



Year 12 curriculum overview

Whole-school curriculum intent:

Everything we do at Settle College is rooted in our vision to support all our students to 'be the best they can be'. Through developing a rich and exciting curriculum that is relevant to our locality and implemented with high quality teaching, we aim to secure outstanding progress and achievement for all, whilst also developing confidence, independence and resilience in our learners. In this ever-changing world, we need to equip our students with the knowledge and skills that they need to thrive, with the ability to lead and communicate in a thoughtful and respectful way. We must instil in our students that they can do whatever it is they aim to achieve and to help them to overcome any barriers in their way. All of this aims to provide them with the vital skills for life-long learning so that their personal progression continues beyond their years at Settle College.

Key Stage 5 curriculum planning

Our curriculum offer at key stage 5 is currently: applied science, art & design, biology, business, chemistry, computer science, drama & theatre, English language, English literature, geography, history, IT, maths, photography, physics, product design, psychology and Sport, as well as offering the extended project qualification to all students. As with key stage 4, the curriculum offer is designed to cover a diverse range of subjects to cater for students' interests and future goals whilst recognising that, as a small sixth form, we cannot offer every possible subject choice. To maintain this range of courses, when appropriate, both year 12 and 13 students are taught together or different courses are run within the same class. We also offer work experience as an option to run alongside two vocational subject choices.



Curriculum mapping

Applied science	Overall curriculum intent for year 12: Study a wide variety of scientific ideas across all three science disciplines in greater depth, building a broad base of scientific knowledge at level 3.						
		Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
	Intent for the topic	Teach Unit 1, All of the chemistry LO1&2 and begin the physics LO5. Complete all of Unit 6, moderate.		Complete Unit 1, Including Biology LO3&4 and Physics LO6. Externally moderate unit 6. Begin teaching Unit 2		Revise Unit 1 and take the Unit 1 Summer exam. Continue teaching unit 2.	
	Content mapping	Unit 1: LO1, 2 Unit 6 Assignments 1, start 2	Unit 1: Complete LO2 and LO5 Unit 6: Assignments 2 and 3	Unit 1: LO3,4, 6	Unit 2: LO 1, 2 &3	Unit 2: LO 4, 5, 6	
	Key skills developed	Calculating relative atomic mass. Describing graphs showing the ionisation energies of elements on the periodic table. Identify biological hazards and the microorganisms that cause them.	Explaining how chemicals interact with each other in various ways: redox, polymerisation. Describing and explaining rate of reactions. Identifying hazards in the lab. Designing a work area.	Identify cell structures from light and electron microscope images. Identify tissue types from light and electron microscope images.	Identify hazards and risks and then write risk assessments. Calibrate equipment. Chromatography. Electrophoresis. Titrations.	Use a light microscope to view slides prepared for pupils and those they prepare themselves. Accurately draw images from a light microscope. Use experimental results to identify unknown substances. Aseptic technique.	



Art	Overall curriculum intent for year 12: Pupils will be introduced to A Level with workshops in the first term and then a main piece which they will see through to Yr13. They will start their personal assessment (essay).						
		Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
	Intent for the topic	Work shops Pupils will do three workshops based on different themes.	Main Coursework Pupils will choose a coursework title that they will work on throughout the year, ensuring they meet all the assessment objectives.				
	Content mapping, including key skills developed	AO1- Develop: Develop ideas through investigations, demonstrating critical understanding of sources.					
		AO2- Refine: Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes.					
		AO3- Research: Record ideas, observations and insights relevant to intentions as work progresses.					
		AO4- Present: Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.					
		Pupils will be given a selection of fortnightly workshops to reintroduce them back to art or photography, after some may have had a year away. These workshops are designed to challenge the pupils’ thinking, build on creativity, improve problem solving skills and improve their presentation skills.	Pupils will decide on a theme/title for their main coursework. If pupils struggle to create their own title, the teacher will provide a list of previous titles from previous coursework and exams that the pupils can work from. Pupils will, over the course of this year, work on their sketchbook, where they will explore artists, designers and photographers and use them to help inspire further work. Pupils will also explore their theme in detail, looking at images, media, experiments and materials. Pupils will also be encouraged to learn to refine their work through further experiments, such as improving compositions, colour choices and designs. Pupils will have the opportunity to work outside of their books on larger scale pieces, as long as they document the journey and the relevance of the piece. Pupils will cover the formal elements and other important aspects of their work.				
	Pupils will be introduced to the ideas of the personal study essay. They will be provided with key information, structures for writing an essay, as well as the plan for handing in their essay for assessment.		By February half term, the first 500 words should be written.	By Easter, 1000 words should be written.	By May half term, 1500 words should be written.	By Summer, 2000 words should be written.	



Biology	Overall curriculum intent for year 12: Develop knowledge on from GCSE content to prepare for the second year of A-level and post-18 study.					
	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
	Intent for the topic	<p>Topic 1) Understand the effect of heart disease on the body, thereby understanding the structure and function of the circulatory system and the dependent organs and systems.</p> <p>Topic 2) Understand the structure and function of the cell membrane, and delve deeper into the role of DNA, to include DNA transcription, translation and replication, and how errors in this system can result in diseases such as cystic fibrosis</p>		<p>Topic 3) Understand the ultrastructure of cells, and how this is replicated through cell division (mitosis and meiosis). Understand how DNA is replicated in these processes and how genetic variation can arise.</p> <p>Topic 4) Understand the importance and how to measure biodiversity, and link this to plant cell structure and function, as well as some of the uses of a variety of plants.</p>		<p>Topic 5) Understand how species diversity and succession occurs and carry out sampling to determine species richness.</p> <p>Topic 6) Understand the range of investigative procedures forensic scientists can use to establish time of death, identity (DNA analysis) and cause of death if via infections through understanding the role and function of the immune system.</p>
Key skills developed	Data analysis and the difference between correlation and causation, dissection and microscopy skills- building on those at GCSE.	Microscopy and practical planning skills through CPACs- more independent than expected at GCSE.	Risk assessment writing for CPACs, producing microscope slides of allium meristem- using specialist techniques and knowledge.	Carrying out field studies to determine species richness and density.	Field studies and specific calculations to determine statistical significance	Use of specialised equipment (centrifuge) and glassware to make accurate and consistent measurements.

Business Studies	Overall curriculum intent for year 12: We strive to ensure that students develop a keen interest in how and why businesses operate in the way they do and to understand how they react and adapt in an ever-changing world. The Business curriculum is designed to inspire students, leading them to discover, question and understand businesses, both in the present day and the future. Business students might see the path into employment, entrepreneurship or further study from the creative and informative learning journey they undertake.					
	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
	Intent for the topic	<p>The start of the course looks at the setup of businesses in terms of the activities they do, the sector they are in and the ownership they have. We examine how businesses are</p>	<p>Still with Unit 1, students will explore ways in which businesses respond to external changes and the necessity for a business to plan.</p>	<p>Unit 4 is portfolio work. In this unit, students will learn the purpose, methods and importance of communication in business and the appropriateness of different forms of</p>	<p>Students will develop the skills that will help them create a rapport with customers and have the opportunity to practice and develop their business communication skills.</p>	<p>Students will also learn about the legal constraints, ethical and security issues that affect how businesses store, share and use information.</p>
						<p>This new unit (2) will cover the skills and understanding needed to work effectively within a business environment. The skills and understanding</p>



		organised and the financial aspects of running a business.		communication for different situations.			students will develop through this unit are critical to the success of any business and are highly valued in the business world; they are vital regardless of the role held within an organisation.
	Content mapping	Types of businesses and their objectives. How the functional areas of businesses work together to support the activities of the business. The effect of different organisational structures on how businesses operate Using financial information to check the financial health of businesses. The relationship between businesses and stakeholders	External influences and constraints on businesses and how businesses could respond. Why businesses plan. Assessing the performance of businesses to inform future business activities.	Who customers are and their importance to businesses. Communicating with customers. Establishing a rapport with customers through non-verbal and verbal communication skills.	Conveying messages for business purposes. The constraints and issues which affect the sharing, storing and use of information for business communications.	Looking at employee confidentiality when handling personal information or classified information on clients.	Protocols to be followed when working in business. Factors that influence the arrangement of business meetings.



Chemistry	Overall curriculum intent for year 12: Develop knowledge on from GCSE content to prepare for the second year of A-level and post-18 study.						
		Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
	Intent for the topic	Module 2- Foundations in chemistry- students explore a range of core concepts to bridge the gap between GCSE and A-Level, including atomic structure, moles, acids and their reactions, bonding and intermolecular forces.		Module 3- Periodic table and energy: students begin to learn about the periodic table and the nature of periodicity, how these link into energy changes and the ways in which we can determine energy changes. Rate of reaction and equilibria are studied, and a focus on optimising rates of reactions with a view to ensure chemistry is made more sustainable.	Module 4- Core organic chemistry: students begin to understand the various nomenclature conventions for a range of organic substances, and how to express these using a range of different formulae. Understand the reactions, uses and safety precautions to be taken when handling is crucial, as is how to analyse products of reactions instrumentally. Students begin to look at the first set of functional groups within the A-level course: alkanes, alkenes, alcohols and haloalkanes. Students also look at synthesis in organic chemistry and how structures can be identified using spectroscopy.		Module 5- Physical chemistry and transition elements: understand how the impact of changing concentration on rate of reaction can be quantified. Module 6- Understand a greater range of organic chemicals than covered previously, to include aromatic compounds
	Content mapping	Module 2: Atomic structure, quantities of substance, acid reactions, redox, structure and bonding		Module 3: the periodic table, enthalpy changes, rates of reaction, reversible reactions & equilibria and sustainability.	Module 4: nomenclature of functional groups, isomerism, aliphatic hydrocarbons, alcohols and haloalkanes, organic synthesis and instrumental analytical techniques.		Topic 5- 5.1.1 How fast? Topic 6- 6.1.1 Aromatic compounds
	Key skills developed	The CPAC practicals are carried out across the course, as well as the formal teaching of the skills required to complete this successfully.					
		An introduction to the more complex calculations in A-level chemistry, with more focus on multi-step processes. Nomenclature for inorganic chemistry (formulae, equations). Introduction to practical chemistry with more focus on precision and handling of more hazardous chemicals.		Interpreting trends in reactivity and explaining this using the periodic table. The use of drawn enthalpy cycles to visualise complex calculations. Drawing and interpreting rate of reaction graphs. Further development of practical chemistry skills.	Organic chemistry notation for molecules and reaction mechanisms. Nomenclature for different functional groups. The practical techniques and health and safety considerations for organic synthesis practicals.		More sophisticated practical techniques for monitoring rate of reaction. Develop calculation skills further, including the use of logs. Drawing and use of rate of reaction graphs.



Computer science

Overall curriculum intent for year 12: Students will gain the right combination of knowledge, understanding and skills required for the 21st century, enabling them to demonstrate the skills of writing specifications, and the design, build, testing and implementation of applications. They will develop a solid foundation in the fundamentals of hardware, networks, software, the ethical use of computers and how businesses use IT. Students will have a greater understanding of how organisations use information sources both internally and externally and the types of information they will encounter. The skills gained by completing this qualification will give them knowledge of the functionality of information and how data is stored and processed by organisations. They will also learn about how individuals use information of various types.						
	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Intent for the topic	Build up programming skills and understanding of programming concepts		Computer Science fundamentals		Computer Science fundamentals	Exam prep and NEA
Content mapping	Introduction to the course SLR1 Programming basics SLR2 Programming next steps through dedicated programming lessons	SLR3 Programming paradigms SLR4 Data structures SLR6 Abstraction and automation SLR7 Regular and context-free languages Dedicated programming lessons	SLR10 Number system and bases SLR11 Binary SLR12 Coding text and graphics Dedicated programming lessons	SLR13 Coding sound and music SLR14 Hardware and software SLR15 Programming languages and translators SLR16 Logic gates and Boolean algebra SLR17 Internal computer architecture	Introduction to the course SLR1 Programming basics SLR2 Programming next steps through dedicated programming lessons	SLR3 Programming paradigms SLR4 Data structures SLR6 Abstraction and automation SLR7 Regular and context-free languages Dedicated programming lessons
Key skills developed	Programming proficiency. Using computational thinking and systematic problem-solving to develop solutions to a programming problem. Be able to independently develop and use data structures & algorithms. Be able to work out mathematical problems such as Boolean logic & binary systems. Effective independent research, using search technologies effectively, be discerning in evaluating digital content.					



English Language		Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
	Intent for the topic	Bridging work. Language and representation. Grammar and syntax. Language and technology.	Modes and textual variation. Language and gender. Introduction to phonetics.	Introduction to sociolinguistics. Idiolects and sociolects.	World Englishes and generic language usage. Media representations.	Language and occupation. Accents and dialects. Phonetics and conversations.	Creative writing NEA. Opinion writing.
	Content mapping	Genre and text type including multimodal texts. Computer-mediated communication.	Language and gender. Spoken language theorist studies explored. Use of different levels of language analysis.	Idiolect and sociolect. Dialect. Language and ethnicity. Accent bias investigated.	Developed analysis of attitudes to variation and diversity e.g. prescriptivism versus descriptivism. Case studies on World Englishes.	Language and occupation. Communication practices and models.	Use of Paper 1 section A texts to inspire own work. Mini project work on data collection and style model analysis.
	Key skills developed	How to analyse varied conventions of different media types across time. Recognition of key meta language terminology Ability to apply grammatical vocabulary at a semantic, syntactic and pragmatic level. Ability to apply knowledge in a meaningful and structured argument across an essay. (Ability to build an argument in their own writing.)	How to recall and use own knowledge in own analysis of political and social expectations for different genders across time. Recognition of and identification of varied purposes and types of spoken interaction and applying this knowledge to the analysis of texts to identify meanings and representations. Application of IPA knowledge in essays. Ability to construct analysis of studies and theorists in own essays.	How to apply personal identity and psychology theories within the analysis of a text. Identification of pertinent geographical features and that influences upon the English language. Creation of a synthesised essay response responding to varied social influences.	How to recall and appropriately apply within essays political historical influences on the language from across the world. Recognition of rhetorical devices and the use of media for propaganda including the analysis of meanings created using these devices. Application of graphological metalanguage as appropriate in formal essays. How to analyse varied conventions of different media types across time.	How to recognise the different language used within varied jobs and positions. Analysis of these uses built into essays. Ability to apply relevant theories related to language and technology. Synthesis and analysis of varied theorists and studies in own writing. Ethnic group theories. Analysis of ingrained prejudice to accents and pertinent studies.	Awareness of and effective analysis of the purposes of a range of genres texts and cultural influences across time. Effective analysis of social, political and personal opinions including a synthesised response to varied texts on these topics.



English Literature		Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
	Intent for the topic	Aspects of Tragedy.				Introduction of NEA Wider reading – prose and poetry.	Aspects of political and social protest writing. Begin choice of texts for NEAs.
	Content mapping	Introduction to genre of Tragedy. Richard II. The Great Gatsby.	Finish Richard II. The Great Gatsby. Begin King Lear.	King Lear. Finish Gatsby.	King Lear Begin Keats – poems from the Tragedy Anthology.	Understanding different critical approaches. Wider reading of prose and poetry.	Introduction to genre of protest writing. Introduction of Blake. Choosing of NEA texts.
	Key skills developed	How to analyse elements of tragedy. How to analyse the language and structure of a tragic text. How to apply contextual detail to support analysis of a tragic text.				How to apply different literary theories to analysis of literary prose and poetry texts. The different literary theories being: <ul style="list-style-type: none">- Narrative theory- Marxist theory- Feminist theory- Post-Colonial theory- Eco-Critical theory- Theories around the Canon	How to apply different literary theories to analysis of literary prose and poetry texts. How to analyse elements of political and social protest writing. How to analyse language and structure of a political and social protest text. How to apply relevant contextual detail to support analysis of a political and social protest text.



Geography	Overall curriculum intent for year 12: enabling students to engage critically with real world issues and places, working at a local and a global scale.				
		Topic 1	Topic 2	Topic 3	Topic 4
	Intent for the topic	Tectonic processes and hazards	Globalisation To understand the reasons for and consequences of a rapid increase in globalisation.	Coastal Landscapes and change	Regenerating Places To understand what makes a place successful or unsuccessful and to understand how regeneration is planned and assessed.
	Content mapping	Understanding why some areas are more at risk from tectonic hazards. Identifying and explaining global distribution of tectonic hazards through plate boundaries. Understanding the theoretical frameworks that attempt to explain plate motion and movement. Understand the interaction between hazards, vulnerability, and resilience. Recognising the significance of hazard profiles as a tool for understanding different hazard impacts and know how development and governance are important in understanding disaster impact and vulnerability. Understanding the complex trends over time and how some can develop into mega disasters. Use hazard models and frameworks to understand prediction, impacts and management. Evaluate mitigation and strategies.	Understand why global shifts in economic activity brings a range of environmental, economic and social impacts. Explain how globalisation is linked with increasing scale and pace of economic migration, and results in a range of impacts to places of varying scales. We will assess the global and local cultural changes associated with globalisation, and the reactions they bring. Assess the tensions for individuals and societies resulting from the rapid changes globalisation brings to places. Be able to explain the importance of the concepts of sustainability and localism.	Understanding why coastal landscapes differ and the importance of the underlying geology. Recognise the influence of sub-aerial processes and erosion and together they can create distinctive features. Understand the process of sediment transport and how this generates depositional features. Explain how sea level changes; both long- and short-term influences on the physical geography and increase the risk for people. Understand how coastal flooding is a risk on some coastlines and the impact of global warming on coastal flood risk. Understand how decisions are made about hard and soft engineering approaches and how they can reduce risk. Identify how this can create both winners and losers.	Explore how economies vary and how functions of places have changed over time. We will identify ways of measuring this change. Compare how two contrasting places have been shaped by past and present connections at different scales. Identify how economic and social inequalities can change people's perceptions of an area and evaluate the need for regeneration. Understand the key role national governments play in regeneration and being aware of the role rebranding can play. Understand the different ways of evaluating regenerating projects.



History		Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
	Intent for the topic	Nationalism, dictatorship and democracy in 20 th century Europe – part 1	Nationalism, dictatorship and democracy in 20 th century Europe – part 2	Nationalism, dictatorship and democracy in 20 th century Europe – part 3	Nationalism, dictatorship and democracy in 20 th century Europe – part 4	<p>To explore a topic which has provoked debate among historians and different interpretations of the past.</p> <p>To provide an overview of 19th century Russian history as an introduction to the coursework unit.</p>	<p>Exam practice and revision.</p> <p>To start the Year 13 unit: Protest, agitation and reform in Britain c1780-1928.</p> <p>To continue with an overview of Russian history.</p>
	Content mapping	<p>The Weimar Republic 1918-33.</p> <p>Giolitti and Liberal Italy.</p>	<p>Nazi Germany 1933-45.</p> <p>The rise of Mussolini.</p>	<p>The post-war division of Germany.</p> <p>The Federal Republic of Germany 1949-65.</p> <p>The Italian Fascist State.</p>	<p>The Federal Republic of Germany 1966-89.</p> <p>The fall of the Fascist State in Italy.</p>	<p>How far was Hitler's foreign policy responsible for the Second World War?</p> <p>Italy revision.</p> <p>Russia – 3 Tsars.</p>	<p>Germany exam practice and revision.</p> <p>Britain c1780-1928 – changes to the franchise and representation.</p> <p>Russia – the 1905 Revolution.</p>
	Key skills developed	<p>Causation</p> <p>Consequence</p> <p>Similarity/difference</p> <p>Continuity/change</p> <p>Significance</p> <p>Analysing and evaluating historical sources.</p>	<p>Causation</p> <p>Consequence</p> <p>Similarity/difference</p> <p>Continuity/change</p> <p>Significance</p> <p>Analysing and evaluating historical sources.</p>	<p>Causation</p> <p>Consequence</p> <p>Similarity/difference</p> <p>Continuity/change</p> <p>Significance</p> <p>Analysing and evaluating historical sources.</p>	<p>Causation</p> <p>Consequence</p> <p>Similarity/difference</p> <p>Continuity/change</p> <p>Significance</p> <p>Analysing and evaluating historical sources.</p>	<p>Causation</p> <p>Consequence</p> <p>Similarity/difference</p> <p>Continuity/change</p> <p>Significance</p> <p>Analysing and evaluating historical sources.</p> <p>Historical interpretations.</p>	<p>Causation</p> <p>Consequence</p> <p>Similarity/difference</p> <p>Continuity/change</p> <p>Significance</p> <p>Analysing and evaluating historical sources.</p>



Maths	This is currently under review and will be updated soon.						
		Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
	Intent for the topic						
	Content mapping						
	Key skills developed						

Photography	Overall curriculum intent for year 12: Pupils will be introduced to A Level with workshops in the first term and then a main piece which they will see through to Yr13. They will start their personal assessment (essay).						
		Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
	Intent for the topic	Work shops Pupils will do three workshops based on different themes.	Main Coursework Pupils will choose a coursework title that they will work on throughout the year, ensuring they meet all the assessment objectives.				
	Content mapping, including key skills developed	AO1- Develop: Develop ideas through investigations, demonstrating critical understanding of sources.					
		AO2- Refine: Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes.					
		AO3- Research: Record ideas, observations and insights relevant to intentions as work progresses.					
		AO4- Present: Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.					
		Pupils will be given a selection of fortnightly workshops to reintroduce them back to art or photography, after some may have had a year away. These workshops are designed to challenge the pupils’ thinking, build on creativity, improve problem solving skills and improve their presentation skills.	Pupils will decide on a theme/title for their main coursework. If pupils struggle to create their own title, the teacher will provide a list of previous titles from previous coursework and exams that the pupils can work from. Pupils will, over the course of this year, work on their sketchbook, where they will explore artists, designers and photographers and use them to help inspire further work. Pupils will also explore their theme in detail, looking at images, media, experiments and materials. Pupils will also be encouraged to learn to refine their work through further experiments, such as improving compositions, colour choices and designs. Pupils will have the opportunity to work outside of their books on larger scale pieces, as long as they document the journey and the relevance of the piece. Pupils will cover the formal elements and other important aspects of their work.				
	Pupils will be introduced to the ideas of the personal study essay. They will be provided with key information, structures for writing an essay, as well as the plan for handing in their essay for assessment.		By February half term, the first 500 words should be written.	By Easter, 1000 words should be written.	By May half term, 1500 words should be written.	By Summer, 2000 words should be written.	



Physics	Overall curriculum intent for year 12: Develop knowledge on from GCSE content to prepare for the second year of A-level and post-18 study.						
		Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
	Intent for the topic	Transition to Year 12 Physics- revisiting key skills. Mechanics and materials- Understand scalars and vectors and their treatment, Newtonian laws of motion, as well as how materials behave under stress.		Particles and radiation- understand the fundamental properties of matter, electromagnetic radiation and quantum phenomena. Waves and optics- understand the properties of different wave types and their interactions, including standing waves, superposition and interference.		Electricity- understand the complex interrelationships that exist between current, voltage, power, charge and energy, and how these factors differ in different circuit types.	Further mechanics and thermal physics- Advance further study of motion by examining more complex motional systems Fields: Understand the unifying role field theory can have to gravitational, electrostatic and magnetic fields.
	Content mapping	Mechanics- forces in equilibrium, kinetics, force and momentum	Work, energy and power, materials and tensile strength, thermal energy transfer.	Particles and radiation. Quarks, leptons and quantum phenomena.	Optics- refractions, reflection, interference	DC circuits, electric current, equations, resistance of a wire.	Periodic and circular motion, simple harmonic motion. Fields- Gravitational fields and electric fields, capacitors.
	Key skills developed	Accurate and reliable measurements of time, force, speed, velocity. Understanding the composite nature of complex ideas (i.e. projectile motion). Use of correct units, use of roots and squares. Graphical skills including how to calculate a gradient at a point on a curve.	Recording accurate measurements of wire diameter using micrometers, including zero error check. Safely applying loads to wires until they snap- risk assessment	Development of ability to take accurate measurements of distance (without parallax), ensuring accuracy of results, methods to reduce % error.	Rearranging complex formulas involving roots and squares, use of indices, safe use of lasers and high energy devices with reference to current legislation (CLEAPPS) Wave/particle duality.	Understanding safety processes (heating effect of current). Measuring of current using range of appropriate equipment. Use of logarithmic paper to plot/read results.	Planning and carrying out of investigations into specific heat capacity and latent heat. Planning and carrying experiments to record accurate data on the reciprocal motion of a pendulum/mass spring system and evaluating data to determine accuracy.



Product design		Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
	Intent for the topic	Induction Cover required theory and skills for the qualification	Fragrance project	Architecture project Epoxy resin casting Mock exams	NEA		NEA Mock exams
	Content mapping	H&S, regulations, risk assessment, PPE Theory – plastics & plastic forming, tools, jigs/manufacturing aids, performance characteristics/properties, machining processes, sketching/presentation techniques CAD CAM, finishes, maths for engineering metal properties, joining and heat treatments & manufacture, human factors.	CAD 2D design Scales of production Intro to project - Brief, task analysis, mood boards, product analysis Manufacturing industries, designing for the environment, planning, specification, ideas, design movements/designers, digital technologies, development design, CAD/CAM Packaging design and development	Foam board modelling, marketing and budgeting, drawing methods (isometric and Planometric) Resin casting Review project Theory – composites, timber, lamination, wood joining, finishing techniques, papers and boards, printing techniques, product lifecycle.	Investigation into NEA project Sketching/presentation skills Photoshop skills 2D and 3D CAD Exam practice – recap /revise past theory NEA – identify design possibility & company/client. Task analysis	NEA – Task analysis Research and analysis,	NEA – Research and analysis
	Key skills developed	Workshop tools and machines and organisation in practical, plastic forming methods. Using Jigs, Drawing techniques, CAD CAM, finishes	Design and analysis skills – iterative approach Use of IT - CAD/CAM (Photoshop, Techsoft, Laser cutting, 3D printing)	Workshop tools, machines and organisation in practical. Shaping and finishing techniques.	Design /drawing skills Use of IT for CAD and photoshop software.	Use of IT for NEA research/analysis and presentation.	Use of IT for NEA research/analysis and presentation.



Psychology	Overall curriculum intent for year 12: To prepare students with the knowledge, understanding and skills necessary to successfully complete AQA A level Psychology Papers 1 and 2. By the end of Year 12, students will have developed knowledge and understanding of a range of Psychology topics including; Research methods and the ethics of research; Social influence including conformity and obedience; human memory, how it works and why sometimes it doesn't; how infant attachments are formed and the influence they have on later life; and psychopathology, including theories concerning the causes of a range of mental health issues and the treatments that arise from them. Above all, they should be critical think like Psychologists.						
		Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
	Intent for the topic	Teacher A: Research methods in psychology. Teacher B: Social Influence.		Teacher A: Continuation of research methods, before moving onto approaches and biopsychology. Teacher B: Memory. Attachment.		Teacher A: Continuation of approaches and biopsychology. Teacher B: Psychopathology.	
	Content mapping	Research methods: Experiments, Observations and self-report techniques. Ethics and Sampling Social influence: Conformity, obedience, minority influence and Social Change.		Approaches and biopsychology: Conformity, obedience, minority Influence and Social Change Memory: Models of memory, reasons for forgetting and Eyewitness testimony Attachment: Explanations of attachment, cultural variations, maternal deprivation and institutionalisation		Approaches and biopsychology: Conformity, obedience, minority Influence and Social Change Psychopathology: Definitions of abnormality, Phobias, Depression and OCD	



Sport

Overall curriculum intent for year 12: The Cambridge Technical in Sport and Physical Activity provides students with practical opportunities to develop relevant core knowledge and skills. Students further develop their skills through specialist pathways that help them deliver sport and physical activity to a wide range of participants

Unit 1 – Body systems and the effects of exercise (Exam) 90GLH

Unit 2 – Sport coaching and activity leadership (coursework) 90GLH

	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Intent for the topic	1: LO1 – Understanding the skeletal system in relation to exercise and physical activity 2: LO1 – Roles and responsibilities LO2 – Understand the principles of coaching LO3 – Use methods to improve skills/techniques in sport	1: LO1 – Understanding the skeletal system in relation to exercise and physical activity 2: LO4 – Plan sports sessions LO5 – Prepare sports environments LO6 – Deliver sport sessions LO7 – Review sports sessions	1: LO2 – Understand the muscular system in relation to exercise and physical activity 2: LO6 – Deliver sport sessions LO7 – Review sports sessions	1: LO3 – Understand the cardiovascular system in relation to exercise and physical activity 2: LO6 – Deliver sport sessions LO7 – Review sports sessions	1: LO4 – Understand the respiratory system in relation to exercise and physical activity 2: LO6 – Deliver sport sessions LO7 – Review sports sessions	1: LO5 – Understand the different energy systems in relation to exercise and physical activity 2: LO6 – Deliver sport sessions LO7 – Review sports sessions
Content mapping	1.1 Skeleton 1.2 Bones 1.3 Joints 1.4 Synovial Joints 2: LO1, LO2, LO3	1.5 Structure/Functions 1.6 Movements 1.7 Vertebrae 1.8 Impact of exercise on skeleton. 2: LO4, LO5, LO6, LO7	2.1 Muscle at synovial joints 2.2 Muscles function 2.3 Contractions 2.4 Fibres 2.5 Muscle performance 2.6 Impact of activity on muscles 2: LO6, LO7	3.1 Structure of the heart 3.2 SV, HR, Cardiac output 3.3 Vessels 3.4 Blood 3.5 Vascular Shunt 3.6 Impact of physical activity on the CV system 2: LO6, LO7	4.1 Lungs 4.2 Respiratory muscles 4.3 Mechanics of breathing 4.4 Gaseous exchange 4.5 Tidal volume 4.6 Impact of physical activity on the respiratory system 2: LO6, LO7	5.1 The three energy systems 5.2 Energy continuum 5.3 Recovery process 2: LO6, LO7