

Year 10

Curriculum Overview Half Term 1

Dear Parent/Carer,

In the following booklet you should find an overview of what your child will be studying this half term in school. We've included key details on what they will be looking at in each subject, how they'll be assessed and what they might do to further develop their understanding. The aim is for this to make it easier for you to work with the school supporting your child with their work.

All lessons last for one hour. In Year 10, students study the following:

- English and Maths four lessons per week per subject
- Science two lessons per week per Science subject (Biology, Chemistry and Physics)
- Three 'Options' three lessons per week per subject
- Religious Education one lesson per week
- 'Core' PE one lesson per week

The information for each subject is categorised as follows:

Topics / tasks: This is the overview of the topics Year 10 students will be covering this half term.

Content and skills: This explains what areas students will be looking at, and the skills they will be

developing during the half term.

Assessment: This explains how students will be assessed on their understanding of this topic.

Stretch and challenge: This gives suggestions of how students can explore this area in more detail if they wish.

Exam Boards

This table shows which exam board the school uses for each qualification.

Click on the exam board to view the specification via their website.

Subject	Awarding Body	Subject	Awarding Body	Subject	Awarding Body
Art	Edexcel	Geography	AQA	Physical Education, Vocational	WJEC
Business	<u>OCR</u>	German	AQA	Religious Education	AQA
Computer Science	<u>OCR</u>	Health & Social Care	Eduqas	Science: Biology	Edexcel
Design Technology	AQA	History	AQA	Science: Chemistry	Edexcel
Drama	AQA	Latin	<u>Eduqas</u>	Science: Physics	<u>Edexcel</u>
English	AQA	Maths	AQA	Spanish	AQA
Engineering	AQA	Music	Edexcel	Vocational Construction	<u>Eduqas</u>
Food Preparation and Nutrition	<u>Eduqas</u>	Photography	<u>Edexcel</u>	Vocational Engineering	<u>Eduqas</u>
French	AQA	Physical Education, GCSE	AQA		

Art

Topics / tasks:	Component one: Personal projects		
Content and skills:	Students were provided an introduction to GCSE Art & Design in the summer term of Year 9 and were encouraged to start developing work and ideas for a personal project based on the titles on the right. How to start a project was discussed in lessons and students encouraged to make work towards this. At the start of this term, we will revisit and explain the process of starting a personal project and students will receive bespoke/individual suggested areas to investigate. The projects will then develop over time. By the end of this half term, the students' projects will have a clear identity.	Students to select one title or combination of titles to begin a project. Organic Forms Time Identity Decoration Beneath The Surface Built Environment Reflections Political Art Concept Art	
Assessment:	Their practical work reviewed and commented on. Basic technical skills will be assessed, but not over the imaginative and creative. Control of materials and understanding of the formal elements mapped.	The assessment objectives (AQA exam board) will be referred to throughout the process.	
	Regular verbal feedback by the class teacher and a program of written self-assessment as part of creating the portfolio.		
Stretch and challenge:	Extend their work through a greater exploration of materials and processes being used. If a student is not making work at home, they making slow progress. The more they make, the more depth and refinement of ideas/outcomes will develop.	Further reading by exploring art museum websites and identifying artists the student likes. To then create outcomes and annotation based on these new artists without teacher direction. To use the literacy guide in moving toward advanced use of questioning.	

Business

Topics / tasks:	Business enterprise & entrepreneurship Business planning Revenue, cost, profit & loss Business ownership Business aims & objectives
Content and skills:	GCSE Business - the course and the content Collaborative working, ideas, business and presenting. How to analyse, select, interpret, and recognise business acumen in themselves and others! Why business exist. Structure and planning (when setting up in business / development). Types of business ownership. Business aims and objectives. An introduction to finance and key concepts.
Assessment:	Range of exam questions, classwork, homework, topic tests (at end of unit). Use of key terms & application. Booklet Role of Business Key Terms - SWOT RAG Exam Q 1.1 The role of business enterprise & entrepreneurship /13 1.2 Business planning / 9 (essay style question) 5.3 Activity 1, 2 and 3 (fixed costs, gross and net profit) /13 1.3 Business ownership team activity (assessed on contribution) 1.3 Business ownership exam questions /21 1.4 Business aims & objectives presentation (assessed on contribution) Homework tasks/sheets for certain topic issued throughout the term.
Stretch and challenge:	Good business students will be aware of current issues - BBC Business pages, news channels, reports, stock market and government decisions. Build this into your daily routine - cause and effect. TV Shows such as Dragons Den & The Apprentice make great viewing but also teach you the fundamentals!

Computer Science

Topics / tasks:	Intro to course and OneNote Computational Thinking PC Building (practical + theory) Input / Output Devices Python Introduction
Content and skills:	Students will learn the concept of Abstraction and how problems can be decomposed Students will look at various Input and Output Devices and state their purpose and use Students will apply basic Python programming skills to create simple programs
Assessment:	PC Building Knowledge assessment End of half-term assessment (algorithmic thinking and memory) /40 Storage Homework Test /6
Stretch and challenge:	Research the need for "trace tables" when checking algorithm completeness Look into the complex operation of common devices such as a laser printer and barcode scanner Research the term "Recursion" and how it can be used correctly to save programmer's time

Design Technology

Topics / tasks:	Introduction to Materials
Content and skills:	 This half term, students will investigate different types, properties and application of the following materials: Wood Metals Polymers Fabrics Students will also produce one-off prototypes in the workshop. This will help embed practical skills, knowledge of tools, materials and equipment.
Assessment:	There will be a variety of assessments including assessing quality of completed practical work and ability to complete investigation in the form of a product analysis task. Students' work will also be monitored safely throughout each lesson, thus ensuring that students are working to the best of their ability.
Stretch and challenge:	Students can recap / revise theory work covered in lessons in their own time for consolidation. Students can also complete additional practice questions on www.technologystudent.com . This website is an excellent learning resource.

Drama

Topics / tasks:	Component 1 (section A): Knowledge and Understanding of theatre and roles.	Component 1 (section B): Begin study of set play
Content and skills:	Study and learn drama and theatre terminology and how to use it appropriately focusing on: Stage positioning, stage configurations, and the roles and responsibilities of theatre makers in contemporary professional practice. They will then learn how to apply this knowledge to the multiple choice section of the examination.	Students will develop knowledge and understanding of the characteristics and context of the whole play Explore ideas for how the play may be interpreted practically.
Assessment:	Multiple quizzes on Teams and practice examinations.	Writing responses to Question 1 of Section B of the examination, set on Teams assignments.
Stretch and challenge:	Revise further by using the BBC Bitesize revision.	Research context and performances of the play on YouTube.

English

Topics / tasks:	AQA GCSE English Literature: Paper 1 A Christmas Carol by Charles Dickens	AQA GCSE English Language: Paper 1 Writing to Describe
Content and skills:	 Reading the novella A Christmas Carol. Analysing the writer's use of language in key extracts of the text. Considering the social and historical contexts of the novel and how these influence the writer Understanding how to answer an exam question Learning key quotations from across the text. 	 Writing to describe Exploring the effects of colour imagery Expanding descriptive vocabulary Examining how elements of the natural world can be used symbolically Examining how the seasons are used in fiction writing
Assessment:	Writing an exam response on a key theme.	Writing an exam response to describe an image.
Stretch and challenge:	 Reading the text more than once Accessing Mr Bruff on YouTube and watching the series of videos on A Christmas Carol whilst making useful revision notes. www.youtube.com/user/mrbruff/featured Reading critical articles via The British Library www.bl.uk/works/a-christmas-carol 	 Reading fiction and examining how writers describe places Practising descriptive writing. Describing images of places or visit places and create descriptions. Accessing Mr Bruff on YouTube and watching the series of videos on 'English Language Paper 1: writing' whilst making useful revision notes. www.youtube.com/user/mrbruff/featured

Engineering

Topics / tasks:	Examined Unit 1: This unit will introduce students to Engineering Materials and Engineering Processes.
Content and skills:	Students will study the following areas of Engineering: Materials properties Metals & Alloys Ferrous & Non Ferrous Changing the properties of metal products Metal Forms Metals Key Terms Polymers: Thermosetting Polymers Thermoplastics Composites Timber & Ceramics Material Cost & Supply Material selection Energy Rudiments Energy Sources Engineering lifespans They will learn about all of the above listed areas and how to answer exam questions based on these areas.
Assessment:	This unit will be graded 1-9 by the teacher based on a test after half term. The test will be on all of section 1.
Stretch and challenge:	Students can complete revision of all units. This is shared on teams via an assignment (revision guides) and included stretch and challenge questions.

Food Preparation and Nutrition

Topics / tasks:	Principles of Food Preparation and Nutrition.
Content and skills:	Learners will explore different aspects of the specification each half term. Core Knowledge & commodities: Half Term1: Principals of nutrition& cereals
	Practical Skills: Student will take part in various practical work to help them develop and refine cooking skills that they will come to rely on in Y11 to respond to NEA1 & NEA2 set by the exam board (Eduqas) The specification cites 20 practical skills that student should have a knowledge of during the completion of the course.
Assessment:	Leaners will explore and demonstrate the different knowledge and skills required to undertake the two internally assessed parts of the qualification known as non-examination assessments. NEA1 focuses on food science and NEA2 focuses on cooking and food preparation. They are given an opportunity to practice these assessments in year 10. Students will sit regular written assessments that allow them to recall knowledge gained and build good studies habits with practice exam questions. Weighting of grade in year 11: 50% of the course is NEA1& NEA2, 50% of the course is the written exam
Stretch and challenge:	Students should familiarise themselves with the specification for the course and expectations, this includes using the online textbook to familiarise themselves with the topics covered in this current half term and examples of NEA1 and NEA2. Students have received login details for the online textbook which is accessed at https://illuminate.digital/eduqasfood/ Students should regularly check the class Team. Students should aim to practice practical skills at home where possible, ensuring they have both permission and supervision from an adult at home when completing practical tasks.

French

Topics / tasks:	Identity and relationships with others	
Content and skills:	Students will revise topic relevant vocabulary and grammar from year 9. They will also learn how to pick out key information when listening; how to answer unprepared questions in speaking and how to recognise cognates in reading.	
Assessment:	Weekly vocabulary tests and a writing assessment.	
Stretch and challenge:	Working in greater depth on irregular verbs in present and future tenses.	

Geography

Topics / tasks:	Urban Issues and Challenges
Content and skills:	Students will learn how and why the global urban population is changing and analyse variations between Low Income Countries, Newly Emerging Economies and High Income Countries. They will examine the emergence of megacities and the different factors affecting rates of urbanisation. Students will examine the case study of Mumbai and investigate its location, rapid growth, regional, national and international importance. They will then assess how urban growth has created social and economic opportunities as well as challenges before evaluating how urban planning is improving the quality of life for the urban poor in Mumbai.
	Students will study the distribution of the population and major cities in the UK. Students will examine the case study of London and investigate its location, importance to the UK and the wider world before assessing the impacts of national and international migration on the growth and character of the city.
Assessment:	A range of GCSE practice questions throughout the half term. Students must interpret and analyse figures. They must explain their viewpoints, give counterviews and support these with evidence before justifying their final decision.
	A mid-unit test on content up to and including the Mumbai case study, including a range of GCSE questions from one to nine marks.
	Download past copies of the GCSE Geography paper two exam and mark scheme from the AQA website to practise answering exam questions on this topic.
Stretch and challenge:	Watch Streets of Gold: Mumbai, a three-part documentary series on BBC iPlayer: https://www.bbc.co.uk/iplayer/episodes/m001tkfr/streets-of-gold-mumbai
	Keep up to date with recent news stories about urban issues in Mumbai, India and London, UK.

German

Topics / tasks:	Identity and culture: Me, my family and friends
Content and skills:	Students will learn a full range of vocabulary linked to the topic. They will revise the present of weak and strong verbs and pronouns. In addition, they will learn how to distinguish word types and how to spot patterns in German and English. Students will study translation skills; how to recognise cognates in reading; how to answer unprepared questions and how to use a variety of vocabulary and tenses in writing.
Assessment:	Students will be assessed by regular vocabulary and grammar tests. There will also be a formal writing assessment on the topic of Family.
Stretch and challenge:	Researching a famous person and writing about their family in German.

Health and Social Care

Topics / tasks:	Component 1 - Human growth and development across life stages.	Component 2 – Health and Social Care Services and Values.	
Content and skills:	Students will explore different aspects of growth and development across the life stages using the physical, intellectual, emotional and social (PIES) classification. They will do this through activities, independent research, TV programmes, and case studies. Physical growth and development Intellectual/cognitive development Emotional development Social development	Students will explore the different levels of care services and the barriers that people can face when accessing them in a range of settings Primary care providers. Secondary care Tertiary care providers Allied health professionals	
	Students will learn key writing skills – in particular how to write reports and factual pieces: Students will learn to research and investigate and carry out independent learning to enrich their assignments and class work.		
Assessment:	Testing of their writing ability to describe, explain and assess in written tasks based on case studies and questions. Half term test of knowledge.		
Stretch and challenge:	Students should familiarise themselves with the specification for the course and expectations. Students should watch related TV programmes which will be advised in class and on Teams. Students should speak to people in their circle of family and friends to gain re life experiences and opinions. They will create a person time line and for further understanding of different life stages should do one for someone they know.		

History

Topics / tasks:	The early reign of Elizabeth the First	The Crises of Government during Elizabeth's reign
Content and skills:	Students will continue to investigate the context of early modern Europe, problems that faced Elizabeth upon her accession to the throne, how she governed England, the Religious Settlement and her relationship with Mary, Queen of Scots.	Students will investigate the importance of religious opposition (both Catholic and Puritan), the causes and consequences of conflict with Spain, and the events of the Spanish Armada.
Assessment:	Completing exam-style questions that test the ability to construct causal explanatory narratives and test interpretations of the past using evidence. Completing exam-style questions that test the ability to construct causal explanatory narratives and test interpretations of the past using evidence. They will develop as historians by focusing on building analytical arguments.	
Stretch and challenge:	Reading: Ian Mortimer, The Time Traveller's Guide to Elizabethan England Peter Ackroyd, Tudors: The History of England Vol II Antonia Fraser, Mary, Queen of Scots	Other Media: BBC Bitesize Elizabeth: The Golden Age (film, 2007) Elizabeth (film, 1998) Mary, Queen of Scots (film, 2018)- not fully accurate (the two Queens never met) but provides excellent context

Latin

Topics / tasks:	Subjunctives & their use in different types of clauses.	Roman Roads in Britain & the legionary fortress at Chester
Content and skills:	How to recognise a subjunctive verb and identify the type of clause in order to translate it correctly; revision of other verb forms, including participles; analysing sentence structure to improve accuracy of translation.	How to use different types of archaeological evidence to build up an understanding of the Roman army in Britain.
Assessment:	Exam-style questions on Roman Britain and a translation assessi	ment, in addition to regular vocabulary & grammar test
Stretch and challenge:	Reading about Roman Britain, the Roman army & the empire. borrow.	There is a selection of suitable books available for students to

Maths

Topics / tasks:	Foundation Negative numbers Order of operations Factors, multiples and primes Collecting like terms, manipulating expressions and laws of indices Expanding brackets Factorising Solving equations	 Higher Solving linear equations Rearranging formulae Factorising quadratics Completing the square Solving quadratics by factorising, the quadratic formula and completing the square Simultaneous equations inc. Quadratics Algebraic proof
Content and skills:	Review and extension of algebra covered in KS3. Application of algebra in different contexts such as geometry, I Applying algebra to written problems or real life contexts. Students will also develop their reasoning skills, examination tec	
Assessment:	Half term assessment 1 on work covered in the first 6 weeks.	
Stretch and challenge:	Completing extra work using sparx Maths and Corbett Maths w Access revision resources and sessions made available by the N	

Music

Topics / tasks:	10A	10K
	 Listening & Analysis – AOS1 set work - Bach and AOS3 set work - Defying Gravity Composition – Introduction to Composition 	 Listening & Analysis – AOS1 set work - Bach Composition – Introduction to Composition
Content and skills:	 Developing listening skills in analysis of set works Developing skills of rhythmic, melodic and harmonic composition 	 Developing listening skills in analysis of set works Developing skills of rhythmic, melodic and harmonic composition
Assessment:	 Practical composition assessment Exam-style listening questions 	 Practical composition assessment Exam-style listening questions
Stretch and challenge:	Listening to related works and comparing and contrasting them with the set works	Listening to related works and comparing and contrasting them with the set works

Photography

Topics / tasks:	Students will be introduced to various techniques using Photoshop to produce a range of tasks. The projects will introduce the students to Photoshop and enable them to have a creative approach to digital photography.	
Content and skills:	With each new task students will be introduction to new process, new artists and ways of working, helping them build a portfolio of work in response to the AQA assessment objectives	
Assessment:	Their practical work will be regularly reviewed, and feedback given with advice and guidance on how the student can improve and work more independently and effectively. Technical skills using a camera, Photoshop and other photography-assisted programs will be assessed.	The assessment objectives (AQA exam board) will be referred to throughout the process.
	Regular verbal feedback by the class teacher and a program of written self-assessment as part of creating the portfolio.	
Stretch and challenge:	Extend their work through a greater exploration of materials and processes. Being creative in approached to how they can use their skills and imagination to refine and explore various techniques.	Further reading by exploring creative websites and identifying artists the student finds interesting and inspirational. To then create outcomes and annotation based on investigations and present a personal and expressive response that shows self-confidence and conviction.

Physical Education

Topics / tasks:	Physical Training (Chapter 3) and practical fitness testing and invasion games
Content and skills:	They will look at the relationship between health and fitness, the components of fitness, fitness tests, principle of training and how to structure a training session. In practical lessons they will complete the protocols for fitness tests and cover the GCSE skills required in football and netball.
Assessment:	A Kerboodle on-line end of chapter assessment. Everlearner online assessments. Past exam questions.
Stretch and challenge:	Become involved in school teams and also train and compete regularly outside of school

Physical Education (Vocational Award)

Topics / tasks:	Unit 2: Improving Sports Performance
Content and skills:	They will look knowledge and understanding needed to analyse their own and others sporting performance. Also plan how to improve.
Assessment:	Official assessment by four individual tasks in the form of written assignments.
Stretch and challenge:	Make use of the on-line resources and wider reading to cover in-depth content.

Religious Education

Topics / tasks:	AQA GCSE Theme B: Religion and Life.
Content and skills:	 Students should study religious teachings, and religious, philosophical and ethical arguments, relating to: The origins of the universe, including: religious teachings about the origins of the universe, and different interpretations of these; the relationship between scientific views, such as the Big Bang theory, and religious views. The value of the world and the duty of human beings to protect it, including religious teaching about stewardship, dominion, responsibility, awe and wonder. The use and abuse of the environment, including the use of natural resources, pollution. The origins of life, including: animal experimentation and the use of animals for food. The origins of life, including: religious teachings about the origins of human life, and different interpretations of these the relationship between scientific views, such as evolution, and religious views. The concepts of sanctity of life and the quality of life. Abortion, including situations when the mother's life is at risk. Ethical arguments related to abortion, including those based on the sanctity of life and quality of life. Euthanasia. Beliefs about death and an afterlife, and their impact on beliefs about the value of human life.
Assessment:	All students will sit a 30-minute in-class assessment under exam conditions which will examine the 5 skills in the AQA examination specification.
Stretch and challenge:	Visit online reference sites such as: Wikipedia, Britannica and the BBC Bite Size website. AQA website has a range of revision materials and stretch and challenge opportunities. The RE Teams folder also contains useful revision materials.

Science: Biology

Topics / tasks:	Topic 1: Key Concepts. Recap of Cells and Microscopes, Enzymes, Transport across membranes (Triple - Food tests and calorimetry)	
Content and skills:	 Knowledge Cells and microscopes Enzyme theory Diffusion, osmosis and active transport Food tests and calorimetry (triple) 	 Skills Collecting enzyme and osmosis data Describing and Explaining data Plotting line graphs from data Starting to evaluate methods and data
Assessment:	Attainment 1 test on Topic 1: Key concepts	
Stretch and challenge:	Finding out how enzymes are used in industrial processes t	or making washing powders, baby food, slimming foods.

Science: Chemistry

Topics / tasks:	Energy and Rates of reaction	
Content and skills:	 Energy Endothermic and exothermic reactions Energy profile diagrams Bond energy calculations (Higher tier only) Rate of reaction Collision Theory The effect of temperature The effect of concentration The use of catalysts 	Energy This unit looks at how chemical reactions involve energy changes, how to represent this graphically and how to calculate energy changes using bond energy data Rate of reaction This unit concerns measuring rates of reaction and the factors which influence the rate of a chemical reaction.
Assessment:	Short in class assessment questions and Mock at the end of HT	I
Stretch and challenge:	Ask your teacher to review AS Chemistry energy calculations	

Science: Physics

Topics / tasks:	Topic 1: Motion Topic 2: Forces and Motion
	 Topic 1: Motion Graphs of motion – interpreting distance-time graphs and velocity-time graphs Acceleration Scalars and vectors
Content and skills:	Topic 2: Forces and Motion Resultant forces Newton's 1st law Mass and weight Newton's 2nd law Newton's 3rd law Momentum (higher only) Stopping distances Braking distance and energy (triple only) Crash hazards
Assessment:	Short teacher assessed homework tasks/short low-stakes tests
Stretch and challenge:	Completing relevant exercises on Isaac Physics website.

Spanish

Topics / tasks:	Theme 1 introduction pages Identity and relationships with others Healthy living and lifestyle & education and work Unit 1- Identity and relationships with others. 1.1F- What type of person you are 1.1H- Personality and physical appearance 1.2F- Friends 1.2H- Modern families
Content and skills:	Students will developing the 4 core skills of speaking, listening, reading and Writing as well as translation skills. They will study grammar including: ser and estar in the present tense; adjective agreement; the definite article; the verb tener in the present tense; possessive adjectives; reflexive verbs and common irregular verbs; they will be able to respond to conversation questions surrounding the topics above with a degree of spontaneity and will work on developing fluency and pronunciation skills.
Assessment:	Students will be assessed by regular vocabulary and grammar tests. There will also be a formal writing assessment.
Stretch and challenge:	Using the interactive online exercises accessible to all students via Kerboodle. Continual revision of grammar points. Developing an interest in current affairs in Spanish speaking countries. Listening to Spanish radio and TV online.

Vocational Construction

Topics / tasks:	Unit 1 – Construction Site and Security – Students will learn about a range of Health and Safety information that is essential to Construction Building sites.
Content and skills:	Students will be asked to explain the following Health and Safety Legislations and concepts: Risk Assessments Safety Signs Health and Safety at Work Act 1974 Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR) Control of Substances Hazardous to Health Regulations 2002 (COSHH) Provision and Use of Work Equipment Regulations 1998 (PUWER) Manual Handling Operations Regulations 1992 Personal Protective Equipment at Work Regulations 1992 (PPER) Working at Heights Regulations 2005
Assessment:	Upon completion of this unit their knowledge will be assessed by an external exam at the end of Year 10. This will form 25% of their final grade for the course. Student will have opportunities to complete practice tests through the year prior to this exam.
Stretch and challenge:	 Students should familiarise themselves with the specification for the course and expectations, this includes using the textbook to familiarise themselves with the topics covered this half term and examples of Unit 1. Students could source the course textbook WJEC Vocational Award – Constructing The Built Environment, Level 1/2, Howard Davies, Illuminate Publishing, ISBN 978-1-912820-16-0 Students should watch related TV programmes such as 'Grand Designs' to understand the Health and Safety risks the effect a Construction site. Research CSCS card and complete online tutorials.

Vocational Engineering

Topics / tasks:	Unit 3 – Solving Engineering Problems – this is the theory part of the course for the exam (25%). The purpose of this unit is for learners to use their knowledge and understanding of engineering processes and material properties to solve problems.
Content and skills:	Students will be asked to complete the following tasks: Learning Objective 1 – Understanding effects of engineering achievements – describe engineering developments, explain effects of engineering achievements and explain how environmental achievements affect engineering applications. Learning Objective 2 – Understand properties of engineering achievements – describe properties required of materials for engineered products, explain how materials are tested for properties and select materials for a purpose. Learning Objective 3 – know forming processes of engineered materials – describe engineering processes and describe applications of engineering processes.
Assessment:	Upon completion of this Unit the work will be assessed using the WJEC assessment criteria framework graded Level 1 Pass, Level 2 Pass, Level 2 Merit and Level 2 Distinction.
Stretch and challenge:	Students should familiarise themselves with the specification for the course and expectations, this includes using the textbook to familiarise themselves with the topics covered this term. Students could purchase the course textbook WJEC Vocational Award – Engineering Level 1/2, Matthew Wrigley, Illuminate Publishing, ISBN 978-1-912820-15-3. Students should watch related TV programmes which will be advised in class and on Teams. Students should watch the Engineering video clips on Manufacturing Processes and Materials.