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Biology AS AQA New Specification Boards: AQA 7401



There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

- Biological Molecules
- Cells
- Organisms exchange substances with their environment
- Genetic information, variation and relationships between organisms

Where appropriate, help will also be provided for practical skills assessed in a written examination.

Throughout the course there will be Examination practise and the Tutor will Review and analyse and tackle Problem areas with the Students. Examination Tips and how to approach papers effectively as well as time management are an integral part of the course and will be taught as well.

The following topics will be covered:

- Biological Molecules
- Cells
- Organisms exchange substances with their environment
- Genetic information, variation and relationships between organisms
- Energy transfers in and between organisms
- Organisms respond to changes in their internal and external environments
- Genetics, populations, evolution and ecosystems
- The control of gene expression

Biology AS OCR/A New Specification Boards: OCR/A H020

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There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

- Cell structure
- **Biological molecules**
- Nucleotides and nucleic acids
- Enzymes
- Biological molecules
- Cell division, cell diversity & cellular organisation
- Exchange surfaces
- Transport in animals
- Transport in plants
- Communicable diseases and disease prevention
- The immune system
- Biodiversity
- Classification
- Evolution

Where appropriate, help will also be provided for practical skills assessed in a written examination.

Biology A2 level OCR/A New Specification Boards: OCR/A H420

Throughout the course there will be Examination practise and the Tutor will Review and analyse and tackle Problem areas with the Students. Examination Tips and how to approach papers effectively as well as time management are an integral part of the course and will be taught as well. The following topics will be covered:



- Biological molecules
- Nucleotides and nucleic acids
- Enzymes
- Biological membranes
- Cell division, cell diversity and cellular organisation
- **Exchange surfaces**
- Transport in animals
- Transport in plants
- Communicable diseases, disease prevention and the immune system
- **Biodiversity**
- Classification and evolution
- Communication and homeostasis
- Excretion as an example of homeostatic control



- Neuronal communication
- Hormonal communication
- Plant and animal responses
- Photosynthesis
- Respiration
- Cellular control
- Patterns of inheritance
- Manipulating genomes
- Cloning and biotechnology
- Ecosystems
- Populations and sustainability



Business AS AQA New Specification Boards: AQA 7131

Business A level AQA New Specification Boards: AQA 7132



Throughout the course there will be Examination practise and the Tutor will Review and analyse and tackle Problem areas with the Students. Examination Tips and how to approach papers effectively as well as time management are an integral part of the course and will be taught as well.

The following topics will be covered:

- What is business?
- Managers, leadership and decision making
- Decision making to improve marketing performance
- Decision making to improve operational performance
- Decision making to improve financial performance
- Decision making to improve human resource performance
- Analysing the strategic position of a business
- Choosing strategic direction
- Strategic methods: how to pursue strategies
- Managing strategic change

Chemistry AS AQA New Specification Boards: AQA 7404 /7405

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There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

Atomic structure

- Amount of substance
- Bonding
- Energetics
- Kinetics
- Chemical equilibria, Le Chatelier's principle and Kc
- Oxidation, reduction and redox equations
- Periodicity
- Group 2, the alkaline earth metals
- Group 7(17), the halogens
- Introduction to organic chemistry
- Alkanes
- Halogenalkanes
- Alkenes
- Alcohols
- Organic analysis

Where appropriate, help will also be provided for practical skills assessed in a written examination.



Throughout the course there will be Examination practise and the Tutor will Review and analyse and tackle Problem areas with the Students. Examination Tips and how to approach papers effectively as well as time management are an integral part of the course and will be taught as well. The following topics will be covered:



- Atomic structure
- Amount of substance
- Bonding
- Energetics
- Kinetics
- Chemical equilibria, Le Chatelier's principle
- and Kc
- Oxidation, reduction and redox equations
- Thermodynamics
- Rate equations
- Equilibrium constant Kp for homogeneous
- Electrode potentials and electrochemical cells
- Acids and bases

Organic chemistry

- Atomic structure
- Introduction to organic chemistry
- Alkanes, Halogenoalkanes
- Alkenes, Alcohols
- Organic analysis
- Optical isomerism
- Aldehydes and ketones



- Carboxylic acids and derivatives
- Aromatic chemistry
- Amines
- Polymers
- Amino acids, proteins and DNA
- Organic synthesis
- Nuclear magnetic resonance spectroscopy
- Chromatography

Inorganic chemistry

- Periodicity
- Group 2, the alkaline earth metals
- Group 7(17), the halogens
- Properties of Period 3 elements and their
- Transition metals
- Reactions of ions in aqueous solution

Where appropriate, help will also be provided for practical skills assessed in a written examination.



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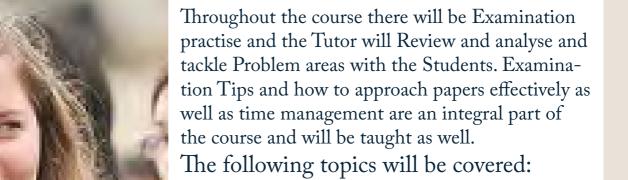
Chemistry AS Edexcel New Specification Boards: Edexcel 8CH0

Chemistry A level Edexcel New Specification Boards: Edexcel 9CH0

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

- Atomic structure and the Periodic Table
- Bonding and structure
- Redox 1
- Inorganic chemistry and the Periodic Table
- Formulae, equations and amounts of substance
- Organic Chemistry 1
- Modern Analytical Techniques 1
- Energetics 1
- Kinetics 1
- Equilibrium 1

Where appropriate, help will also be provided for practical skills assessed in a written examination.



- Atomic Structure and the Periodic Table
- Bonding and Structure
- Redox I
- Inorganic Chemistry and the Periodic Table
- Formulae, Equations and Amounts of Substance
- Organic Chemistry I
- Modern Analytical Techniques 1
- Energetics I
- Kinetics I
- Equilibrium I
- Equilibrium II
- Acid-base Equilibria
- Energetics II
- Redox II
- Transition Metals
- Kinetics II
- Organic Chemistry II
- Organic Chemistry III
- Modern Analytical Techniques II

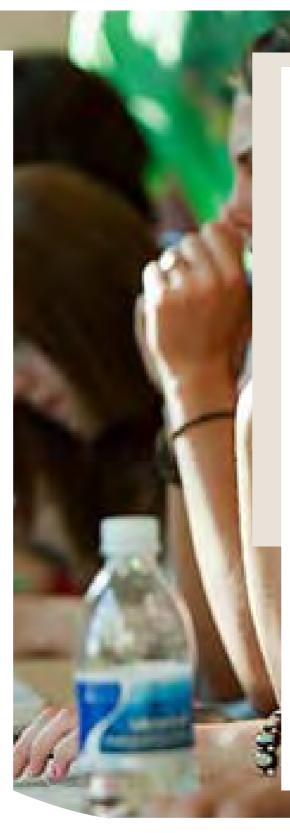
Chemistry AS OCR/A New Specification Boards: OCR/A H032

Chemistry A2 level OCR/A New Specification Boards: OCR/A H432

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

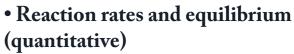
- Atoms and reactions
- Compounds, formulae and equations
- Amount of substance
- Acids
- Redox
- Electrons, bonding and structure
- Periodicity
- Group 2
- The halogens
- Reaction rates
- Chemical equilibria
- Basic concepts and hydrocarbons
- Functional groups
- Alkanes
- Alkenes
- Alcohols
- Haloalkanes
- Organic synthesis
- Analytical techniques

Where appropriate, help will also be provided for practical skills assessed in a written examination.



Throughout the course there will be Examination practise and the Tutor will Review and analyse and tackle Problem areas with the Students. Examination Tips and how to approach papers effectively as well as time management are an integral part of the course and will be taught as well. The following topics will be covered:

- Atoms, compounds, molecules and equations
- Amount of substance
- Acid-base and redox reactions
- Electrons, bonding and structure
- The periodic table and periodicity
- Group 2 and the halogens
- Qualitative analysis
- Enthalpy changes
- Reaction rates and equilibrium (qualitative)
- Basic concepts
- Hydrocarbons
- Alcohols and haloalkanes
- Organic synthesis
- Analytical techniques (IR and MS)



- pH and buffers
- Enthalpy, entropy and free energy
- Redox and electrode potentials
- Transition elements
- Aromatic compounds
- Carbonyl compounds
- Carboxylic acids and esters
- Nitrogen compounds
- Polymers
- Organic synthesis
- Chromatography and spectroscopy (NMR)



Chemistry AS OCR/B/Salters New Specification Boards: OCR/B H033 Salters

Chemistry A level OCR/B/Salters New Specification Boards: OCR/B H433 Salters

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions.

The following topics (storylines) will be covered:

Elements of life - atomic structure, atomic spectra and electron configurations; fusion

reactions; mass spectrometry and isotopes; the periodic table and Group 2 chemistry;

bonding and the shapes of molecules; chemical equations and amount of substance (moles);

ions: formulae, charge density, tests; titrations and titration calculations.

• **Developing fuels** - the chemical ideas in this module are: thermochemistry; organic

chemistry: names and combustion of alkanes, alkenes, alcohols; heterogeneous catalysis;

reactions of alkenes; addition polymers; electrophilic addition; gas volume calculations;

shapes of organic molecules, $\,$ - and π -bonds; structural and E/Z isomers; dealing with polluting gases.

- Elements from the sea halogen chemistry; redox chemistry and electrolysis; equilibrium; atom economy.
- **The ozone story** composition by volume of gases; the electromagnetic spectrum and the

interaction of radiation with matter; rates of reaction; radical reactions; intermolecular bonding;

haloalkanes; nucleophilic substitution reactions; the sustainability of the ozone layer.

• What's in a medicine? - the chemistry of the -OH group, phenols and alcohols; carboxylic acids and esters; mass spectrometry and IR spectroscopy; organic synthesis, preparative techniques and thin layer chromatogra-

Where appropriate, help will also be provided for practical skills assessed in a written examination.

phy; green chemistry.



Throughout the course there will be Examination practise and the Tutor will Review and analyse and tackle Problem areas with the Students. Examination Tips and how to approach papers effectively as well as time management are an integral part of

the course and will be taught as well.

The following topics will be covered:

- Elements of life atomic structure, atomic spectra and electron configurations; fusion reactions; mass spectrometry and isotopes; the periodic table and Group 2 chemistry; bonding and the shapes of molecules; chemical equations and amount of substance (moles); ions: formulae, charge density, tests; titrations and titration calculations.
- Developing fuels the chemical ideas in this module are: thermochemistry; organic chemistry: names and combustion of alkanes, alkenes, alcohols; heterogeneous catalysis; reactions of alkenes; addition polymers; electrophilic addition; gas volume calculations; shapes of organic molecules, and π -bonds; structural and E/Z isomers; dealing with polluting gases.
- Elements from the sea halogen chemistry; redox chemistry and electrolysis; equilibrium; atom economy.
- The ozone story composition by volume of gases; the electromagnetic spectrum and the interaction of radiation with matter; rates of reaction; radical reactions; intermolecular bonding; haloalkanes; nucleophilic substitution reactions; the sustainability of the ozone layer.
- What's in a medicine? the chemistry of the -OH group, phenols and alcohols; carboxylic acids and esters; mass spectrometry and IR spectroscopy; organic synthesis, preparative techniques and thin layer chromatography; green chemistry.

- The chemical industry kinetics, using experimental data, calculations involving order of reaction, rate
- equations, rate constant and Arrhenius equation; equilibrium and equilibrium constant calculations; effects of factors on the rate and equilibrium yields of reactions; aspects of nitrogen chemistry; Sustainability industrial processes, analysis of costs, benefits and risks of industrial processes
- Polymers and life amino acid chemistry, structure of proteins, the structure and function of DNA and RNA; Kinetics enzyme chemistry; chemistry of carboxylic acids; homologous series and amides; hydrolysis of esters, amides; condensation polymerisation; isomerism; mass spectra, proton and carbon-13 spectra and combined techniques.
- Oceans enthalpy calculations of lattice enthalpy, hydration energy and solution, entropy calculations; acids
- and bases including calculations of pH and buffers; 'greenhouse effect'
- **Developing metals** redox titrations; cells and electrode potentials; d-block chemistry; colorimetry
- Colour by design some chemistry of dyes; fats and oils, aromatic compounds; reactions of aromatic and carbonyl compounds; nucleophilic addition; the chemical origins of colour in organic compounds; gas—liquid chromatography



Classical Civilisation AS Topics OCR/AQA Boards: OCR H041 and AQA 1021

There will be exam practice throughout the course and suggestions for effective ways to

The following topics (storylines) will be covered:

tackle examination questions.

Literary context:

- Oral tradition
- Transmission of the texts, including when the epics were written down
- What their preliterate form was and whether they were composed by one or more poets
- Structure of the epic and of the plot
- Narrative and descriptive techniques and their effects, including flashback, retardation,

episodes, use of speeches, similes, imagery

- Themes
- The language of epic, including formulae and similes
- Presentation of character
- Supernatural elements, such as monsters
- Realism and fantasy
- Disguise and recognition
- Nostos



Classical Civilisation A2 Topics OCR/AQA Boards: OCR H441 and AQA 2021

Sessions 1 and 2

OCR students only

Virgil's The Aeneid and Homer's Iliad

Comparative analysis Aeneid: Books 1, 2, 4, 6, 7, 8, 10 and 12. Iliad: Books 6, 18, 22 and 24

The following topics will be covered:

Literary context:

The composition of both epics

- Plot
- Narrative techniques including speeches and
- repetition
- Descriptive techniques including similes and imagery
- Characterisation
- Themes within the epics including: hero-

honour and reputation, family, women, the role

of the gods, the power of fate, the portrayal

war, moral values and the role of Aeneas in Rome's imperial destiny.

Political, social, historical and cultural context

- Virgil's relationship to the regime of Augustus;
- The political and historical background in which

The Aeneid was written.

Sessions 3 to 5 AQA students only Virgil's The Aeneid

All books

The following topics will be covered:

Literary context:

- The structure of the plot
- Characterisation
- Narrative and descriptive techniques and their

effects (including use of flashback, similes and other image

• Themes

Religious, political, social and cultural context

- The Homeric and Roman elements
- Belief in fate and the gods
- The nature of human responsibility
- The roles of, and relations between, mortals and

immortals, men and women, fathers and sons, Trojans, Greeks, Carthaginians and Italians

- Concepts of heroism
- Aeneas' and Rome's destiny and mission
- The links between The Aeneid and the historical

circumstances in which it was composed

• The values and cultural assumptions implicit in

The Aeneid.

Where appropriate, help will also be provided for practical skills assessed in a written examination.

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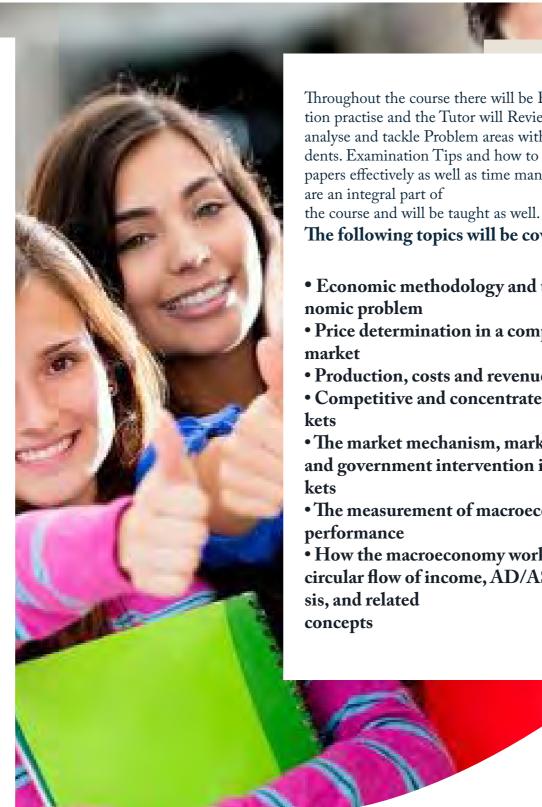
Economics AS AQA New Specification Boards: AQA 7135

Economics A level AQA New Specification Boards: AQA 7136

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

- Economic methodology and the economic problem
- Price determination in a competitive market
- Production, costs and revenue
- Competitive and concentrated markets
- The market mechanism, market failure and government intervention in markets
- The measurement of macroeconomic performance
- How the macroeconomy works: the circular flow of income, AD/AS analysis, and related concepts
- Economic performance: unemployment, inflation, economic growth
- Macroeconomic policies and conflicts

Where appropriate, help will also be provided for practical skills assessed in a written examination.



Throughout the course there will be Examination practise and the Tutor will Review and analyse and tackle Problem areas with the Students. Examination Tips and how to approach papers effectively as well as time management

The following topics will be covered:

- Economic methodology and the eco-
- Price determination in a competitive
- Production, costs and revenue
- Competitive and concentrated mar-
- The market mechanism, market failure and government intervention in mar-
- The measurement of macroeconomic
- How the macroeconomy works: the circular flow of income, AD/AS analy-

- Economic performance: unemployment, inflation, economic growth
- Macroeconomic policies and conflicts
- Individual economic decision making
- Perfect competition, imperfectly competitive markets and monopoly
- The labour market

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- The distribution of income and wealth: poverty and inequality
- Financial markets and monetary policy
- Fiscal policy and supply-side policies
- The international economy

Where appropriate, help will also be provided for practical skills assessed in a written examination.

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Economics AS Edexcel/A New Specification Boards: Edexcel/A 8ECO

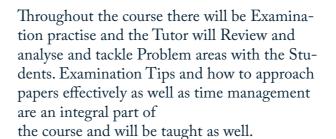
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Economics A level Edexcel/A New Specification Boards: EDEXCEL 9ECO

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

- The nature of economics
- How markets work
- Elasticities
- Market failure and externalities
- Government intervention
- Measures of economic performance
- Aggregate demand and aggregate supply
- Macroeconomic objectives and policy

Where appropriate, help will also be provided for practical skills assessed in a written examination.



The following topics will be covered:

- •The nature of economics
- How markets work
- Market failure and externalities
- Government intervention
- Measures of economic perfor-
- · Aggregate demand and aggregate supply
- Macroeconomic objectives and policy
- Elasticities
- National income
- Economic growth
- Business growth

- Business objectives
- Revenues, costs and profits
- Market structures
- Labour market
- Government intervention
- International economics
- Poverty and inequality
- Emerging and developing economies
- The financial sector
- Role of the state in the macroeconomy



Economics AS OCR New Specification Boards: OCR H060 only

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There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

Scarcity and choice

- How competitive markets work
- Market failure and government intervention
- Economic policy objectives and indicators of macroeconomic performance
- Aggregate demand and aggregate supply
- The application of policy instruments
- The global context

Where appropriate, help will also be provided for practical skills assessed in a written examination.

Economics A level OCR New Specification Boards: OCR H460 only

Throughout the course there will be Examination practise and the Tutor will Review and analyse and tackle Problem areas with the Students. Examination Tips and how to approach papers effectively as well as time management are an integral part of the course and will be taught as well.

The following topics will be covered:

Scarcity and choice

- How competitive markets work
- Market failure and government intervention
- Economic policy objectives and indicators of macroeconomic performance

- Aggregate demand and aggregate supply
- The application of policy instruments
- The global context
- Competition and market power
- Labour market
- The financial sector



English Language AS and A2 Boards: Suitable for all boards

English Literature AS and A2 Boards: All boards offered

Due to the variety of texts and topics available in English Language specifications, we offer 1:1 tuition in this subject. This gives us the flexibility to arrange individual programmes to match students' requirements.

Lessons are offered in 5 x 1.5-hour blocks as follows:

9:00 – 10:30 Monday to Friday 11:00 – 12:30 Monday to Friday 1:30 – 3:00 Monday to Friday 3:30 – 5:00 Monday to Friday

Please contact a Course Director to discuss your precise requirements. We will need to know your examination board and details of the material chosen by your school on which you will sit written exams in the summer.

Due to the variety of texts available in English Literature specifications, we offer 1:1 tuition in this subject. This gives us the flexibility to arrange individual programmes to match students' requirements.

Lessons are offered in 5 x 1.5-hour blocks as follows:

9:00 – 10:30 Monday to Friday 11:00 – 12:30 Monday to Friday 1:30 – 3:00 Monday to Friday 3:30 – 5:00 Monday to Friday

Please contact a Course Director to discuss your precise requirements. We will need to know your examination board and details of the material chosen by your school on which you will sit written exams in the summer.

French AS Skills Boards: Suitable for all boards

French A2 Skills Boards: Suitable for all boards



Coography AS AOA Now Specification Coography AS AOA Now Specification

Geography AS AQA New Specification Boards: AQA 7036

Geography A2 AQA Boards: AQA 2031

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions.

The following topics will be covered:

Sessions 1, 2 and 3

3 x half day sessions Human Geography: Changing Places Geographical Skills

These elements of the specification are compulsory and appropriate for all students

Session 4

Half day session Physical Geography: Coastal systems and landscapes

This element of the course is optional so it is not suitable for students who have been taught Water and carbon cycles or Glacial systems and landscapes



Half day session People and the Environment: Hazards

This element of the course is optional so it is not suitable for students who have been taught *Contemporary urban environments*

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

> Sessions 1 and 2 2 x half day sessions

Plate Tectonics and Associated Hazards

> Sessions 3 and 4 2 x half day sessions

Weather and Climate and Associated Hazards

> Session 5 Half day session

Contemporary Conflicts and Challenges





Geography AS OCR New Specification Boards: OCR H081

Geography A2 OCR Boards: OCR H481

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

Sessions 1-4

Landscape Systems
Changing Spaces: Making Places
Geographical Skills
This element of the specification is compulsory
and appropriate for all students

Session 5

Hazardous Earth
This element of the course is optional; it is not suitable for students who have been taught
Climate Change, Disease Dilemmas, Exploring
Oceans or Future of Food

Where appropriate, help will also be provided for practical skills assessed in a written examination.



There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

Sessions 1

Half day session

Earth Hazards

Session 2

Half day session

Climatic Hazards

Session 3

Half day session Development and Inequality

Session 4

Half day session Population and Resources

Session 5

Half day session

Globalisation

AS and A2 courses

German AS Skills Boards: Suitable for all boards

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

- Oral work
- Listening comprehension
- Reading comprehension
- Writing

Where appropriate, help will also be provided for practical skills assessed in a written examination.

German A2 Skills **Boards:Suitable for all boards**

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

- Oral work
- Listening comprehension
- Reading comprehension
- Writing





Government & Politics AS Edexcel Boards: Edexcel 8GP01

Government & Politics A2 Edexcel (US Politics Route) Boards: Edexcel 9GP01

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

Unit 1: People and Politics (6GP01)

- Democracy and Political Participation
- Elections
- Party Policies and Ideas
- Pressure Groups

Unit 2: Governing the UK (6GP02)

- The Constitution
- Parliament
- Prime Minister and Cabinet
- Judges and Civil Liberties

Where appropriate, help will also be provided for practical skills assessed in a written examination.



Throughout the course there will be Examination practise and the Tutor will Review and analyse and tackle Problem areas with the Students. Examination Tips and how to approach papers effectively as well as time management are an integral part of the course and will be taught as well.

The following topics will be covered:

Unit 3: Key Themes: Representative Processes in the USA (6GP03 C)

Students will consider how adequate these processes are in terms of participation and democracy.

- Elections and Voting
- Political Parties
- Pressure Groups
- Racial and Ethnic politics

Unit 4: Extended Themes: Governing the USA (6GP04 C)

- The Constitution
- Congress
- Presidency
- The Supreme Court



History AS and A2 Boards: All boards offered

Mathematics AS and A2 AQA **Boards: AQA 5361 and 6361**

Due to the variety of topics available in History specifications, we offer 1:1 tuition in this subject. This gives us the flexibility to arrange individual programmes to match students' requirements.

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Lessons are offered in 5 x 1.5-hour blocks as follows:

9:00 - 10:30	Monday to Friday
11:00 - 12:30	Monday to Friday
1:30-3:00	Monday to Friday
3:30 - 5:00	Monday to Friday

Please contact a Course Director to discuss your precise requirements. We will need to know your examination board and details of the material chosen by your school on which you will sit written exams in the summer.

We offer courses covering the following unit combinations for AQA **Mathematics:**

- Core 1 & Core 2 (C1+C2)
- Core 3 & Core 4 (C3+C4)
- Mechanics 1 and/or Statistics 1 (M1+S1)

Core Units: C1+C2 only C3+C4 only C1+C2+C3+C4

Applied units

Mechanics (M1) and Statistics (S1) can be studied either on their own or in combination with the core units, depending on the student's timetable. Applied units are taught over a five day week, with 1.5 hours of contact time per unit per day.

C1+C2

- C1 (MPC1): Algebra; Co-ordinate geometry; Integration; Differentiation
- C2 (MPC2): Algebra and functions; Sequences and series; Trigonometry; Exponentials and logarithms; Differentiation; Integration

C3+C4

- C3 (MPC3): Algebra and functions; Trigonometry; Exponentials and logarithms; Differentiation; Integration; Numerical meth-
- C4 (MPC4): Algebra and functions; Co-ordinate geometry; Sequences and series; Trigonometry; Exponentials and logarithms; Differentiation and integration; Vectors

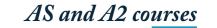
M1+S1

- M1 (MM1): Mathematical modelling; Kinematics in one and two dimensions; Statics and forces; Momentum; Newton's laws of motion; Connected particles; Projectiles
- S1 (MS1): Numerical measures; Probability; Binomial distribution; Normal distribution; Estimation; Correlation and regression

Where appropriate, help will also be provided for practical skills assessed in a written examination.

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Mathematics & F Maths AS and A2 Edexcel Boards: Edexcel 8371 / 8372 / 8373 and 9371 / 9372 / 9373 / 9374

Mathematics & F Maths New Linear AS and A2 **OCR** Boards: OCR H230 H240 and H235/ H245/ H635 / H645

We offer courses covering the following unit combinations for AQA **Mathematics:**

- Core 1 & Core 2 (C1+C2)
- Core 3 & Core 4 (C3+C4)
- Mechanics 1 and/or Statistics 1 (M1+S1)

Core Units:

C1+C2 only C3+C4 only C1+C2+C3+C4

Applied units

Mechanics (M1) and Statistics (S1) can be studied either on their own or in combination with the core units, depending on the student's timetable. Applied units are taught over a five day week, with 1.5 hours of contact time per unit per day.

C1+C2

• Algebra and functions; Coordinate geometry in the (x, y) plane; Sequences and series;

Differentiation; Integration

• Algebra and functions; Coordinate geometry in the (x, y) plane; Sequences and

Trigonometry; Exponentials and logarithms; Differentiation; Integration

C3+C4

• Algebra and functions; Trigonometry; Exponentials and logarithms; Differentiation; Numerical

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methods

• Algebra and functions; Coordinate geometry in the (x, y) plane; Sequences and series; Differentiation; Integration; Vectors

M1+S1

• Mathematical models in mechanics; Vectors in mechanics; Kinematics of a particle moving

a straight line; Dynamics of a particle moving in a straight line or plane; Statics of a particle; Moments

• Mathematical models in probability and statistics; Representation and summary of data; Probability; Correlat

Where appropriate, help will also be provided for practical skills assessed in a written examination.

We offer courses covering the following unit combinations for AQA **Mathematics:**

- Core 1 & Core 2 (C1+C2)
- Core 3 & Core 4 (C3+C4)
- Mechanics 1 and/or Statistics 1 (M1+S1)

Core Units: C1+C2 only C3+C4 only C1+C2+C3+C4

Applied units

Mechanics (M1) and Statistics (S1) can be studied either on their own or in combination with the core

units, depending on the student's timetable. Applied units are taught over a five day week, with 1.5

hours of contact time per unit per day. Religious, political, social and cultural context

C1+C2

Indices and surds; Polynomials; Coordinate geometry and graphs; Differentiation

• Trigonometry; Sequences and series; Algebra; Integration

C3+C4

- Algebra and functions; Trigonometry; Differentiation and integration; Numerical methods
- Algebra and graphs; Differentiation and integration; Differential equations; Vectors

M1+S1

- Force as a vector; Equilibrium of a particle; Kinematics of motion in a straight line; Newton's laws of motion; Linear momentum
- Representation of data; Probability; Discrete random variables; Bivariate data

Mathematics AS and A2 OCR MEI Boards: OCR MEI H630 and H640 and MEI F Maths - H635 H645

Physics AS AQA New Specification Boards: AQA 7407 and 7408

We offer courses covering the following unit combinations for AQA Mathematics:

- Core 1 & Core 2 (C1+C2)
- Core 3 & Core 4 (C3+C4)
- Mechanics 1 and/or Statistics 1 (M1+S1)

Core Units: C1+C2 only C3+C4 only

C1+C2+C3+C4

Applied units

Mechanics (M1) and Statistics (S1) can be studied either on their own or in combination with the core

units, depending on the student's timetable. Applied units are taught over a five day week, with 1.5 hours of contact time per unit per day.

C1+C2

- Mathematical processes; Algebra; Co-ordinate geometry; Polynomials; Curve sketching
- Algebra; Sequences and series; Trigonometry; Calculus; Curve sketching

C3+C4

- Proof; Exponentials and natural logarithms; Functions; Calculus
- Algebra; Trigonometry; Parametric equations; Calculus; Vectors; Comprehension

M1+S1

- Force as a vector; Equilibrium of a particle; Kinematics of motion in a straight line; Newton's laws of motion; Linear momentum
- Representation of data; Probability; Discrete random variables; Bivariate data

Where appropriate, help will also be provided for practical skills assessed in a written examination.

Throughout the course there will be Examination practise and the Tutor will Review and analyse and tackle Problem areas with the Students. Examination Tips and how to approach papers effectively as well as time management are an integral part of the course and will be taught as well.

The following topics will be covered:

- Measurements and their errors
- Particles and radiation
- Waves
- Mechanics and materials
- Electricity



Content

Philosophy AS AQA Boards: AQA 7172/1 and 7172/2

Philosophy A2 AQA Boards: AQA 7172/1 and 7172/1

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions.

The following topics will be covered:

Epistemology

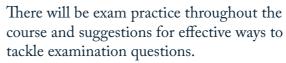
- Concept empiricism: the view that all concepts are derived from experience and
- arising from this view.
- Knowledge empiricism: the view that all synthetic knowledge is a posteriori; all a priori
- knowledge is (merely) analytic and issues arising from this view.
- The tripartite view: terminology and the view that justified true belief is necessary
- sufficient for propositional knowledge; issues and responses to this view.
- **Direct realism:** the view that immediate objects of perception are mind-independent objects
- and their properties; issues and responses to this view.
- Indirect realism: the view that immediate objects of perception are mind-dependent objects
- that are caused by and represent mind-independent objects; issues and responses to this
- Berkeley's idealism: the view that immediate objects of perception (i.e. ordinary such as tables, chairs, etc.) are mind-dependent objects; issues and responses to this

view.

Philosophy of Religion

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- The concept of God: God as omniscient, omnipotent, supremely good, and either time-
- (eternal) or within time (everlasting) and the meaning(s) of these divine attributes. Issues with claiming that God has these attributes, either singly or in combination.
- Ontological arguments, including those formulated by: Anselm; Descartes; Leibniz; Malcolm; Plantinga; issues with these arguments.
- The argument from design: arguments from purpose and regularity, including those formulated by: Paley; Swinburne; issues with these arguments.
- The cosmological argument: including those formulated by: Aquinas' Five Ways (first three); Descartes; the Kalam argument; issues with these arguments.
- The problem of evil: how to reconcile God's omnipotence, omniscience and supreme goodness with the existence of physical/moral evil. Responses to the issue and issues arising from those responses.
- Religious language: cognitivist and non-cognitivist accounts of religious language (inclu-



The following topics will be covered:

Ethics

Utilitarianism: the maximisation of utility, including: the question of what is meant by 'pleasure', including Mill's higher and lower pleasures; how this might be calculated, including

Bentham's utility calculus; forms of utilitarianism: act and rule utilitarianism; preference

utilitarianism; issues with these arguments.

- Kantian deontological ethics: what maxims can be universalised without contradic-
- including: the categorical and hypothetical imperatives; the categorical imperative -
- second formulations; issues with these argu-
- Aristotle's virtue ethics: the development of a good character, including "the good" pleasure, the function argument and eudaimonia; the role of education/habituation
- developing a moral character; voluntary and involuntary actions and moral responsibility; the
- doctrine of the mean and Aristotle's account of vices and virtues; issues with these arguments.
- Application of the theories above to the following issues: crime and punishment;
- simulated killing (within computer games, plays, films, etc); the treatment of animals, deception and the telling of lies.

- Cognitivism: ethical language makes claims about reality which are true or false (factstat-
- moral realism; ethical language makes claims about mind-independent reality that are true.
- Non-cognitivism: ethical language does not make claims about reality which are true or false (fact-stating).

Philosophy of Mind

- Substance Dualism: the mind is distinct from the physical. The indivisibility and conceivability argument for substance dualism (Descartes); issues with these arguments.
- Property dualism: The 'philosophical zombies' argument for property dualism; the 'knowledge'/Mary argument for property dualism based on qualia (Frank Jackson); issues with these arguments; issues with these argu-
- The issues of causal interaction and the problem of other minds for dualism.
- Logical/analytical behaviourism: all statements about mental states can be analytically reduced without loss of meaning to statements about behaviour; issues with these arguments.
- Mind-brain type identity theory: all mental states are identical to brain states issues with these arguments.
- Functionalism: all mental states can be reduced to functional roles which can be multiply
- realised; issues with these arguments.
- Eliminative materialism: some or all mental states do not exist (folk-psychology is false or

least radically misleading); issues with these arguments.



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Physics AS and A level AQA New Specification Boards: AQA 7407 and 7408

Physics AS and A level OCR/B New Specification Boards: OCR/B H157 and H557

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

- Measurements and their errors
- Particles and radiation
- Waves
- Mechanics and materials
- Electricity
- Further mechanics and thermal physics
- Fields and their consequences
- Nuclear physics

Where appropriate, help will also be provided for practical skills assessed in a written examination.



Throughout the course there will be Examination practise and the Tutor will Review and analyse and tackle Problem areas with the Students. Examination Tips and how to approach papers effectively as well as time management are an integral part of the course and will be taught as well.

The following topics will be covered:

- Fundamental Data Analysis
- Imaging and signalling
- Sensing
- Mechanical properties of materials
- Waves and quantum behaviour
- Space, time and motion

Physics A level OCR/B New Specification **Boards: OCR/B H557**

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Physics AS OCR/A New Specification **Boards: OCR/A H157**

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

- Fundamental data analysis
- Imaging and signalling
- Sensing
- Mechanical properties of materials
- Waves and quantum behaviour
- Space, time and motion
- Creating models
- Out into space
- Our place in the universe
- Matter: very simple
- Matter: hot or cold
- Electromagnetism
- Charge and field
- Probing deep into matter
- Ionising radiation and risk

Where appropriate, help will also be provided for practical skills assessed in a written examination.



Throughout the course there will be Examination practise and the Tutor will Review and analyse and tackle Problem areas with the Students. Examination Tips and how to approach papers effectively as well as time management are an integral part of the course and will be taught as well.

The following topics will be covered:

- Mechanics (1): Resolving and adding vectors, velocity and acceleration, projectile motion, F= ma, terminal velocity, moments, Archimedes' principle.
- Mechanics (2): Work, energy, power, efficiency, Newton's laws, momentum, collisions, deformation of solids.
- Electric circuits: Kirchhoff's laws, EMF, mean drift velocity, potential dividers, LDR, thermistors.
- Waves and quantum physics: Refraction, polarisation, diffraction, interference, standing waves, Young double slit, diffraction grating, EM waves, photoelectric effect, line spectra, de Broglie wavelength

Physics A level OCR/A New Specification **Boards: OCR/A H556**

Psychology AS AQA New Specification Boards: AQA 7181

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions.

The following topics will be covered:

- Mechanics (1): Resolving and adding vectors, velocity and acceleration, projectile motion, F= ma, terminal velocity, moments, Archimedes' principle.
- Mechanics (2): Work, energy, power, efficiency, Newton's laws, momentum, collisions, deformation of solids.
- Electric circuits: Kirchhoff's laws, EMF, mean drift velocity, potential dividers, LDR, thermistors.
- Waves and quantum physics: Refraction, polarisation, diffraction, interference, standing waves, Young double slit, diffraction grating, EM waves, photoelectric effect, line spectra, de Broglie wavelength.
- Thermal physics and gases: Temperature, internal energy, absolute zero, heat capacity, latent heat, kinetic theory of gases, liquids and solids.

• Circular motion and oscillations:

Angular velocity, centripetal force, simple and damped harmonic motion, resonance.

- Gravity, stars and cosmology: Newton's law of gravitation, Kepler's laws, gravitational potential, HR diagram, Wein's and Stefan's laws, Doppler effect, Hubble's law, Big Bang theory.
- Capacitors and electric fields: Capacitors in series and parallel, charging and discharging capacitors, permittivity, Coulomb's law, uniform and radial electric fields, electric potential.
- Particle physics: Alpha particle scattering, quark-lepton model, radioactivity, carbon-dating, nuclear fission and fusion, binding energy, E=mc2.
- Magnetism and medical imaging: Magnetic field patterns, Fleming's left hand rule, charged particles in magnetic fields, Faraday's and Lenz's laws, transformers, X-rays, CT scan, gamma camera, PET scan, ultrasound imaging.

Throughout the course there will be Examination practise and the Tutor will Review and analyse and tackle Problem areas with the Students. Examination Tips and how to approach papers effectively as well as time management are an integral part of the course and will be taught as well.



Psychology A level AQA New Specification Boards: AQA 7182 and Psychology Edexcel AS / A Level 8PS0 / 9PS0

Religious Studies AS OCR New Specification Boards: OCR H173

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

Sessions 1-4

Suitable for all students

- Social influence
- Memory
- Attachment
- Psychopathology
- Approaches in psychology
- Biopsychology
- Research methods
- Issues and debates in psychology

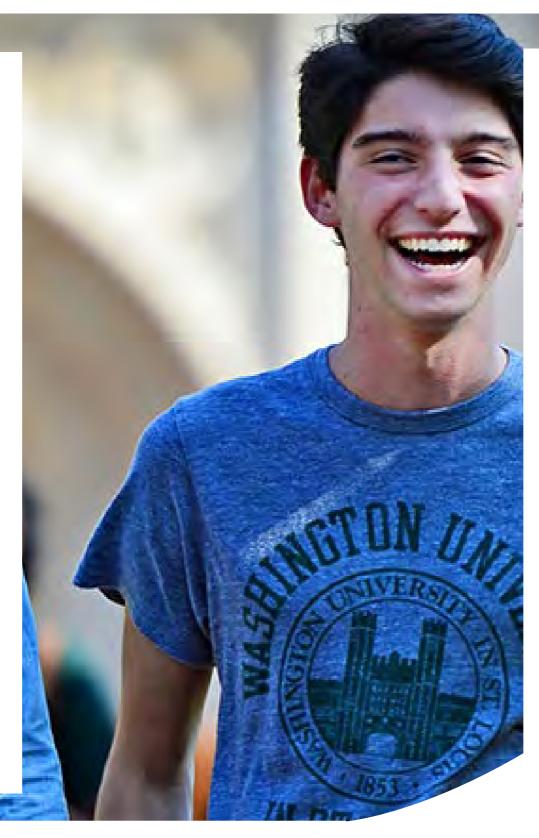
Session 5

Bespoke topic specific course

Optional Topics:

- Morning: Relationships
- Afternoon: Aggression

Where appropriate, help will also be provided for practical skills assessed in a written examination.



Please note that the Developments in religious thought topic will be covered in relation to Christianity only.

The following topics will be covered:

Philosophy of religion

- Ancient philosophical influences
- The nature of the soul, mind and body
- Arguments about the existence or non-existence of God
- The nature and impact of religious experience
- The challenge for religious belief of the problem of evil

Religion and ethics

- Normative ethical theories
- The application of ethical theory to two contemporary issues of importance

Developments in religious thought

- Religious beliefs, values and teachings, their interconnections and how they vary historically and in the contemporary world
- Sources of religious wisdom and authority
- Practices which shape and express religious identity, and how these vary within a tradition

AS and A2 courses

Religious Studies AS and A2 OCR Boards: OCR H172 and H572

There will be exam practice throughout the course and suggestions for effective ways to tackle examination ques-

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The following topics will be covered:

Session 1

- A2 Unit 3 (G581): Religious Language
- A2 Unit 4 (G582): Meta-ethics

Session 2

- A2 Unit 3 (G581): Religious experience
- A2 Unit 4 (G582): Free will and determinism

Session 3

- A2 Unit 3 (G581): Miracle
- A2 Unit 4 (G582): Virtue ethics applied to environmental, business and sexual ethics

Session 4

- A2 Unit 3 (G581): Divine attributes
- A2 Unit 4 (G582): Natural law, Kantian, Utilitarian and Christian Ethics applied to
- Environmental, Business and Sexual Ethics

Session 5

- A2 Unit 3 (G581): Life, death, soul
- A2 Unit 4 (G582): Conscience

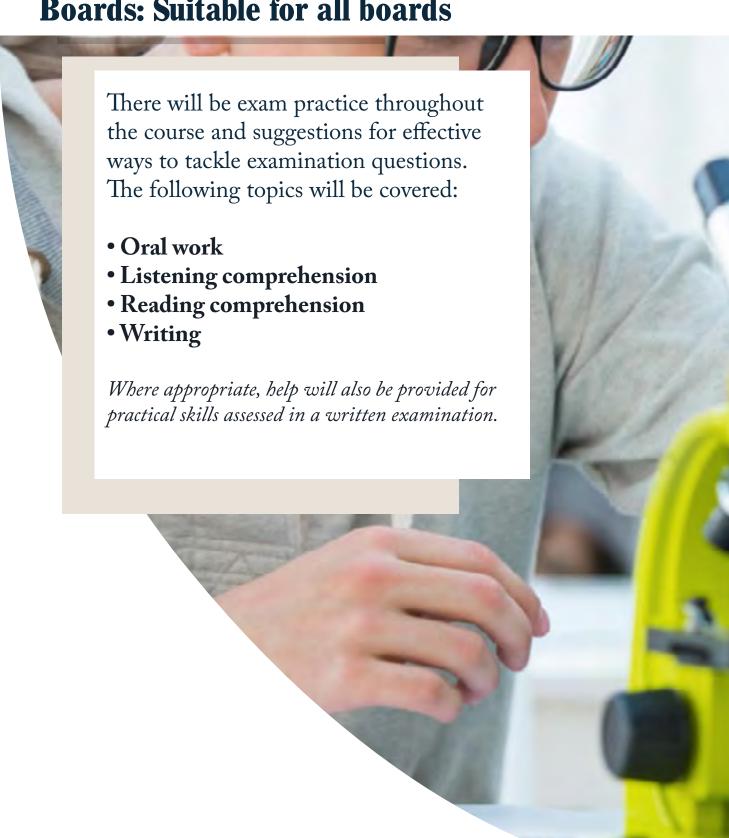
Spanish AS Skills Boards: Suitable for all boards

There will be exam practice throughout the course and suggestions for effective ways to tackle examination questions. The following topics will be covered:

- Oral work
- Listening comprehension
- Reading comprehension



Spanish A2 Skills Boards: Suitable for all boards



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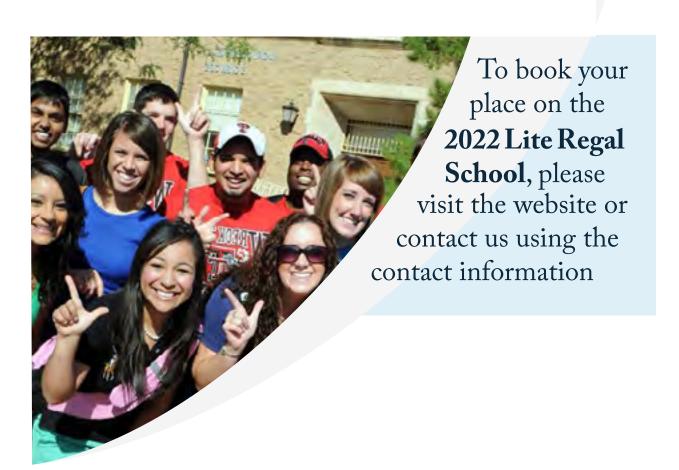


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