies:

Topic 1 (AS) – Introductory Chemistry: Atomic structure: simple atomic models, orbitals and electronic configurations, TOF mass spectrometry, ionisation energies; Ionic, covalent and metallic bonding; simple and giant covalent structures; inter-molecular forces. Shapes of molecules and ions.

Topic 2 (AS) – Amount of Substance and Associated Calculations: Equations and formulae: producing correct formulae and writing full balanced and ionic equations; mole calculations; solution and titration calculations. Empirical formula. Atom economy and percentage yield. Kinetics: the factors influencing reaction rates; Maxwell - Boltzmann distribution of energies; reaction profiles.

Topic 3 (AS) – Physical Chemistry: Energetics: bond-breaking and bond-forming, definitions of ΔH_c , ΔH_f and Hess Law calculations; enthalpy level diagrams. Chemical equilibrium: reversibility, dynamic equilibrium, movement of equilibrium and K_c .

Topic 4 (AS) – Inorganic Chemistry: The Periodic Table: Group trends and periodic trends; Redox Chemistry: Assignment of oxidation number and its use in balancing redox equations; Chemistry; Groups 2, and 7.

Topic 5 (AS) – Organic Chemistry: Introductory organic chemistry: homologous series, naming and isomerism. Reactions of the Alkanes, alkenes, halogenoalkanes and alcohols. Mechanisms: attacking species and reactive intermediates. IR and MS spectroscopy of organic compounds.

Topic 6 (2nd Year) – Physical Chemistry I: Equilibria: K_p calculations, heterogeneous equilibria. Kinetics: rate equations. Energetics: Entropy and free energy.

Topic 7 (2nd Year) – Physical Chemistry II: Acids and Bases: Bronsted-Lowry Theory, pH and calculations, acid strength, K_a , K_w , pK_a and pK_w , titrations, curves and indicators, buffers, ΔH_{neutr} .

Topic 8 (2nd Year) – Inorganic Chemistry: Transition metals: definition, complex formation, shapes and the origin of colour, reaction with NaOH and NH_3 ; catalysis. Redox equilibria: E , E_{cell} and reaction prediction.

Topic 9 (2nd Year) – Organic Chemistry I: Isomerism: Geometrical and optical isomerism; Aldehydes and ketones: reactions, tests and mechanisms. Carboxylic acids and derivatives reactions, tests and mechanisms. Nitrogen compounds: amines, nitriles, amides, amino acids reactions, tests and mechanisms.

Topic 10 (2nd Year) – Organic Chemistry II: Aromatic compounds: reactions and mechanisms; Polymers: addition and condensation, properties. Spectroscopy: IR, MS and NMR. Chromatography.

A Level Course Outlines

Computer Science

The purpose of the course is to provide students with a concise revision of the exam theory required to meet the demands of the A level qualification, together with advice on examination technique specific to the AQA A level examinations.

The time allocated to a unit for the content will involve revision of key points of each topic within that unit, with illustrations of how that subject matter may be examined in the unit examination.

The half day allocated for examination technique and practice will be used to look at identifying the requirements of questions and applying the theory learned to the questions, to maximise marks.

Topic 1 (AS) – Fundamentals of Programming: Data types; Programming structures; Arithmetic; Relational & Boolean operations; Constants and variables; String-handling; Random numbers; Exception handling and Subroutines. **Fundamentals of Data Structures:** Data structures; Arrays; Fields, records and files.

Topic 2 (AS) – Theory of computation: Problem-Solving; Following and writing algorithms; Abstraction & Decomposition; Composition; Automation and Finite State Machines.

Topic 3 (AS) – Fundamentals of Data Representation: Numbers – natural, integer, rational, irrational, real, ordinal, counting and measuring; Number Bases; Units of information – bits, bytes & units; Binary Number System – unsigned, unsigned arithmetic, two's complement, fractions; Information coding systems – character forms, ASCII, Unicode, Error checking; Representing images, sound and other data. **Fundamentals of Communication and Networking:** Communication methods and basics; Networking topologies and Wireless networking.

Topic 4 (AS) – Fundamentals of Computer Systems: Hardware and software; Classification of software; System software; Role of an operating system; Classification of programming languages; Types of program translator; Logic Gates and Boolean Algebra.

Topic 5 (AS) – Fundamentals of Computer Organisation and Architecture: Internal hardware components; Stored program concept; Structure and role of processor and its components; Fetch-Execute cycle and the role of registers; Processor instruction set and addressing modes; Machine code / Assembly language and External hardware devices.



A Level Course Outlines

Computer Science

Topic 6 (2nd Year) – Fundamentals of Computer Organisation and Architecture: Internal hardware components; Stored program concept; Structure and role of processor and its components; Fetch-Execute cycle and the role of registers; Processor instruction set and addressing modes; Machine code / Assembly language and External hardware devices.

Topic 7 (2nd Year) – Fundamentals of Communication and Networking: Communication methods and basics; Networking topologies & Wireless networking and The Internet and TCP/IP.

Topic 8 (2nd Year) – Fundamentals of Databases: Conceptual data models and entity relationship modelling; Relational databases and Structured Query Language (SQL).

Topic 9 (2nd Year) – Big Data: Fundamentals of Data Structures: Data structures; Arrays; Fields, records and files; Abstract data types/structures; Queues, Stacks, Graphs, Trees, Hash tables, Dictionaries and Vectors. **Fundamentals of Algorithms:** Graph-traversal; Tree- traversal; Reverse polish and Searching, sorting & optimisation algorithms.

Topic 10 (2nd Year) – Fundamentals of Functional Programming: Functional programming paradigm; Writing functional programs and Lists in functional programming.

A Level Course Outlines

Economics

The AS topics are relevant to all specifications. A Level topics are specific to EDEXCEL students: The topics are relevant to all of the new, reformed specifications:

Topic 1 (AS) – Basic Economic Problem and Basic Economic Concepts: Positive and normative economics; scarcity and opportunity cost; The production possibility boundary or frontier; Specialisation and the division of labour; Free market and mixed economies; rational decision-making process, the functions of money. The supply of, and demand for, goods and services.

Topic 2 (AS) – Price Mechanism and its Application: The price mechanism as a means of allocating resources; The role of the price mechanism in resource allocation in free market and mixed economies; Application of the price mechanism in markets, such as goods, services, commodities and labour. Elasticity. Indirect taxes and subsidies.

Topic 3 (AS) – Market failures and Government Intervention: Types of market failure including public goods, externalities, imperfect information, labour immobility, unstable commodity markets; Government intervention in markets; Government failure.

Topic 4 (AS) – National Economic Performance: Measurements of performance including growth, inflation, employment and unemployment, balance of payments; Other measures of development; National Income and wealth; The circular flow of income.

Topic 5 (AS) – Aggregate Demand/Supply Analysis: Aggregate demand; Aggregate supply; Relationship between aggregate demand/supply and the price level; The equilibrium level of real output; Multiplier effect; Causes, costs and constraints on economic growth; Macroeconomic policy objectives; Conflicts between objectives; the main macro-economic policy instruments- supply/demand side policies; Conflicts resulting from use of policy instruments.

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A Level Course Outlines

Economics

Topic 6 (2nd Year) – Business Economics-Concepts: The revenue of a firm; The costs of a firm; economic efficiency; The profit of a firm; Firms' objectives.

Topic 7 (2nd Year) – Market Structure and Contestability: Barriers to market entry and exit; Market concentration; The determination of firms' behaviour including perfect competition, monopoly, monopsony, oligopoly and monopolistic competition; Contestability, Government intervention to maintain competition in markets.

Topic 8 (2nd Year) – The labour market: The demand and supply of labour, Income and substitution effects, Immobility of labour, Wage elasticity of demand, Minimum wage.

Topic 9 (2nd Year) – The International Economy: Causes and effects of globalisation; International trade-why trade and how is trade recorded and financed; International competitiveness of a country.

Topic 10 (2nd Year) – The developing world: Poverty and inequality of developed and developing countries; Limits to growth and development; Macroeconomic policy used to promote growth and development; Other measures used to promote growth development, The role of financial markets.

A Level Course Outlines

English Literature

MPW Easter Revision English Literature courses are arranged largely on an individual basis. ER Literature tutors will generally be able to offer the popular texts being taught across the major examination boards of AQA, Edexcel, OCR and WJEC. Students are advised to contact the college to discuss the texts they are studying. Where two or more students wish to study the same text, a group may be formed.

Generally, tutors will tailor the course to the needs of the individual and students are strongly urged to provide as much detail as possible when returning their questionnaire. Please ensure that you write down precise details of the specification you are following:

- Name of the examination board.
- Subject and component code.
- Edition of the text you have been recommended to use.

May we remind all students of English Literature that all the examination boards have strict guidelines governing the annotation of texts in open-book examinations – i.e. exams where you are permitted to take in your text or anthology book – so we advise that all note-taking be done on paper rather than in the actual book.

HOW TO WRITE A SUCCESSFUL LITERATURE EXAMINATION ESSAY

“Many answered at length... determined to make use of everything they knew from and about the play.” This comment is taken from an examiner’s report and describes “the weakest candidates” on an essay paper. Perhaps surprisingly, no criticism is made of their knowledge of the play which appears ample, nor of their understanding of its themes and characters. What distinguishes these weak candidates is simply their inability to use their knowledge for examination purposes; in other words, to write essays in a way which scores marks. This module has been designed to address this common problem amongst English students and will deal with the perennial problem of writing comprehensive, fluent and well-structured essays in an hour or less. It will cover such skills as:

- How to demonstrate your knowledge of the text.
- How to choose and use quotations.
- How to plan an essay, how to structure an argument and how to write strong introductions and conclusions.
- How to know what the question is really asking and what opportunities it offers for a high-grade answer.
- How to target the assessment objectives (AOs).

Time will also be devoted to revision techniques and examination time management. The module will have a ‘hands on’ approach when past essays will be scrutinised, and their strengths and weaknesses evaluated. Students are expected to bring along their past essays for commentary. Students taking this module will learn how to identify the requirements of essay questions, in order to attain the highest grades. They will practise planning responses to past paper questions.

Please write “How to Write a Successful Literature Examination Essay” on the registration form.

A Level Course Outlines

French

This course is suitable for all examination boards.

Do you know your accusative prepositions from your dative direct object pronouns? If not, the Easter Revision French course is designed to unjumble the grammatical jargon. It is important to remember that many candidates drop many marks through careless or confused knowledge of grammar. Accuracy is crucial for success at A level and emphasis will be placed on mastering verbs and tenses, endings and agreements and the linguistic structures of the language.

Our French revision course is skills-specific as opposed to board or topic specific. Each morning and afternoon session incorporates practice of the following examination skills:

- Speaking (where applicable): presentation of IRP; discussion of topic.
- Listening comprehension
- Reading comprehension
- Writing: literature essay writing; structured responses;

In each session, emphasis is placed on areas of grammar that commonly cause students problems. Students are set exercises to prepare, paragraphs to write and sentences to translate and are encouraged to memorise key vocabulary and use idiomatic structures in the target language.

PLEASE NOTE: As the course will focus on the spoken and written language components of the new A level French specifications, the course does not give specific coverage to set texts, topics and films. Where students specifically require revision in French literature texts or films, this can usually be accommodated by means of individual tuition. Please contact the Course Director to discuss your precise requirements and advising of the text's title, author and edition used.

As students will be aware, a five-day course cannot do justice to the two skills of speaking and listening. Although these will be studied at some level throughout the week, success relies on regular practice and consistent revision of vocabulary. Further guidance can be given, however, on oral exam topics and presentations, as well as strategies to assist with listening skills.

Please provide as much detail as possible on your questionnaire to enable tutors to tailor the course to your needs, such as the topic of the IRP and any other topic areas covered.



A Level Course Outlines

Geography

The MPW Easter Revision Geography course aims to provide individually tailored sessions that can not only cover the common topics but also provide study skills tuition. Exam study skills will include the analysis of maps and graphs, developing a line of argument, structuring an exam answer and the best ways to approach and utilise case studies.

AS TOPICS

- 1. Coastal Landscapes**
- 2. Changing Spaces; Making Places**
- 3. Hazardous Earth – Volcanos**
- 4. Hazardous Earth – Earthquakes**
- 5. Investigative Geography Skills**

A2 TOPICS

- 6. Earth's Support Systems – The Water Cycle**
- 7. Earth's Support Systems – The Carbon Cycle**
- 8. Disease Dilemmas**
- 9. Global Migration**
- 10. Human Rights**

On your registration form, please specify the examining board, module code, title and any other relevant information.

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A Level Course Outlines

German

This course is suitable for all examination boards.

Do you know your accusative prepositions from your dative direct object pronouns? If not, the Easter Revision German course is designed to unjumble the grammatical jargon. It is important to remember that many candidates drop many marks through careless or confused knowledge of grammar. Accuracy is crucial for success at A level and emphasis will be placed on mastering verbs and tenses, endings and agreements and the linguistic structures of the language.

Our German revision course is skills-specific as opposed to board or topic specific. Each morning and afternoon session incorporates practice of the following examination skills:

- Speaking (where applicable): presentation of IRP; discussion of topic.
- Listening comprehension
- Reading comprehension
- Writing: literature essay writing; structured responses;

In each session, emphasis is placed on areas of grammar that commonly cause students problems. Students are set exercises to prepare, paragraphs to write and sentences to translate and are encouraged to memorise key vocabulary and use idiomatic structures in the target language.

PLEASE NOTE: As the course will focus on the spoken and written language components of the new A level German specifications, the course does not give specific coverage to set texts, topics and films. Where students specifically require revision in German literature texts or films, this can usually be accommodated by means of individual tuition. Please contact the Course Director to discuss your precise requirements and advising of the text's title, author and edition used.

As students will be aware, a five-day course cannot do justice to the two skills of speaking and listening. Although these will be studied at some level throughout the week, success relies on regular practice and consistent revision of vocabulary. Further guidance can be given, however, on oral exam topics and presentations, as well as strategies to assist with listening skills.

Please provide as much detail as possible on your questionnaire to enable tutors to tailor the course to your needs, such as the topic of the IRP and any other topic areas covered.

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A Level Course Outlines

History

The most popular topics available on the many History specifications are listed below and students should select those most relevant for their course of study. If a topic you require is not listed, then please contact the Course Director as it is often possible to arrange a more specific programme when necessary. In addition to the topics listed below, we can offer a wide range of other historical periods and study skills are also addressed. Answering document questions, developing a line of argument and constructing a convincing essay are some of the areas covered, as well as preparing a thorough revision timetable. Each module will last for one half-day session. On your registration form, please specify the examining board, module code, title and any other relevant information. This will enable us to draw up an individual timetable for your modules.

1K: The making of a Superpower: USA, 1865-1975.

2S: The Making of Modern Britain, 1951-2007.

Coursework Support

A Level Course Outlines

Law

This course is designed to cover all modules of the AS and A Level examination. It will also include advice on study skills and examination technique and will provide opportunities to practise questions under timed conditions. Topics will be covered with particular regard to answering essay questions or “problem” scenarios as appropriate to the modules.

The course covers the following topics that are common to all specifications:

Topic 1 (AS): Statutory interpretation and delegated legislation.

Topic 2 (AS): Precedent and Influences upon Parliament.

Topic 3 (AS): Judges and lay people.

Topic 4 (AS): Legal profession and alternative to courts.

Topic 5 (AS): Civil liability in negligence and remedies.

Topic 6 (2nd Year): Criminal liability and sanctions.

Topic 7 (2nd Year): Non-fatal offences against the person and defences.

Topic 8 (2nd Year): Murder, manslaughter and defences.

Topic 9 (2nd Year): Theft, robbery and burglary.

Topic 10 (2nd Year): Deception/Fraud, criminal damage and defences.

A Level Course Outlines

Mathematics

Topic 1 (AS) – Core Mathematics: Proof, Algebra and Functions (Indices and surds, Simultaneous equations, Inequalities, Factor Theorem, Graphs Sketching, Transformations of Graphs) and Binomial Expansion.

Topic 2 (AS) – Core Mathematics: Coordinate geometry (Straight Line, Circle), Trigonometry (Sine and Cosine Rules, Trigonometric graphs, Trigonometric Identities), Exponentials and Logarithms (Exponential and Logarithmic Graph, Exponential Growth and Decay, Law of Logarithms).

Topic 3 (AS) – Core Mathematics: Differentiation (Differentiation from first principles, Tangents, Maximum and Minimum, Second derivatives), Integration (Fundamental Theorem of Calculus, Definite Integration).

Topic 4 (AS) – Mechanics: Vectors (Vector algebra, Position Vectors), Quantities and Units, Kinematics (Motion Graphs, SUVAT, Calculus in Kinematics) and Forces.

Topic 5 (AS) – Statistics: Sampling, Data Representation and Interpretation (Histograms, Scatter Diagrams, Regression line, Averages, Spread, Outliers), Probability, Binomial Distribution and Hypothesis Testing.

Topic 6 (2nd Year) – Core Mathematics: Algebraic fractions and division, Partial fractions, the Binomial Expansion, Iterative Methods, Series and Sequences, Differentiation; including the chain, product and quotient rules, Implicit and Parametric differentiation.

Topic 7 (2nd Year) – Core Mathematics: Radian measures including sectors and small angle approximation, Trigonometry including the Pythagorean Identities, the Addition formulae and the Double Angle formulae; Functions including domain and range, composite, inverse and modulus functions.

Topic 8 (2nd Year) – Core Mathematics: Integration including methods by substitution, by partial fractions, by parts, by use of trigonometric identities and trapezium rule. Application to differential equations; Vectors in 3D and solving geometrical problems, Proof by contradiction.

Topic 9 (2nd Year) – Statistics: Probability including sum and products laws, conditional probabilities, independent and mutually exclusive events, Venn and tree diagrams; Correlation and Regression with Hypothesis testing, the Normal distribution

Topic 10 (2nd Year) – Mechanics: Moments including tilting problems, Projectiles, Further kinematics including variable acceleration and using calculus, Statics of particles and rigid bodies, Equilibrium of a particle under the action of forces such as weight, normal reaction, tension and friction, coefficient of friction, Dynamics of a particle including motion of two connected particles.

A Level Course Outlines

Media Studies

Students are advised to contact the college to discuss the units or topics they are studying; Media Studies tuition over Easter is arranged on an individual tuition basis. However, where two or more students wish to study the same topic area, a group may be formed.

Generally, tutors will tailor courses to the needs of the individual and students are urged to be as detailed as possible in their questionnaire. For example, please ensure that you do give precise details of the specification you are taking:

- The examination board.
- The subject and component code.
- The topic and subject area covered.

Those studying Media know two things: first, they need to understand and engage with more theory, ideas and debate than almost any other subject, ranging from Marxism to Postmodernism and everything in between. Second, the written examinations are a real challenge, with candidates bringing acquired textual, theoretical and analytical skill to bear on the question focus. In each case, the candidate has a great deal to do in a relatively short time. There is a need to think fast and plan effectively.

Examiner's reports tend to contain the same observations when providing an overview of candidates who have not achieved well:

- Responses that are 'pre-rehearsed' or planned around a comment or two for each of the Key Concepts tend towards the descriptive and superficial.
- Responses that are 'pre-rehearsed' essays do not answer the question set.

In each case it is almost impossible for pre-rehearsed answers to access the higher mark bands. The revision sessions at MPW offer the following:

- Work with a colour coded, dynamic 'model' of Media Studies (created by and unique to MPW) that enables you to develop a thought or argument and link Key Concepts together – one of the biggest mark earning skills. Students will take away a copy of this resource.
- Revision of theories, ideas and debates.
- Shaping and using individual student Case Studies.
- How Description leads to D and Analysis leads to A.
- 'Critical autonomy' explained.
- Can you revise for something unseen?
- Understanding the question.
- Questioning the question and recognising the myriad 'questions within a question' to help you plan and set the agenda for a high marking, engaged response.
- Developing a textual illustration journal: your ready-made revision tool.
- Approaches, not systems: a writing frame for every paragraph, to earn marks.

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A Level Course Outlines

Physics

The course covers the following topics that are common to all specifications, but students should check carefully that sessions are relevant to their own particular studies:

Topic 1 – Mechanics I: Vectors; Equations of constant acceleration; Projectiles; $F = ma$; Work, energy, power; Newton's laws; Momentum.

Topic 2 – Electricity: Current; Voltage; Resistance; Electromotive force (EMF); Internal resistance and resistivity; Current-voltage graphs; Potential dividers.

Topic 3 – Waves: Single slit diffraction (qualitative treatment only); Two source interference pattern; Standing waves; Polarisation; Phase.

Topic 4 – Quantum Physics: Wave-particle duality; Photoelectric effect; Line spectra; De Broglie wavelength; Electron diffraction.

Topic 5 – Particle Physics: Quark-Lepton model, including hadrons, baryons and mesons; Particle interaction to include fundamental forces, exchange particles, conservation laws and Feynman Diagrams.

Topic 6 – Mechanics II: Circular motion; Simple harmonic motion (SHM).

Topic 7 – Electric & Gravitational Fields: Newton's law; Coulomb's law; Electric fields; Gravitational fields.

Topic 8 – Electromagnetism: Magnetic fields; Motion of charged particles in magnetic fields; Electromagnetic induction; A.C.

Topic 9 – Radioactivity: Nuclear radiations; Nuclear decay equations; Calculations including the exponential decay formula; $E = mc^2$; Fission; Fusion.

Topic 10 – Capacitors and Thermal Physics & Gases: Capacitors; Ideal gases; $pV = nRT$; Kinetic energy and its proportionality to Kelvin temperature; Internal energy; Specific heat capacity.

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A Level Course Outlines

Politics

The course covers the following topics that are common to all specifications, but students should check carefully that sessions are relevant to their own particular studies:

UK Politics:

Topic 1 (AS): The nature of democracy and the changes in political participation. The role and functions of political parties.

Topic 2 (AS): Political parties in the UK and their policies and ideas, coalition politics, Elections and electoral systems.

Topic 3 (AS): Pressure groups. UK Constitution.

Topic 4 (AS): Parliament. Prime Minister and the executive.

Topic 5 (AS): Judiciary, civil liberties and issues for reform.

US Politics:

Topic 6 (2nd Year): The Constitution and federalism.

Topic 7 (2nd Year): Elections and voting in the USA.

Topic 8 (2nd Year): Political parties. Pressure groups.

Topic 9 (2nd Year): Racial and ethnic policies. Supreme Court.

Topic 10 (2nd Year): Congress. The Presidency.

A comparison will be made with UK processes and institutions in each topic.

A flexible approach will be taken, bearing in mind the overlapping areas within the units, and the particular needs of the students attending. Help will be given with examination technique, in addition to the main emphasis on knowledge and understanding. Students will attempt examination questions as part of the course. Information can be made available in the form of notes and handouts.

A Level Course Outlines

Psychology

These revision sessions are particularly recommended for students following the EDEXCEL specification, although individual topics will also be relevant to those following the AQA specification. The structure of the course is as follows:

Topic 1 (AS) – Cognitive Psychology: Research Methods, Models of memory, Theories of forgetting, Classical and Contemporary studies, Key Issue and Practical.

Topic 2 (AS) – Social Psychology: Research Methods, Milgram & his Variations, Theories of Obedience, Theories of Prejudice and Discrimination, Contemporary Studies, Key Issue and Practical Investigation.

Topic 3 (AS) – Biological Psychology: Research Methods, Central Nervous System, Effects of Recreational Drugs, Brain Structure, Evolution, Aggression, Hormones, Classical and Contemporary studies, Key Issue and Practical Investigation.

Topic 4 (AS) – Learning approach: Research Methods, Classical & Operant Conditioning, Social Learning Theory, Bandura, Phobias & Treatments, Classical and Contemporary studies, Key Issue and Practical Investigations.

Topic 5 (AS) [Edexcel only]– Issues & Debates: Synoptic paper for topics 1-4. Only required for students continuing with Psychology onto year 2.

Topic 6 (2nd Year) – Research Methods: Laboratory, Field and Natural experiments, Observations, Case studies, Cross cultural and Longitudinal studies, twin studies and interviews.

Topic 7 (2nd Year) – Criminal Psychology: Theories of Criminal Behaviour, Police Interviewing Techniques, Treating Offenders, Classical and Contemporary studies, Key Issues and Practical Investigation.

Topic 8 (2nd Year) – Clinical Psychology: Clinical characteristics, diagnosis, Explanations and Treatments for Schizophrenia and Obsessive-Compulsive Disorder, Classical and Contemporary studies, Key issue and Practical Investigations.

Topic 9 (2nd Year) [Edexcel only] – Issues and Debates: Synoptic paper for topics 7-8.

A Level Course Outlines

Religious Studies

The Religious Studies Easter Revision course is organised as a “mix and match” course to allow students to choose a revision programme that matches their exact requirements. The most popular topics available on the many Religious Studies specifications are listed below and students should select those most relevant for their course of study. In addition to the topics listed below, we can offer a wide range of other RE topics and study skills are also addressed. Developing a line of argument and constructing a convincing essay are some of the areas covered, as well as preparing a thorough revision timetable. Each module will last for one half-day session.

On your registration form, please specify the examining board, module code, title and any other relevant information. This will enable us to draw up an individual timetable for your modules. The maximum number of modules you can take in one week is ten.

Arguments for the Existence of God:

Topic 1: Argument from Design.

Topic 2: Cosmological Argument.

Topic 3: Ontological Argument.

Philosophy of Religion:

Topic 4: Problem of Evil.

Topic 5: Religious Language.

Topic 6: Religious Experience.

Topic 7: Life after death

Ethics:

Topic 8: Utilitarianism and Situation Ethics (applied to issues).

Topic 9: Natural Law and Virtue Ethics (applied to issues).

Topic 10: Kant’s deontological ethics (applied to issues).

A Level Course Outlines

Sociology

The structure of the Easter Revision course is as follows:

Topic 1 (AS) – Families and Households: The relationship of the family to the social structure and social change, with particular reference to the economy and to state policies. Changing patterns of marriage, cohabitation, separation, divorce, childbearing and the life course, including the sociology of personal life, and the diversity of contemporary family and household structures.

Topic 2 (AS) – Families and Households: Gender roles, domestic labour and power relationships within the family in contemporary society. The nature of childhood, and changes in the status of children in the family and society. Demographic trends in the United Kingdom since 1900: birth rates, death rates, family size, life expectancy, ageing population, and migration and globalisation.

Topic 3 (AS) – Education: The role and functions of the education system, including its relationship to the economy and to class structure. Differential educational achievement of social groups by social class, gender and ethnicity in contemporary society.

Topic 4 (AS) – Education: Relationships and processes within schools, regarding teacher/pupil relationships, pupil identities and subcultures, the hidden curriculum, and the organisation of teaching and learning. The significance of educational policies, including policies of selection, marketisation and privatisation, and policies to achieve greater equality of opportunity or outcome, for an understanding of the structure, role, impact and experience of and access to education; the impact of globalisation on educational policy.

Topic 5 (AS) – Sociological Research Methods: Quantitative and Qualitative methods of research; research design sources of data, including questionnaires, interviews, participant and non-participant observation, experiments, documents and official statistics. The distinction between primary and secondary data, and between quantitative and qualitative data. Sociological Research Methods: The relationship between positivism, interpretivism and sociological methods; the nature of 'social facts'. The theoretical, practical and ethical considerations influencing choice of topic, choice of method(s) and the conduct of research.

A Level Course Outlines

Sociology

Topic 6 (2nd Year) – Media: the new media and their significance for an understanding of the role of the media in contemporary society. The relationship between ownership and control of the media. The media, globalisation and popular culture. The processes of selection and presentation of the content of the news. Media representations of age, social class, ethnicity, gender, sexuality and disability. The relationship between the media, their content and presentation, and audiences.

Topic 7 (2nd Year) – Beliefs: The relationship between different social groups and religious/spiritual organisations and movements, beliefs and practices. The significance of religion and religiosity in the contemporary world, including the nature and extent of secularisation in a global context, and globalisation and the spread of religions.

Topic 8 (2nd Year) – Crime: Crime, deviance, social order and social control. The social distribution of crime and deviance by ethnicity, gender and social class, including recent patterns and trends in crime.

Topic 9 (2nd Year) – Crime: Globalisation and crime in contemporary society; the media and crime; green crime; human rights and state crimes. Crime control, surveillance, prevention and punishment, victims, and the role of the criminal justice system and other agencies.

Topic 10 (2nd Year) – Theory: Consensus, conflict, structural and social action theories, the concepts of modernity and post-modernity in relation to sociological theory. The nature of science and the extent to which Sociology can be regarded as scientific. The relationship between theory and methods. Debates about subjectivity, objectivity and value freedom the relationship between sociology and social policy.

A Level Course Outlines

Spanish

This course is suitable for all examination boards.

Our Spanish revision course is skill-specific as opposed to board or topic specific. The aim of this course is to:

- develop understanding of the spoken and written forms of Spanish in a range of contexts;
- develop the ability to communicate effectively in Spanish, through both the spoken and written word, using a range of vocabulary and structures.
- develop knowledge and understanding of Spanish grammar, and the ability to apply it.
- apply their knowledge and understanding in a variety of relevant contexts which reflect their previous learning and maturity.
- develop knowledge and understanding of countries and communities where Spanish is spoken.
- develop positive attitudes to Spanish learning.
- provide a suitable foundation for further study and/or practical use of Spanish.

Each morning and afternoon session incorporates practice of the following examination skills drawing upon AS or A Level material:

- Speaking: oral exams; presentation; general conversation.
- Listening comprehension.
- Reading comprehension.
- Writing: short and long responses; essay writing and task-based responses.

In each session, emphasis is placed on areas of grammar that commonly cause problems for students. Students are set exercises to prepare, paragraphs to write and sentences to translate and are encouraged to memorise key vocabulary and use idiomatic structures in the target language.

Addressing the language component (75-85%) of A Level Modern Language specifications, the course does not give specific coverage to set texts or set films. Where students want help with specific Spanish literature texts or Spanish films, this can usually be accommodated by means of individual tuition. Please contact the Course Director to discuss your precise requirements.

Please provide as much detail as possible on your application to enable tutors to tailor the course to your needs.

GCSE

Course Outlines

GCSE Course Outlines

Biology

Topic 1 – Cell Biology: Cell types and cell structures. Microscopes. Culturing organisms. Stem cells. Therapeutic cloning. Mitosis. Meiosis. DNA. Cancer. Diffusion, osmosis and active transport.

Topic 2 – Organisation: Animal tissues, organ and organ systems. The heart. The lungs and the digestive system. Translocation and transpiration.

Topic 3 – Infection and Bioenergetics: Pathogens (plants and animals), disease, white blood cell defences, vaccination and monoclonal antibodies. Resistant bacteria
Photosynthesis and respiration. Increasing photosynthesis. Anaerobic respiration. Response to exercise.

Topic 4 – Homeostasis and response: The human nervous system and reflexes. The brain and the eye. Control of body temperature and blood glucose. Glands of the body. The pituitary gland. The kidney. The menstrual cycle and contraception. Negative feedback. Plant hormones.

Topic 5 – Inheritance, variation, evolution and Ecology: Inheritance and inherited disorders. Genetic variation and evolution. Selective breeding. Genetic engineering of plants and animals. Pyramids of biomass. Carbon cycle. Biodiversity.
Deforestation and global warming. Food production.

M|P|W

Birmingham

GCSE Course Outlines

Chemistry

Topic 1: Atoms, bonding and moles; atomic structure, the Periodic table, structure and bonding, chemical calculations.

Topic 2: Chemical reactions and energy changes; the reactivity series, extracting metals, salts, electrolysis, exothermic and endothermic reactions.

Topic 3: Rates and equilibrium; collision theory, reversible reactions, dynamic equilibrium. Chemical analysis; testing for gases, positive ions and negative ions.

Topic 4: Organic chemistry; crude oils and fuels, alkenes, alcohols, carboxylic acids and esters, polymers.

Topic 5: The Earth's resources; the Earth's atmosphere, practical techniques, greenhouse gases and pollution, finite and renewable resources, water treatment, using our resources, the Harber process.

GCSE Course Outlines

English Language

This course provides help with essential skills for the various GCSE English Language examinations. Examples of exercises will be taken from a variety of examination papers with the aim of meeting the needs of all those who enrol.

The following areas will be covered. The length of time spent on each one may vary slightly in order to take into account, as far as possible, the wishes of the students.

- Different types of examination questions.
- Examination technique.
- What examiners are looking for.
- Essay writing skills – planning, structuring and checking.
- Literary comprehensions.
- Non-Literary comprehensions.
Analysing language and arguments.
Summarising.
- Writing from a stimulus.
Stories and imaginative responses.
- Writing from a stimulus.
Using specified forms (e.g. diary, letter, talk, leaflet).
Revision tips and guidance.

GCSE Course Outlines

English Literature

Students are advised to contact the college to discuss the texts they are studying; GCSE English Literature tuition over Easter is arranged on an individual tuition basis. However, where two or more students wish to study the same text a group may be formed.

Generally, tutors will tailor courses to the needs of the individual and students are urged to be as detailed as possible in their registration form. For example, please ensure that you do give precise details of the specification you are taking:

- The examination board.
- The subject and component code.
- The edition of the text you have been recommended to use.

Students are reminded that all examination boards have strict guidelines governing the annotation of texts in open-book examinations, so note-taking is best done on paper rather than in the set text.

Students will receive guidance in the planning, structuring and checking over of past examination questions, together with analysis of examiners' reports where appropriate.

GCSE Course Outlines

French

You might be confident about speaking French but be concerned about your writing. You might love reading the language and loathe the listening. Most students are at least at ease with one of the disciplines and you would achieve higher grades if more guidance were given for your weak areas. The French Easter Revision course will cover all aspects of GCSE & IGCSE language specifications. Obviously, there can be no substitute for practice, practice and even more practice, but you do need to be sure of exactly what you need to practice!

Speaking: Role plays; Discuss a picture-based stimulus/ photo-card; General conversations; Asking questions.

Reading: Analysing common GCSE vocabulary from a wide variety of past paper material including newspaper and magazine articles, letters, emails, blogs and online posts.

Listening: Ways of revising and honing listening techniques, through repetition and analysis of French pronunciation patterns. Revising common vocabulary from recorded material from past papers.

Writing: We will look at how structure your response, how to write emails, letters and messages (both formal and informal) as well as developing stories. Translation.

Topic Areas/ Themes: There is significant overlap between the exam boards:

(AQA) Identity and culture; local, national, international and global areas of interest; Current and future study and employment.

(EDEXCEL) Identity and culture; Local area, holiday and travel; School; Future aspirations, study and work; International and global dimension

(IGCSE EDEXCEL) Home and abroad; Education and employment; Personal life and relationships; The world around us; Social activities, fitness and health

In addition, students will study a programme of basic grammar for GCSE which will cover verbs and the major tenses of present, perfect, imperfect, future and conditional; adjectives and adverbs; spelling and accents.

Each student will have opportunities to ask questions and individual attention can be given to more specific requests. Remember you will be made to work hard on the course but will gain much enjoyment from it.

Please give as much detail as possible on your application to enable tutors to tailor the course to your needs, such as EXAM BOARD and any AREAS OF WEAKNESS.

GCSE Course Outlines

Geography

Students are advised to contact the college to discuss the units or topics they are studying; GCSE Geography tuition over Easter is arranged on an individual tuition basis. However, where two or more students wish to study the same topic area, a group may be formed.

Generally, tutors will tailor courses to the needs of the individual and students are urged to be as detailed as possible in their questionnaire. For example, please ensure that you do give precise details of the specification you are taking:

- The examination board.
- The subject and component code.
- The topic and subject area covered.

The following topics are relevant for ALL boards:

A Physical Geography: Extreme Environments, Tectonic landscapes, Earthquakes, Mountainous Environments, Desert Environments.

B The Coastal Landscape: Rivers & Coasts, Coastal Erosion, management of coastal environments, sustainability of coastal environments, flooding, and natural hazards.

C Human Geography: Population growth, urbanisation, rural economies & societies, developing countries, developed Western Countries.

D Human Impact: Tourism and its effects, causes of pollution and its effects, causes and consequences of increased human impact on the environment, solutions to increased human impact on natural environments.

M|P|W

Birmingham

GCSE Course Outlines

German

You might be confident about speaking German but be concerned about your writing. You might love reading the language and loathe the listening. Most students are at least at ease with one of the disciplines and you would achieve higher grades if more guidance were given for your weak areas. The German Easter Revision course will cover all aspects of GCSE & IGCSE language specifications. Obviously, there can be no substitute for practice, practice and even more practice, but you do need to be sure of exactly what you need to practise!

Speaking: Role plays; Discuss a picture-based stimulus/ photo-card; General conversations; Asking questions.

Reading: Analysing common GCSE vocabulary from a wide variety of past paper material including newspaper and magazine articles, letters, emails, blogs and online posts.

Listening: Ways of revising and honing listening techniques, through repetition and analysis of German pronunciation patterns. Revising common vocabulary from recorded material from past papers.

Writing: We will look at how to structure your response, how to write emails, letters and messages (both formal and informal) as well as developing stories. Translation.

Topic Areas/ Themes: There is significant overlap between the exam boards:

(AQA) Identity and culture; local, national, international and global areas of interest; Current and future study and employment.

(EDEXCEL) Identity and culture; Local area, holiday and travel; School; Future aspirations, study and work; International and global dimension

(IGCSE EDEXCEL) Home and abroad; Education and employment; Personal life and relationships; The world around us; Social activities, fitness and health

In addition, students will study a programme of basic grammar for GCSE which will cover verbs and the major tenses of present, perfect, imperfect, future and conditional; adjectives and adverbs; spelling and accents.

Each student will have opportunities to ask questions and individual attention can be given to more specific requests. Remember you will be made to work hard on the course but will gain much enjoyment from it.

Please give as much detail as possible on your application to enable tutors to tailor the course to your needs, such as EXAM BOARD and any AREAS OF WEAKNESS.

GCSE Course Outlines

History

Students are advised to contact the college to discuss the periods they are studying; GCSE History tuition over Easter is arranged on an individual tuition basis. However, where two or more students wish to study the same texts or period, a group may be formed.

Generally, tutors will tailor courses to the needs of the individual and students are urged to be as detailed as possible in their registration form. For example, please ensure that you do give precise details of the specification you are taking:

- The examination board.
- The subject and component code.
- The topic and subject area covered.

Topic 1:

Choose one of the following options:

- America, 1840–1895: Expansion and consolidation
- Germany, 1890–1945: Democracy and dictatorship
- Russia, 1894–1945: Tsardom and communism
- America, 1920–1973: Opportunity and inequality

Topic 2:

Choose one of the following options:

- Conflict and tension: The First World War, 1894–1918
- Conflict and tension: The inter-war years, 1918–1939
- Conflict and tension between East and West, 1945–1972
- Conflict and tension in Asia, 1950–1975
- Conflict and tension in the Gulf and Afghanistan, 1990–2009

Topic 3:

Choose one of the following options:

- Norman England, c1066–c1100
- Medieval England: the reign of Edward I, 1272–1307
- Elizabethan England, c1568–1603
- Restoration England, 1660–1685

Topic 4:

Choose one of the following options:

- Britain: Health and the people: c1000 to the present day
- Britain: Power and the people: c1170 to the present day
- Britain: Migration, empires and the people: c790 to the present day

GCSE Course Outlines

Mathematics (Foundation)

The emphasis given to each topic will vary according to the strengths and weaknesses of the students in the groups and the syllabuses for which they have been taught. **It is therefore important that students give as much detail as possible on the questionnaire about their syllabus and any specific areas of difficulty.**

Number: Basic arithmetic; use of calculators; fractions and percentages; ratio; estimation and appropriate degree of accuracy; trial and improvement methods; standard form; evaluating formulae.

Algebra: Sequences and number patterns; symbolic notation; manipulation of formulae; powers and roots; direct and inverse proportion; solving simple equations and inequalities; simultaneous equations; trial and improvement for polynomial equations; mappings; graphs of functions and inequalities; $y = mx + c$.

Shape and Space: Drawing and measurement; 2-D representation of 3-D objects; angles; symmetry; similarity; bearings; 3-Dimensional coordinates; plane and solid figures; areas and volumes; transformations loci; networks; Pythagoras' theorem; sine; cosine; and tangent (2-Dimensional problems).

Handling Data: Design and use of an observation sheet/questionnaire; statistical diagrams; scatter diagrams and the idea of correlation; probability (estimating probabilities, independent and mutually exclusive events); mean, median and mode; frequency polygons and cumulative frequency diagrams; upper and lower quartiles; tree diagrams; flow diagrams.

GCSE Course Outlines

Mathematics (Higher)

The emphasis given to each topic will vary according to the strengths and weaknesses of the students in the groups and the syllabuses for which they have been taught. **It is therefore important that students give as much detail as possible on the questionnaire about their syllabus and any specific areas of difficulty.**

Number: Basic arithmetic; use of calculators; fractions and percentages; ratio; estimation and appropriate degree of accuracy; possible effect of errors on calculation; trial and improvement methods; standard form; evaluating formulae (including examples with negative and fractional numbers).

Algebra: Sequences and number patterns; symbolic notation; expressing general laws in symbolic form; manipulation of formulae; factorising; convergence and divergence of series; powers and roots; direct and inverse proportion; solving simple equations and inequalities; simultaneous equations; quadratic equations; trial and improvement for polynomial equations; growth and decay rates; mappings; graphs of functions and inequalities; $y = mx + c$; graphical solution of equations; sketching and comparing graphs of functions; drawing a tangent to find gradient; estimating area under a graph.

Shape and Space: Drawing and measurement; 2-D representation of 3-D objects; angles; symmetry; similarity; bearings; 3-Dimensional coordinates; plane and solid figures; areas and volumes; arc length and sector area; congruent triangles; similar solids; vector addition and subtraction; transformations (including combined and inverse transformations and matrix representation); loci; networks; Pythagoras' theorem; sine; cosine; and tangent of any angle (including 3-D problems); graphs of trigonometrical functions; sine and cosine rules.

Handling Data: Design and use of an observation sheet/questionnaire; sampling; statistical diagrams including histograms; scatter diagrams and the idea of correlation; probability (estimating probabilities, independent and mutually exclusive events); mean, median and mode; frequency polygons and cumulative frequency diagrams; upper and lower quartiles; tree diagrams; flow diagrams; dispersion and standard deviation; the normal distribution; critical path analysis diagrams.

M|P|W

Birmingham

GCSE Course Outlines

Physics

Topic 1 – Energy and Electricity (Topics 1-2): Energy transfers, conservation of energy, efficiency, energy resources, circuits, current-voltage characteristics, resistance, domestic electricity and electrical energy.

Topic 2 – Atoms and Particles (Topics 3-4): Solid, liquid and gas, density, internal energy (SHC/SLH), atomic structure/model, Isotopes and notation, radioactive decay and half-life.

Topic 3 – Forces (Topics 3-4): Contact and non-contact forces, resultant forces and their effects, motion in a straight line, motion graphs, Hooke's Law, work done, terminal velocity and stopping distances.

Topic 4 – Waves and Electromagnetism (Topic 6-7): Wave properties, transverse and longitudinal, EM waves, exposure/dose, magnetic fields, electromagnetism, electric motors.

Topic 5 – Triple Science (Physics): Static electricity, ideal gasses, fission and fusion, moments, pressure in fluids, momentum and impulse, sound, lenses, electromagnetic induction and space physics.

GCSE Course Outlines

Spanish

The following areas are covered in our GCSE Spanish course:

Speaking: General conversation at basic/foundation and higher level. Role plays, covering the major situational phrases and vocabulary from past papers.

Reading: Analysing common GCSE vocabulary from a wide variety of past paper material including newspaper and magazine articles, letters, emails, blogs and online posts.

Listening: Ways of revising and honing listening techniques, through repetition and analysis of Spanish pronunciation patterns. Revising common vocabulary from recorded material from past papers.

Writing: We will look at how to write notes, letters (both formal and informal) and stories, based on past examinations.

Topics: Me, my family and friends; social media; festivals and celebrations; house and home; town; shopping; restaurants; free time (sport/entertainment); technology; school; holidays; transport; weather; work and future; health; Spanish culture, social and global issues.

In addition, students will study a programme of basic grammar for GCSE which will cover verbs and the major tenses of present, perfect, imperfect, future and conditional; adjectives and adverbs; spelling and accents.

Each student will have opportunities to ask questions and individual attention can be given to more specific requests. Remember you will be made to work hard on the course but will gain much enjoyment from it.

Please give as much detail as possible on your application to enable tutors to tailor the course to your needs.

NCUK

Course Outlines

M|P|W

Birmingham

NCUK Course Outlines

Biology

Topic 1: Structure and function of Biological Molecules

Topic 2: Cell structure, cell membranes and transport

Topic 3: Leaf structure, transport in plants and photosynthesis

Topic 4: Respiration and energy, digestion

Topic 5: DNA structure and protein synthesis

Topic 6: The cell cycle, DNA replication, mitosis

Topic 7: Meiosis and the human reproductive systems

Topic 8: Human excretory system

Topic 9: The heart and blood vessels, human gas exchange

Topic 10: Inheritance and genetic engineering

M|P|W

Birmingham

NCUK Course Outlines

Business

Semester 1

Topic 1: A Business Activity, B Business legal structures

Topic 2: C. The Nature of Marketing, D. Market Analysis and Positioning, E. Market Segmentation F. Market Research

Topic 3: G. The Marketing Mix – Product, and Price

Topic 4: G The Marketing Mix – Promotion and Place, H. Marketing Strategy

Topic 5: I. Business Finance, J. Costs, Revenue and Contribution, K. Break-Even Analysis

Semester 2

Topic 6: L.The Analysis of Financial Statements

Topic 7: M. Managing Cash Flow, N. Budgeting

Topic 8: O. Organisational Structure, P. Management and Leadership, Q. Motivation

Topic 9: R. Human Resource Management, S. Labour and Management Relations

Topic 10: T. Legal Controls on Business U, Business Aims and Objectives, V. Business Stakeholders, W. Strategic Analysis

M|P|W

Birmingham

NCUK Course Outlines

Chemistry

Topic 1 – Introductory Chemistry:

Atomic structure: simple atomic models, orbitals and electronic configurations, ionisation energies. Mass spectrometry.

Bonding: Ionic, covalent and metallic bonding; simple and giant covalent structures; inter-molecular forces. Shapes of molecules and ions.

Topic 2 – Amount of Substance and Associated Calculations:

Equations and formulae: producing correct formulae and writing full balanced and ionic equations; mole calculations; solution and titration calculations. Empirical formula. Atom economy and percentage yield.

Topic 3 – Physical Chemistry I:

Energetics: bond-breaking and bond-forming, definitions of ΔH_c , ΔH_f and Hess Law calculations; enthalpy level diagrams. Born Haber cycles: Construction and associated calculations.

Topic 4 – Physical Chemistry II:

Chemical Equilibrium: reversibility, dynamic equilibrium, movement of equilibrium and K_c . K_p calculations, heterogeneous equilibria.

Topic 5 – Physical Chemistry III:

Kinetics: the factors influencing reaction rates; Maxwell - Boltzmann distribution of energies; reaction profiles. Rate equations. Arrhenius Equation.

Topic 6 – Inorganic Chemistry I:

The Periodic Table: Group trends and periodic trends; Redox Chemistry: Assignment of oxidation number and its use in balancing redox equations. Periodicity.

Topic 7 – Inorganic Chemistry II:

Chemistry; Groups 2, and 7. Transition metals: definition, nomenclature, complex formation, shapes and the origin of colour.

Topic 8 – Organic Chemistry I:

Introductory organic chemistry: homologous series, drawing organic molecules and nomenclature. Isomerism: Structural, geometrical and optical isomerism. Mechanisms: attacking species and reactive intermediates.

Topic 9 – Organic Chemistry II:

Reactions of the Alkanes, alkenes, halogenoalkanes and alcohols.

Topic 10 – Organic Chemistry III:

Aldehydes and ketones: reactions, tests and mechanisms. Carboxylic acids and derivatives reactions, tests and mechanisms.

M|P|W

Birmingham

NCUK Course Outlines

Economics

Topic 1 (Semester One) - Basic Economic Problem and Basic Economic Concepts: Positive and normative economics; scarcity and opportunity cost; The production possibility boundary or frontier; Specialisation and the division of labour; Free market and mixed economies. The supply of, and demand for, goods and services.

Topic 2 (Semester One) - Price Mechanism and its Application: The price mechanism as a means of allocating resources; The role of the price mechanism in resource allocation in free market and mixed economies; Application of the price mechanism in markets, such as goods, services, commodities and labour. Elasticity. Indirect taxes and subsidies.

Topic 3 (Semester One) - Market failures and Government Intervention: Types of market failure including public goods, externalities, imperfect information, labour immobility, unstable commodity markets; Government intervention in markets; Government failure.

Topic 4 (Semester One) - Business Economics-Concepts: The revenue of a firm; The costs of a firm; economic efficiency; The profit of a firm; Firms' objectives.

Topic 5 (Semester One) - Market Structure and Contestability: Barriers to market entry and exit; Market concentration; The determination of firms' behaviour including perfect competition, monopoly, monopsony, oligopoly and monopolistic competition; Contestability.

Topic 6 (Semester One) - Competition policies: Company growth and efficiency; Government intervention to maintain competition in markets.

Topic 7 (Semester Two) - National Economic Performance: Measurements of performance including growth, inflation, employment and unemployment, balance of payments; Other measures of development; National Income and wealth; The circular flow of income.

Topic 8 (Semester Two) - Aggregate Demand/Supply Analysis: Aggregate demand; Aggregate supply; Relationship between aggregate demand/supply and the price level; The equilibrium level of real output; Multiplier effect; Causes, costs and constraints on economic growth; Macro-economic policy objectives; Conflicts between objectives; the main macro-economic policy instruments-supply/demand side policies; Conflicts resulting from use of policy instruments.

Topic 9 (Semester Two) - The International Economy: International trade-why trade and how is trade recorded and financed; International competitiveness of a country. Protectionist Policy.

Topic 10 (Semester Two) - The developing world: Poverty and inequality of developed and developing countries; Macroeconomic policy used to promote growth and achieve KPIs.

M|P|W

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NCUK Course Outlines

Mathematics

Semester One

Topic One: Coordinate Geometry, Simultaneous Equations, Inequalities, Laws of Indices, Quadratic functions

Topic Two: Exponential Functions, Logarithms, Sequences and Series.

Topic Three: Trigonometric Functions/Graphs, Trigonometry, Radians and Sectors.

Topic Four: Factor/Remainder Theorem, Binomial Theorem, Simple Probability

Topic Five: Semester One Differentiation/Integration.

Semester Two (Engineering)

Topic One: Functions and Transformation, Partial fractions

Topic Two: Further Trigonometry Vectors

Topic Three: Differential Equations and Numerical Methods and Normal Distribution.

Topic Four and Five: Semester Two Differentiation/Integration.

Semester Two (Science)

Topic One: Statistics, correlation and Linear Regression

Topic Two: Conditional Probability, Probability Distributions

Topic Three: Hypothesis Testing and Confidence Intervals

Topic Four and Five: Semester Two Differentiation/Integration.

Afternoon Semester Two (Business)

Topic One: Probability and statistics

Topic Two: Correlation, regression & time series

Topic Three: Probability distributions

Topic Four: Financial mathematics

Topic Five: Advanced calculus



NCUK Course Outlines

Physics

Semester 1

Topic 1: Vectors; Equations of motion; Projectiles

Topic 2: Newtonian mechanics; Work, energy & power; Momentum

Topic 3: Circular motion; Simple harmonic motion

Topic 4: Gas laws; Ideal gases; Capacitance

Topic 5: Circuits; Resistivity; Electromotive force (EMF)

Semester 2

Topic 6: Electrical fields; Gravitational fields

Topic 7: Magnetic fields; Electromagnetic induction

Topic 8: Electromagnetic waves; Reflection; Refraction

Topic 9: Diffraction; Interference; standing waves

Topic 10: Atoms & isotopes; Radiation; Half-life

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NCUK Course Outlines

Society and Politics

Semester One:

Topic 1: Introduction to Sociology

Topic 2: Family structures and sociology

Topic 3: Research Methods for Society and Politics

Topic 4: Introduction to Politics and British Government

Semester Two:

Topic 5: Stratification: Social class

Topic 6: Stratification gender and ethnic inequalities

Topic 7: Global Society and Globalisation

Topic 8: Global Society and development

Topic 9: Democracy, Participation and Ideologies

Topic 10: Crime and Deviance

TERMS AND CONDITIONS

In order to reserve a place, the registration form must be completed and returned, along with the appropriate fees. All fees are payable in advance. A place is deemed reserved only upon receipt of confirmation from the college.

Should a student wish to withdraw from a course, fees are only refundable at the Principal's discretion.

Absence from classes for whatever reason, including sickness, does not lead to a refund of fees nor can the college be expected to provide extra lessons to compensate for such absence.

Students are jointly or individually liable for any damage caused by them to the premises in which they are taught.

The college reserves the right to terminate the course of any student whose conduct, work effort or attendance is unsatisfactory. In this case, the balance of the fees is refundable only at the Principal's discretion.

Teaching schedules may be altered at short notice should circumstances demand.



Mander Portman Woodward

MPW Birmingham

16–18 Greenfield Crescent
Edgbaston
Birmingham
B15 3AU



香港區招生代理: www.lklhk.com

查詢: +852 35948515/ +852 35979373

Student Recruitment Agent-HK Region: education@lklhk.com

Enquiry: +852 61104813 (Whatsapp/Wechat)

LKL INTERNATIONAL CONSULTING COMPANY (HONG KONG) LIMITED

樂意仕國際移民升學顧問(香港)有限公司

Room 504,5/F, Kenbo Commercial Building, 335-339 Queen's Road West Hong Kong

香港皇后大道西 335-339 號崑保商業大廈 5 樓 504 室