

## Year 13 Half Term 4 Curriculum

Subject	Half Term 4 – Topic/Summary of Powerful Knowledge
English Literature	<p data-bbox="395 293 1315 360"><u>Paper 1 Aspects of Tragedy – Section C: Death of a Salesman and Tess of the D’Urbervilles (using May 2019 Paper and June 2018 Paper)</u></p> <ul data-bbox="443 371 1398 1104" style="list-style-type: none"> <li>• Revise concept of Modern Tragedy and Millerian view of tragedy</li> <li>• Deepening of contextual knowledge of Depression Era America (economic instability, poverty, lack in personal and societal confidence), Post-War America (Effects of WW2: consumerism, materialism, financial gain) and The American Dream (futility and impossibility of AD)</li> <li>• Deepening of knowledge of Victorian Era: industrialisation, the rural, religion, paganism, sexuality and morality, patriarchy.</li> <li>• Retrieve and apply Literary conventions of Victorian Literature inc. representations of the female, representation of the rural lower classes and how these were subverted.</li> <li>• Deepen understanding of: Plot, character, literary methods, structure and genre through analysis of the text.</li> <li>• Respond to critical perspectives – including the development of a three-point plan, linking your thesis statement to topic sentences.</li> <li>• Craft a cohesive argument - including nominalisation to shape academic voice, using discourse markers to shape the direction of an essay, using counter argument effectively, integrating critical and contextual material.</li> <li>• Embed quotes, use academic vernacular and employ subject specific vocabulary</li> </ul> <p data-bbox="395 1115 1342 1182"><u>Paper 2 Elements of Crime Writing – Section A: Unseen Crime (Using June 2018 Paper and November 2021 Paper)</u></p> <ul data-bbox="443 1193 1382 1373" style="list-style-type: none"> <li>• Deepening of understanding of Crime fiction genre: Victorian, Golden-Age, Hard Boiled Detective and Modern</li> <li>• Retrieve and apply the tropes of Crime Fiction including: Traditional plot, archetypal character and themes, authorial methods, structure and genre through close textual analysis</li> </ul>
Maths	<p data-bbox="395 1413 603 1447"><u>Projectile motion</u></p> <ul data-bbox="395 1458 719 1559" style="list-style-type: none"> <li>• Horizontally projected</li> <li>• Projection at any angle</li> <li>• Projectile formulae</li> </ul> <p data-bbox="395 1603 655 1637"><u>Applications of forces</u></p> <ul data-bbox="395 1648 1066 1783" style="list-style-type: none"> <li>• Unknown forces for bodies in equilibrium.</li> <li>• Static problem involving weight, tension and pulleys</li> <li>• Objects in motion on inclined planes</li> <li>• Connected particles requiring resolution of forces.</li> </ul> <p data-bbox="395 1827 624 1861"><u>Further kinematics</u></p> <ul data-bbox="395 1872 1086 1962" style="list-style-type: none"> <li>• Vector equations for motion.</li> <li>• Variable acceleration with vectors.</li> <li>• Integration with vectors to find velocity/displacement</li> </ul>
Science	Biology

### Nervous co-ordination & skeletal muscles

- The structure of a myelinated motor neurone.
- The establishment of a resting potential in terms of differential membrane permeability, electrochemical gradients and the movement of sodium ions and potassium ions.
- Changes in membrane permeability lead to depolarisation and the generation of an action potential. The all-or-nothing principle.
- The passage of an action potential along non-myelinated and myelinated axons, resulting in nerve impulses.
- The nature and importance of the refractory period in producing discrete impulses and in limiting the frequency of impulse transmission.
- Factors affecting the speed of conduction: myelination and saltatory conduction; axon diameter; temperature.
- The detailed structure of a synapse and of a neuromuscular junction.
- The sequence of events involved in transmission across a cholinergic synapse in sufficient detail to explain:
  - unidirectionality
  - temporal and spatial summation
  - inhibition by inhibitory synapses.
- A comparison of transmission across a cholinergic synapse and across a neuromuscular junction.
- Muscles act in antagonistic pairs against an incompressible skeleton.
- Gross and microscopic structure of skeletal muscle. The ultrastructure of a myofibril.
- The roles of actin, myosin, calcium ions and ATP in myofibril contraction.
- The roles of calcium ions and tropomyosin in the cycle of actinomyosin bridge formation. (The role of troponin is **not** required.)
- The roles of ATP and phosphocreatine in muscle contraction.
- The structure, location and general properties of slow and fast skeletal muscle fibres.

### Gene technology

- The main characteristics of benign and malignant tumours.
- The role of the following in the development of tumours:
  - tumour suppressor genes and oncogenes
  - abnormal methylation of tumour suppressor genes and oncogenes
  - increased oestrogen concentrations in the development of some breast cancers.
- **Students should be able to:**
  - evaluate evidence showing correlations between genetic and environmental factors and various forms of cancer
  - interpret information relating to the way in which an understanding of the roles of oncogenes and tumour suppressor genes could be used in the prevention, treatment and cure of cancer.
- Sequencing projects have read the genomes of a wide range of organisms, including humans.
- Determining the genome of simpler organisms allows the sequences of the proteins that derive from the genetic code (the proteome) of the organism to be determined. This may have many applications, including the identification of potential antigens for use in vaccine production.

	<ul style="list-style-type: none"> <li>• In more complex organisms, the presence of non-coding DNA and of regulatory genes means that knowledge of the genome cannot easily be translated into the proteome.</li> <li>• Sequencing methods are continuously updated and have become automated.</li> <li>• Recombinant DNA technology involves the transfer of fragments of DNA from one organism, or species, to another. Since the genetic code is universal, as are transcription and translation mechanisms, the transferred DNA can be translated within cells of the recipient (transgenic) organism.</li> <li>• Fragments of DNA can be produced by several methods, including: <ul style="list-style-type: none"> <li>• conversion of mRNA to complementary DNA (cDNA), using reverse transcriptase</li> <li>• using restriction enzymes to cut a fragment containing the desired gene from DNA</li> <li>• creating the gene in a 'gene machine'.</li> </ul> </li> <li>• Fragments of DNA can be amplified by <i>in vitro</i> and <i>in vivo</i> techniques.</li> <li>• The principles of the polymerase chain reaction (PCR) as an <i>in vitro</i> method to amplify DNA fragments.</li> <li>• The culture of transformed host cells as an <i>in vivo</i> method to amplify DNA fragments.</li> <li>• The addition of promoter and terminator regions to the fragments of DNA.</li> <li>• The use of restriction endonucleases and ligases to insert fragments of DNA into vectors. Transformation of host cells using these vectors.</li> <li>• The use of marker genes to detect genetically modified (GM) cells or organisms. (Students will <b>not</b> be required to recall specific marker genes in a written paper.)</li> <li>• <b>Students should be able to:</b> <ul style="list-style-type: none"> <li>• interpret information relating to the use of recombinant DNA technology</li> <li>• evaluate the ethical, financial and social issues associated with the use and ownership of recombinant DNA technology in agriculture, in industry and in medicine</li> <li>• balance the humanitarian aspects of recombinant DNA technology with the opposition from environmentalists and anti-globalisation activists</li> <li>• relate recombinant DNA technology to gene therapy.</li> </ul> </li> </ul> <p>Chemistry Organic Synthesis NMR</p> <p>Physics Radioactivity Telescopes Classification of stars Cosmology</p>
History	Exam preparation
Art	<u>A-Level - Completion of External Exam</u> <ul style="list-style-type: none"> <li>• Preparation and final pieces (15hr exam)</li> </ul> <u>BTEC - Unit 3 – The Creative Process</u>

	<ul style="list-style-type: none"> <li>• Apply stages and activities within the creative process to develop own art and design work</li> <li>• Prepare to re-sit Unit 2 external exam if necessary</li> </ul>	
Business	<u>Undertake a recruitment activity to demonstrate the processes leading to a successful job offer</u> <ul style="list-style-type: none"> <li>• job application - prepare all relevant documents used in the process (a job advertisement; job analysis; job description; person specification; application form; CV; letter of application)</li> <li>• Participate in the selection interviews, as an interviewer and interviewee.</li> </ul>	
Computing	<u>Create a social media campaign</u> – Students will plan a social media campaign for a local business to try to boost awareness of their brand. They will use the knowledge taken from the review of the different social media channels to make effective recommendations. <ul style="list-style-type: none"> <li>• Decide on appropriate target audiences and be able to justify the choice</li> <li>• Students should use a range of techniques and software to create the content</li> <li>• Create optimised social media posts</li> </ul>	
Film Studies	<u>Production and Evaluative Analysis</u> <ul style="list-style-type: none"> <li>• Reviewing sequences and completing final edits</li> <li>• Evaluative analysis of own short film (1500-1800 words)</li> </ul> <u>Revision and Exam technique</u> <ul style="list-style-type: none"> <li>• All texts and all study areas</li> </ul>	
Games Design	<u>Students will understand the effects of media representation positive and negative. They will research a number of recent media articles and analyse how the way they are produced effected the audience perception and ideas.</u> <p>Students will source or create assets to show examples to reinforce meaning of media representations in different formats.</p> <p>Study will look at stereotypes and define archetypes.</p> <ul style="list-style-type: none"> <li>• Microsoft Excel to generate and analyse finding from audience surveys/questionnaires.</li> <li>• Communication skills, face to face and digitally. This includes classroom debates using media terminology.</li> <li>• Time management</li> </ul>	
Health	<u>Extended Certificate (Single HSC)</u> <u>Meeting individual needs – Unit 5</u> <ul style="list-style-type: none"> <li>• Communication techniques (Nusrat &amp; Martin)</li> <li>• Personalisation</li> <li>• MDT and partnership working</li> </ul>	<u>Diploma (Double HSC)</u> <u>Meeting individual needs – Unit 5</u> <ul style="list-style-type: none"> <li>• Challenges (Martin)</li> <li>• Overcoming Challenges (Martin)</li> <li>• MDT and partnership working</li> </ul> <u>Work experience – Unit 6</u>

		<ul style="list-style-type: none"> <li>• Reflection and future goal setting for development</li> </ul> <u>Principles of safe practice – Unit 7</u> <ul style="list-style-type: none"> <li>• HSC procedures for safe practice</li> </ul>
Music	<u>Unit 2: Professional Practice in the Music Industry-External Examination</u> <u>A02 &amp; A05</u> <ul style="list-style-type: none"> <li>• Roles within the music industry including front of house, liaison manager, stage production, merchandising roles, technical and management roles, event co-ordinator, equipment hire companies and artist-booking agencies, small-, medium- and large venues locally, regionally and nationally, artist and repertoire, bookers/agency, songwriter, composer, artist manager, music blogger, music journalist and producer, small, medium and large production companies, promoter, booking agent, plugger, designer and digital co-ordinator, merchandising and agencies.</li> <li>• Roles involved in live performance and recording–session musician, recording engineer, studio manager, live sound engineer, recording studio, providers of resources and logistics for the performance of live music and events, service companies, music producer, musical director, conductor.</li> <li>• Financial requirements Personal and organisational financial processes, requirements and procedures including producing a budget, projecting income and calculating costs, workable budgets balanced against projected income from sales such as tickets, programmes and merchandise, set against expenditure, calculating fees, documenting budgets and the variety of formats in which budgetary information can be communicated – spreadsheets, charts, balance sheets and cash flows, clarity of expectations when negotiating contracts and fees.</li> <li>• Business finances-financial considerations, including business plans, funding, profit and loss, cash flow, invoices, bookkeeping, running your own business, tax, invoices, self-management.</li> </ul>	
PE	<u>Coursework Unit</u> <u>Unit 17 – Sports Injuries and Rehabilitation</u> <ul style="list-style-type: none"> <li>• LO3: Be able to respond to acute sports injuries when they occur</li> <li>• LO4: Know the role of different agencies in the treatment and rehabilitation of sports injuries</li> <li>• LO5: Be able to plan a rehabilitation programme for a specific sports injury</li> </ul>	
Photography	<u>Externally set exam</u> <ul style="list-style-type: none"> <li>• During this period students are guided through the process and offered advice and guidance in completing their exam unit.</li> <li>• Students need to evidence all 4 of the assessment objectives in this unit.</li> </ul>	
RE/PSHE	<u>Religion, Peace and Conflict:</u> <ul style="list-style-type: none"> <li>• The atomic bomb</li> <li>• How do religious organisations work for peace?</li> <li>• Corrymeela</li> <li>• Conflict amongst families and friends</li> <li>• The work of the Peace Centre in Warrington</li> </ul>	
Psychology	<u>Unit 6 – LA. B</u> Casual factors associated with mental disorders <ul style="list-style-type: none"> <li>• Prenatal factors</li> </ul>	

	<ul style="list-style-type: none"> <li>• Biological and health factors</li> <li>• Family factors</li> <li>• Social and political factors</li> <li>• Cultural factors</li> </ul> <p>Types and characteristics of mental disorders</p> <ul style="list-style-type: none"> <li>• Personality disorders</li> <li>• Non-suicidal self-injury</li> <li>• Schizophrenia</li> <li>• Phobias</li> <li>• Depression</li> <li>• Eating disorders</li> <li>• Addiction</li> </ul>
Sociology	<p><u>Beliefs in Society</u></p> <ul style="list-style-type: none"> <li>• Ideology, science and religion, including both Christian and non-Christian religious traditions</li> <li>• The relationship between social change and social stability, and religious beliefs, practices and organisations</li> <li>• Religious organisations, including cults, sects, denominations, churches and New Age movements, and their relationship to religious and spiritual belief and practice</li> <li>• The relationship between different social groups and religious/spiritual organisations and movements, beliefs and practices</li> <li>• 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</li> </ul> <p><u>Theories and Methods</u></p> <ul style="list-style-type: none"> <li>• The nature of science and the extent to which Sociology can be regarded as scientific</li> <li>• The relationship between theory and methods</li> <li>• Debates about subjectivity, objectivity and value freedom</li> <li>• The relationship between Sociology and social policy</li> </ul>
Hospitality	<p><u>European Foods</u></p> <ul style="list-style-type: none"> <li>• Know the equipment, commodities and methods required to prepare and cook different examples of European food</li> <li>• Know the styles of food and types of dishes that are prepared and cooked in Europe</li> <li>• Be able to demonstrate food preparation and cooking skills that are safe, hygienic and professional when creating European dishes</li> <li>• Be able to evaluate the quality of European dishes.</li> </ul>