

Curriculum Outline 2020/21 - Year 12 Mathematics (MAM & SJ)

Autumn 2020

Core maths - revise key algebraic skills and concepts, equations of lines, circles, polynomial equations and polynomial division, vectors, proof, graphs and transformations, the Binomial Expansion, differentiation Statistics

- measure of average and spread, outliers, cleaning data, probability, discrete distributions, sampling

Mechanics

- kinematics and SUVAT equations

Spring 2021

Core maths

- exponents and logarithms, trigonometry and trig functions, parametric equations, numerical methods, introduction to differential equations

Statistics

- bivariate data, hypothesis testing, conditional probability, discrete random variables

Mechanics

- forces, Newtons laws, constant and variable acceleration, moments

Summer 2021

Core maths

- sequences and series, parametric equations and calculus, partial fractions, numerical methods, moments, differential equations, proof, 3D vectors

Statistics

- discrete random variables, normal distribution, hypothesis and distributions

Mechanics

- further kinematics, resolving forces, forces in equilibrium

There are regular topic assessments which will focus on newly learned skills and knowledge. There will also be wider reaching assessments at the end of each term with past paper practice after Christmas.

Links with fundamental values The year includes discussions on how statistics can be used to misrepresent facts and how pupils can reach the truth behind them so make informed choices during elections.

Algebraic studies help develop logic and reasoning skills which are key for modern life in the UK, developing critical thinking skills and being able to bring a balanced view to life.

Social, moral, spiritual and cultural content Although accuracy and attention to detail are encouraged in mathematics, there is also an emphasis on effort, dealing with failure and learning from it. Mathematics is an excellent subject in which pupils can learn resilience and independent learning.

Opportunities to independently extend learning A level mathematics relies heavily on independent study. Pupils will be encouraged to read ahead, practise skills outside of homework given and bring in questions that look beyond the curriculum. Debate and questions are encouraged.



Curriculum Outline 2020/21 – Year 12 English (RWA / JRB)

Autumn 2020

Principal Text: *Mrs Dalloway / Wuthering Heights* This term, we will begin studying the two set texts for Paper 2 (Prose), developing our skills of literary analysis with particular reference to language, form, structure, context and comparison.

Spring 2021

Principal Text: *King Lear, A Streetcar Named Desire* This term we will begin studying Shakespeare's "King Lear" in preparation for Paper 1, Section A. This component introduces students to the skill of including the opinions of academic critics into their work (AO5), while addressing the core skills of literary and contextual analysis.

Additionally, students will begin to study "A Streetcar Named Desire" for Paper 1, Section B.

> Year 12 marks the beginning of A Level study, following Edexcel's English Literature specification. This course covers a breadth of eras and movements in literature, and supports our young people into becoming fully-fledged critics and scholars of the written word.

Links with fundamental values British values are explored in the study of changing attitudes in literature over time: tolerance, class and religion are of particular significance in these texts.

Social, moral, spiritual and cultural content The study of all literature supports the social, moral, spiritual and moral development of our students. Issues raised in these text include, but are not limited to, loss, love, sexuality, family relationships and the importance of kindness.

Summer 2021

Principal Text: *King Lear, A Streetcar Named Desire, The New Oxford Book of Victorian Verse (ed. Ricks)* This term, we will complete our study of the drama texts and move

on to addressing Paper 3 (Poetry): The Victorians.



Curriculum Outline 2020/21 – Year 12 French (CAG & MT)

Autumn 2020

Principal Text: AQA A-level Hodder education

 the family structure is changing During autumn term, pupils will learn about the following topics:

- the cyber- society
- cultural heritage
- Francophone music

GCSE. and revision of all the grammatical aspects studied during the Skills: To start the year, there will be a great emphasis on grammar

interaction with native speakers. There will also be an emphasis on spontaneous speaking and

Spring 2021

During spring term, pupils will learn about the following topics : Principal Text: AQA A-level Hodder education

- we will complete the topic on cyber- society and look at the

importance of volunteering.

the importance of the cinema. - we will complete the topic on Francophone music and move on to

- we will start the study of an entire film.

reading, summary writing and translation into and from French. Skills: We will develop skills in speaking, essay writing, listening,

Links with fundamental values

- The family structure is changing Throughout the year, the studied topics such as:

- Cultural heritage

without faith. of those with different faiths and for those individual liberties, the rule of laws, and respect values of tolerance, respect of others and will promote in class the British Fundamental - Francophone music

how people in different communities live. will discover the Francophone world and see Throughout the French A level curriculum, we share their opinion and feel heard and valued. environment where students can feel free to The classroom environment will promote a safe Social, moral, spiritual and cultural content

Summer 2021

Principal Text: AQA A-level Hodder education

- we will complete the study of the film. During summer term, pupils will learn about the following topics :

part of the speaking assessment at the end of Year 13. - the student will start working on their personal project which is

deadlines for the summer holiday and beyond. independent research, by setting themselves targets, milestones and French. Students will need to start structuring their research for their listening, reading, summary writing and translation into and from Skills: We will keep developing skills in speaking, essay writing,



Curriculum Outline 2020/21 – Year 12 Geography (TCC)

Autumn 2020

Principal Text: *Hodder Education Edexcel A Level Book* Students will study: Area of study 1: Dynamic Landscapes Topic 1: Tectonic Processes and Hazards Why are some locations more at risk from tectonic hazards and how successfully can these events be managed? Topic 4: Globalisation What are the causes of Globalisation and what is the impact of its

Spring 2021

acceleration?

Principal Text: Hodder Education Edexcel A Level Book Area of Study 1: Dynamic Landscapes Topic 2: Landscape Systems, Processes and Change Glaciated Landscapes and Change Why does much of Britain appear to have glacial features and how are these areas being managed? Area of Study 2: Dynamic Places Topic 4 Regenerating places How and why do places need regenerating?

> The A level course offers an issues-based approach to studying geography, enabling students to explore and evaluate contemporary geographical questions and issues such as the consequences of globalisation, responses to hazards, water insecurity and climate change. The teaching is split into two areas of study and these are taught side by side.

Links with fundamental values Geography education encourages pupils to explore how places have been changed by the contexts and processes that have shaped them. It helps them to understand the complex ways in which communities and societies are linked and to appreciate the diversity of people's backgrounds.

Social, moral, spiritual and cultural content Geography also helps pupils to understand society better. Appreciating diversity encourages positive relationships and shared values. It promotes tolerance and partnership, within local and wider communities.

Summer 2021

Principal Text: *Hodder Education Edexcel A Level Book* Independent Investigation

Students will undertake a minimum of **four** days of fieldwork. This fieldwork will relate to processes in **both** physical and human geography. This could involve residential stays off school site. The student's investigation will incorporate fieldwork data (collected individually or as part of a group) and own research and/or secondary data. The student's report will evidence independent analysis and evaluation of data, presentation of data findings and extended writing.



Curriculum Outline 2020/21 – Year 12 History (TWR)

Autumn 2020

Principal Text: AQA A-level History, Stuart Britain and the Crisis of monarchy 1603-1702. Angela Anderson and Dale Scarboro, Hodder Education, 2015.

AQA History – The Cold War c1945-1991. John Aldred and Alexis Mamaux. Oxford Press 2015.

Unit 1 -

James I and Charles I: character and views on monarchy; court and favourites, the financial weakness of the Crown and attempts to reform. Moving on to Religion and religious divisions and also the state of relations between Crown and Parliament by 1629. Unit 2

US, British and USSR relations in 1945: conflicting ideologies. Moving on to developing tensions, war and the Truman Doctrine on containment, the USA's involvement in Europe and finally US containment in action in Asia.

Spring 2021

Unit 1

Political divisions: the Personal Rule and opposition. Ireland; the Short and Long Parliaments. The First and Second Civil Wars.

The Physicand Second Civil We Doet way divisions

Post-war divisions.

Regicide: the basis for regicide and the King's response. Unit 2

Increasing Cold War tensions and rivalries.

Conflict in Asia.

NLF; Kennedy's policies towards Indo-China.

Confrontation between the superpowers: US attitudes to Cuba.

Summer 2021

Historical enquiry on African American Civil Rights Movement.

The A-level History course is divided into three separate units. Components 1 and 2 will be taught simultaneously across years 12 and 13, while unit 3 will be completed in the first half of Year 13.

Unit 1 is a breadth study looking at Stuart Britain and the crisis of monarchy 1603-1702.

Unit 2 is a depth study looking at the Cold War 1945-91.

Unit 3 is a coursework module which focuses on the African-American Civil Rights Movement.

Links with fundamental values Discussions on the rule of law in the context of growing Crown - Parliamentary discord. The significance of Magna Carta in the English Constitution.

Discussion on individual liberty and national identity in the context of Charles I's execution and the establishment of a Republic.

Discussions on the rule of law in the context of international pace treatise.

Social, moral, spiritual and cultural content Respect for individual identity and liberty through understanding of religious diversity in the Stuart period.



Curriculum Outline 2020/21 – Year 12 Spanish (JAC)

Autumn 2020

Principal Text: Espana contemporanea, Cristina Lopez Moreno, 2014. Temas – La dictadura franquista y la transicion a la democracia

La Guerra Civil Espanola y el ascenso de Franco La dictadura La transicion

Assessment – internal assessment: reading and responding, listening, writing and translation.

Spring 2021

Principal Text: *Espana contemporanea*, *Cristina Lopez Moreno*, 2014. **Temas – La inmigracion y la sociedad multicultural espanola** El impacto positivo de la inmigracion en Espan**a** Los desafios de inmigracion y la integracion La reaccion social y publica hacia la inmigracion

Trabajo cinematográfico - Machuca

Análisis de una relación de amistad entre dos chicos en un colegio del Santiago de Chile de Salvador Allende en los días anteriores al golpe de Estado de Augusto Pinochet Assessment – internal assessment: reading and responding

Assessment – internal assessment: reading and responding, listening, writing and translation

Summer 2021

Principal Text: *Espana contemporanea, Cristina Lopez Moreno, 2014.* **Temas - La evolucion de la sociedad espanola**

El cambio en la estructura familiar

listening, writing and translation.

El mundo laboral El impacto turistico en Espana

Assessment – internal assessment: reading and responding,

We will follow the examination board Edexcel (Advanced GCS in Spanish 9SP0).

The course requires dedication, attention to details and a methodic approach. Learning Spanish in this way will help you to better understand your own language. You will gain access to the Spanish art, music, film and literature, not to mention that will prepare you for future opportunities in many areas of employment.

The course requires four to five hours of independent work per week. Students will have to follow a weekly routine that includes learning advance vocabulary, reading and summarising texts, completing grammar exercises, producing pieces of writing and listening to passages of different length and complexity.

At the end of the course, students are expected to: be fluent speakers of Spanish, be able to write well structured essays with sophisticated vocabulary and have a grounded knowledge of the history, politics, economy and culture of Spain. Students will have a deeper knowledge of the Spanish or Latinoamerican film and literary text the have chosen to work on.

Students will carry out an end of term internal assessment at the end of the each term. Candidates will take three papers at the end of Year 13:

Paper 1 Listening, reading and translation (9SP0/01) 40% of the qualification

Paper 2 Written response to works (literary text and film) and translation (9SP0/02) 30% of the qualification

Paper 3 Speaking (9SP0/03) 30% of the qualification



Curriculum Outline 2020/21 – Year 12 ICT & Computing (NVA)

Autumn 2020

Principal Text: *1. Computer Science for A Level (Hodder Education) 2. OCR A and AS Level Computer Science (PG Online)* For the first half term, pupils will be reviewing their knowledge of programming and learning C#.

During the second half term pupils will continue to learn to program in C#

Theory Units will include:

- Computational Thinking & Problem Solving
- Data Structures
- Systems Software

Spring 2021

Principal Text: *I. Computer Science for A Level (Hodder Education)* 2. OCR A and AS Level Computer Science (PG Online) Pupils will continue to strengthen and consolidate their programming skills and start to scope out their exam based programming project.

For the programming project pupils will be expected to analyse, design, develop, test, evaluate and document a program written in a suitable programming language.

Theory Units will include:

- Software Development
 Data Structures
- Exchanging Data
- Networks

Summer 2021

Principal Text: 1. Computer Science for A Level (Hodder Education) 2. OCR A and AS Level Computer Science (PG Online) Exam Term:

Pupils will review the Theory covered this term and fill in any gaps.

The main focus will be developing and documenting their exam based project.

Additional Theory Units may be covered, to include: - Boolean Algebra - Legal and Cultural Units

> Links with fundamental values Learning about acceptance and tolerance in their use of the internet, school and workplace.

> Social, moral, spiritual and cultural content Pupils learn the importance of computer law, ethics, moral and social issues. Pupils consider both the benefits and this problems that arise from the widespread use of technology in society.

Opportunities to independently extend learning Pupils can install all the software used for this course on their home computers and carry on development.

Pupil will be required to work independently on the coding element of their programming project .



Curriculum Outline 2020/21 – Year 12 Biology (HLJ, ANH)

Autumn 2020

Principal Text: *AQA AS Biology - Collins* This term, the class will learn the biochemistry units, which are biological molecules, proteins and enzymes.

They will also build on prior knowledge on cells and cell growth and learn about sub-cellular structures, the cell cycle and the immune system.

Spring 2021

Principal Text: *AQA AS Biology - Collins* The students will complete biomolecules then look at DNA and protein synthesis.

They will also delve further into mass transport systems, genetic diversity and taxonomy.

Summer 2021

Principal Text: *AQA AS Biology - Collins* With the curriculum taught, the focus will move to revision of key topics and examination preparation for the summer examinations.

In the second half of the term the A2 course will commence with the topics of photosynthesis, respiration and sampling of populations.

Assessment of students' progress will be through a mixture of short quizzes in lessons and homework exercises, alongside lesson-tolesson AfL and more formal mock examinations.

Emphasis will be placed on exam technique, through practice of past AQA AS level papers.

Links with fundamental values Democracy is considered during scientific debates, in particular when we consider ethics. Non-communicable diseases allow students to think about individual liberty and communicable diseases about mutual respect. Cell division and biological molecules link to the rule of law.

Social, moral, spiritual and cultural content Spiritual and moral aspects of biology are approached through discussion of genetics and variation. Communicable and noncommunicable diseases link to moral, cultural and social ideas. The study of key scientific discoveries is cultural.

Opportunities to independently extend learning Reading around the course using materials such as Biological Science Review and New Scientist magazine.

Extending understanding using undergraduate textbooks such as The Cell and Organics.

Requesting past papers from other syllabuses to experience a wider variety of question styles.

Regular consolidation of notes to check understanding.



Curriculum Outline 2020/21 – Year 12 Chemistry (TJMW)

Autumn 2020

Principal Text: *Hodder AQA A-level Chemistry Year 1 Student Book* We begin by extending GCSE knowledge of atomic structure and mole calculations, covering TOF mass spectrometry, electronic orbitals and sub-shells, and advanced mole calculations involving gases. The moles topic concludes with several investigative practicals including an assessed titration.

We then will look at bonding and the periodic table, using this to springboard ideas about reduction and oxidation.

Spring 2021

Principal Text: *Hodder AQA A-level Chemistry Year 1 Student Book* The physical chemistry side of the course will focus on energy changes and chemical equilibria this term, relating these to important industrial processes.

This term we will also begin looking at organic chemistry, focusing on naming, functional groups, and reaction mechanisms.

Summer 2021

Principal Text: *Hodder AQA A-level Chemistry Year 1 Student Book* The first half of summer term will focus on preparation for the AS exams in the week before half term.

After half term we will begin the second year course looking at entropy and Gibb's Free Energy. We will use advanced Born-Haber cycles to develop our understanding of ionic bonding.

> Students opting to specialise in chemistry will commence the AQA course at the beginning of Year 12. They have two single and two double lessons per week, as well as five hours of independent study time.

There is no practical coursework element but some practical work is required and will be assessed in examinations. There are numerous opportunities to use practical experiences to link theory to reality, which equips students with the essential practical skills they need.

The AQA specification is linear, meaning that students will sit all the AS exams at the end of their AS course and all the A-level exams at the end of their A-level course.

Links with fundamental values The fundamental values of democracy, rule of law, liberty, and respect are promoted through a strongly individualised classroom ethos.

More specifically, topics involving the chemical and pharmaceutical industries, and the effect of chemicals on the environment highlight the importance of these values.

Social, moral, spiritual and cultural content Links to SMSC include

- Development of medicines and the societal effects thereof.

- An understanding of the dangers to the environment posed by chemical industry and ways to mitigate these dangers.

- The Scientific Method and how evidence-

based decision making is vital.The importance of contributions of scientists

from various cultures, genders, and sexualities.



Curriculum Outline 2020/21 – Year 12 Physics (JWM)

Autumn 2020

Principal Text: Physics AQA A-level Year 1 and AS

We begin the course with the topic of particle physics, something that will be completely new to most students. We will learn about the fundamental particles that make up all matter and the four fundamental forces that govern their interactions. We will then look at quantum phenomena, considering some of the most important discoveries in modern physics. In the final weeks of term students will begin studying Electricity, revisiting their foundations from GCSE to prepare for the additional complexity and content of the AS course.

Spring 2021

Principal Text: *Physics AQA A-level Year I and AS* In the Spring Term students will tackle two of the larger topics. In mechanics they will learn how motion, and the forces causing it, can be described mathematically. Many concepts from GCSE will be extended and built upon to form a more complete understanding and build the capability to tackle complex problems.

While studying electricity, key concepts such as voltage, current and resistance will be developed to include new ideas such as resistivity, electromotive force, and internal resistance. There are several required practicals in this topic, so students will get lots of practice building and troubleshooting circuits.

Summer 2021

Principal Text: *Physics AQA A-level Year 1 and AS* After finishing up the mechanics and electricity topics, Summer Term will be dedicated to revision for the AS Physics exam. Following the exam there will be the opportunity to explore some of the Year 13 topics such as circular motion and exponential decay.

> Assessment of students' progress will be through a mixture of homework exercises and end of topic tests with questions from a bank of AQA past paper resources.

There will also be a number of required practical activities through which various practical competencies will be assessed by the teacher.

Links with fundamental values The students have more practice of the Scientific Method which embraces evidence over opinion in order to understand and make sense of the world around them. They will work on their own and in teams in order to promote resilience and mutual respect and tolerance of others. They will be encouraged to reflect on their own work and listen to the views of others.

Social, moral, spiritual and cultural content We will provide an awareness of science as a social and cultural activity, which has strengths and limitations. The children's curiosity will be stimulated by demonstrating interesting scientific phenomena so they can appreciate and question the world around them. They will develop investigative abilities, paying due regard to safe practice.

We will acknowledge and recognise the contributions from scientists from around the world who have made significant contributions to the advancement of science.



Curriculum Outline 2020/21 – Year 12 Psychology (LBS)

Autumn 2020

Principal Text: AQA Psychology Year 1

Students will explore the different perspectives in the topic of 'Approaches to Psychology'. They will study the learning approaches, the cognitive, biological, psychodynamic and humanistic approach. They will finish by comparing and contrasting the approaches.

In the topic of social influence students will examine the key concepts of obedience, conformity, minority influence and social change.

The topic of 'Memory' students explore memory models including the multi-store model and the working memory model. Types of long-term memory and the explanations for forgetting will also be examined.

Spring 2021

Principal Text: *AQA Psychology Year 1* Students will examine the importance and profound effects of caregiver interactions, through the topic of 'Attachment'. This will include Caregiver-infant interactions in humans and animal studies of attachment. They will move further to explore the types and influence of our attachments on later life.

A fascinating coverage of depression, Obsessive compulsive disorder and phobias in will follow in the topic of 'Psychopathology'.

> Students will embark upon a journey that will motivate them to think critically about the worldly phenomenon around them. They will explore a number of fascinating topics which will be assessed continuously through the use of AfL, homework tasks, quizzes and formal examinations.

> Students will start the course of A-level Psychology by exploring the different schools of thought through 'approaches in Psychology' and continue to apply these approaches to the topics of social influence, memory, attachment, psycho-pathology and research methods.

Links with fundamental values Approaches in psychology- democracy Research methods- Rule of law Social influence- Individual liberty Psychopathology- mutual respect

Social, moral, spiritual and cultural content Ethical issues-Moral Attachment between mother and child- spiritual and cultural Psychopathology- cultural and moral Social influence- social

Summer 2021

Principal Text: AQA Psychology Year 1

Students will explore the scientific processes and techniques of data handling and analysis in 'Research Methods' which will include types of experiments including laboratory, field, natural and quasi. Types of observations will also be studied which include naturalistic, controlled, covert, overt, participant and non participant.



Curriculum Outline 2020/21 – Year 12 Art (EB)

Autumn 2020

Induction period

Students given opportunities to develop their knowledge, understanding and skills, to include:

Generating and developing ideas Researching primary and contextual sources Recording practical and written observations Exploring materials, processes, technologies and techniques

Students start work on Personal Investigation.

Spring 2021

Students continue work on Personal Investigation.

Externally Set Assignment preparatory period begins in February.

Students start work on preparatory studies in response to the theme.

Summer 2021

Students complete the externally set assignment Students finish their Personal Investigation and select work for submission

The AS exam will be sat in May. The final piece is a response to the exam portfolio which will be made in a media of their choice.

Links with fundamental values The nature of the subject is such that British values are inherent in every topic, by assessing British values throughout the history of Art and world cultures and their evolution to the present day.

Examples of this would be:

By assessing different pieces of art, students will understand how to evaluate what they feel is a valuable piece of art, deciphering and describing how it communicates it's intention. Further developing their ability to make an evidence-based comment rather than an emotional response, taking into consideration other viewpoints.

Social, moral, spiritual and cultural content In art history we look at how artists have addressed the social and political challenges of their time. Religion is a recurring theme in art which has inspired artists throughout the ages to produce some of the most powerful human images ever created.

Examples:

At A Level, students are required to find their own pathway through this process. Starting with a theme they will work diligently to develop their ideas through analysing artists and work which fits with their interpretation of this theme.

Opportunities to independently extend learning It is a requirement of this subject that a large part of the practical work and idea development carries on in the students' own time.

Through constant assessment by the tutor, the students will be confident about which parts of their portfolios require improvement and development.



Curriculum Outline 2020/21 – Year 12 Photography (EB)

Autumn 2020

Introductory Phase

Students are introduced to the basics of photography including: the use of cameras, film, lenses, filters and lighting, printing, aspects of digital media including appropriate use of the internet, researching and evaluating relevant critical/contextual material. Through a series of exercises and short tasks they learn about: viewpoints, composition, depth of field, aperture, shutter speed and capturing movement, the importance of colour, tone, shape, texture, pattern and form.

Students begin to compile a journal which includes technical and critical/contextual materials.

Spring 2021

Development Phase

Students respond to a teacher-devised and directed project which establishes clear parameters, constraints and requirements within the context of the school's chosen areas of study.

They continue to develop their knowledge, understanding and skills as well as establishing a subject specific vocabulary. They will explore concepts such as abstraction, realism, distortion and surrealism, but are also encouraged to independently research further examples.

Summer 2021

Development Phase

As the students move towards the summer holidays they will be challenged to move from a position of dependence to independence. They are provided with a range of possible starting points, themes and/or briefs and asked to respond to their selected choice in any appropriate photography-based context.

Students take increasing responsibility for the development and direction of their creative journey in preparation for Component 2.

Links with fundamental values The nature of the subject is such that British values are inherent in every topic. By assessing different pieces of art students will understand how to effectively communicate their opinions on what they feel is a valuable piece of art, and whether it communicates its intention.

Learning how to make an evidence based comment rather than an emotional response, and developing the ability to tolerate other viewpoints.

Social, moral, spiritual and cultural content In art history we look at how artists have addressed the social and political challenges of their time. Religion is a recurring theme in art which has inspired artists throughout the ages to produce some of the most powerful human images ever created.

At A Level, students are required to find their own pathway through this process. Starting with a theme they will work diligently to develop their ideas through analysing artists and work which fits with their interpretation of this theme.

Opportunities to independently extend learning It is a requirement of this subject that a large part of the practical work and idea development carries on in the students' own time. Through constant assessment by the tutor, the students will be confident about which parts of their portfolios require improvement and development.