



Design & Technology Long Term Plan-KS4 2020-2021

<p>The Westleigh School</p> 	Term 1		Term 2		Term 3	
	HT1 (Week1-7)	HT2 (Week8-15)	HT3 (Week16-21)	HT4 (Week22-27)	HT5 (Week28-32)	HT6 (Week33-39)
<p>YEAR 10 OCR Engineering Design</p>	<p>Topic description Unit R105 and R106</p> <p>Subject Key piece Know how commercial production methods, quality and legislation impact on the design of products and components</p> <p>Assessment LO1 and mid-term test</p> <p>Literacy focus Oracy-Group discussions Writing- Annotation of designs</p>	<p>Topic description Unit R105 and R106</p> <p>Subject Key piece Be able to research existing products. ACCESS FM and theory</p> <p>Assessment DC1, LO2 and end of term test.</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides</p>	<p>Topic description Unit R105 and R106</p> <p>Subject Key piece: Be able to analyse an existing product through disassembly. Tools and standard components</p> <p>Assessment LO3 and mid-term test</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides</p>	<p>Topic description Unit R105 and R107</p> <p>Subject Key piece Designs and annotation. Design Cycle.</p> <p>Assessment DC2 and LO1, LO2 & End of term test</p> <p>Literacy focus Oracy-Group discussions Writing- Annotation of designs</p>	<p>Topic description Unit R105 and R107</p> <p>Subject Key piece Final designs, annotation and modelling. Sustainability</p> <p>Assessment LO2, LO3 & LO4 and mid-term test</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides</p>	<p>Topic description Unit R105 and R107</p> <p>Subject Key piece Final designs, annotation and modelling. Revision</p> <p>Assessment DC3. LO2, LO3 & LO4. Final exam</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides</p>


<p>YEAR 11 OCR Engineering Design</p>	<p>Topic description Unit R107 and R108</p> <p>Subject Key piece Final design and engineering drawing.</p> <p>Assessment LO3, LO4 and mid-term test.</p> <p>Literacy focus Oracy-Group discussions Writing- Annotation of designs</p>	<p>Topic description Unit R107 and R108</p> <p>Subject Key piece Engineering drawing and Production plan and health and safety</p> <p>Assessment DC1, LO1 &LO2 and end of term test</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides. CLEAAPS forms</p>	<p>Topic description Unit R108</p> <p>Subject Key piece Manufacture of final piece</p> <p>Assessment LO2 & LO3 and mid-term test.</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides</p>	<p>Topic description Unit R108</p> <p>Subject Key piece Manufacture of final piece</p> <p>Assessment DC2. LO2 & LO3 and end of term test.</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides</p>	<p>Topic description- Unit R108</p> <p>Subject Key piece Evaluation of final manufacture</p> <p>Assessment LO4 and end of term test</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides</p>	
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<p>YEAR 10 OCR Engineering Design (TMC/ACR)</p>	<p>Topic description Unit R107 and R105</p> <p>Subject Key piece Designs and annotation</p>	<p>Topic description Unit R107 and R105</p> <p>Subject Key piece Final designs, annotation and modelling</p>	<p>Topic description Unit R107 and R105</p> <p>Subject Key piece Final designs, annotation and modelling</p>	<p>Topic description Unit R107 and R105</p> <p>Subject Key piece Final design and engineering drawing</p>	<p>Topic description Unit R108 and R105</p> <p>Subject Key piece Production plan and health and safety</p>	<p>Topic description Unit R108 and R105</p> <p>Subject Key piece Manufacture of final piece</p>

<p>YEAR 11 OCR Engineering Design (TTM/ACR)</p>	<p>Assessment LO1, LO2 and mid-term test</p> <p>Literacy focus Oracy-Group discussions Writing- Annotation of designs</p> <p>Topic description Unit R108</p> <p>Subject Key piece Manufacture of final piece</p> <p>Assessment LO2 & LO3 and mid-term test.</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides</p>	<p>Assessment DC1, LO1, LO2 & LO4 and end of term test</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides</p> <p>Topic description Unit R108</p> <p>Subject Key piece Evaluation of final manufacture</p> <p>Assessment DC1, LO4 and end of term test</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides</p>	<p>Assessment DC1, LO1, LO2 & LO4 and end of term test</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides</p> <p>Topic description Unit R106</p> <p>Subject Key piece Know how commercial production methods, quality and legislation impact on the design of products and components</p> <p>Assessment LO1 and mid-term test.</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides</p>	<p>Assessment DC2 and LO1, LO2, LO3 & LO4. End of term test</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides</p> <p>Topic description Unit R106</p> <p>Subject Key piece Be able to research existing products</p> <p>Assessment DC2, LO2 and end of term test.</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides</p>	<p>Assessment LO1 & LO2 and mid-term test</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides. CLEAAPS forms</p> <p>Topic description- Unit R106</p> <p>Subject Key piece: Be able to analyse an existing product through disassembly</p> <p>Assessment LO3</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides</p>	<p>Assessment LO2 & LO3 and mid-term test. Final exam</p> <p>Literacy focus Oracy- Group discussions Writing- Note taking and exam starters Reading-Revision and use of revision guides</p>
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<p>YR 10 WJEC Hospitality & Catering ACR & SFB/TTM</p>	<p>Topic description- LO4 - Know how food can cause ill health</p> <p>Subject Key piece: AC 4.1 & 4.2 -Describe food related causes of ill health and the role of the EHO</p> <p>Literacy focus: Oracy- Group discussions Writing- Note taking and exam starters Reading-extended reading. Keywords and terminology</p> <p>Assessment- Mid-term test on AC 4.1 & 4.2</p>	<p>Topic description- LO4 - Know how food can cause ill health</p> <p>Subject Key piece: AC 4.3. 4.4 & 4.5 –food safety legislation and food poisoning</p> <p>Literacy focus: Oracy- Group discussions Writing- Note taking and exam starters Reading-extended reading. Keywords and terminology</p> <p>Assessment- DC1, end of term test on all of LO4. Focussed practical task.</p>	<p>Topic description- LO1 - Understand the environment in which hospitality and catering providers operate</p> <p>Subject Key piece: AC1.1 & 1.2 – knowledge of the H&C industry and job roles</p> <p>Literacy focus- Oracy Oracy- Group discussions Writing- Note taking and exam starters Reading-extended reading. Keywords and terminology</p> <p>Assessment- Mid-term test on AC 1.1 & 1.2</p>	<p>Topic description- LO1 - Understand the environment in which hospitality and catering providers operate</p> <p>Subject Key piece: AC1.3 & 1.4 – Job conditions and affecting factors</p> <p>Literacy focus- Oracy Oracy- Group discussions Writing- Note taking and exam starters Reading-extended reading. Keywords and terminology</p> <p>Assessment- DC2, Mock Exam. Focussed practical task.</p>	<p>Topic description- LO2 - Understand how hospitality and catering provisions operate</p> <p>Subject Key piece: AC2.1, 2.2 & 2.3</p> <p>Literacy focus- Oracy Oracy- Group discussions Writing- Note taking and exam starters Reading-extended reading. Keywords and terminology</p> <p>Assessment- Mid-term test on LO2</p>	<p>Topic description- LO3 - Understand how hospitality and catering provision meets health and safety requirements</p> <p>Subject Key piece: AC 3.1, 3.2 & 3.3</p> <p>Literacy focus- Oracy Oracy- Group discussions Writing- Note taking and exam starters Reading-extended reading. Keywords and terminology</p> <p>Assessment- DC3, Final exam and focussed practical task.</p>
<p>YR11 NCFE Graphics (JC)</p>	<p>Topic description- Unit 3 working to a design Brief</p> <p>Subject Key piece-</p> <p>Pupils will gain skill and knowledge of analysing briefs taking in to account the client’s requirements.</p>	<p>Topic description- Unit 3 working to a design Brief</p> <p>Subject Key piece-</p> <p>Pupils will show skill and an understanding of how they can use resources effectively and how the designs they have</p>	<p>Topic description- Unit 4 Graphic design portfolio</p> <p>Subject Key piece-</p> <p>Pupils will have a knowledge of types of work in the graphic design industry.</p>	<p>Topic description- Unit 4 Graphic design portfolio</p> <p>Subject Key piece-</p> <p>Pupils will develop their understanding of evaluation skills and gain knowledge of how to</p>	<p>Topic description- Revision skills</p> <p>Subject Key piece-</p> <p>Revision A range of knowledge recall sessions. Study skills techniques Past examination papers</p>	<p>Topic description- N/A</p> <p>Revision skills- Preparation and exam technique</p> <p>Assessment- Literacy focus- Oracy- Review of key subject specific language</p>

	<p>Produce and develop ideas in response to briefs.</p> <p>Pupils will develop their technical skills to produce a high level product by hand or digitally.</p> <p>Assessment- Pupils will be assessed against the NCFE VCERT Criteria for that unit.</p> <p>Analysis of the brief that demonstrates their understanding of what is required.</p> <p>Literacy focus- Oracy Key vocabulary linked to subject. In depth knowledge of graphic components.</p> <p>Peer and teacher led discussions using professional language to peer evaluate others work.</p>	<p>produced match the design criteria. Pupils will also develop analytical skills by understanding their strengths and weaknesses.</p> <p>Assessment- Pupils will be assessed against the NCFE VCERT Criteria for that unit.</p> <p>Developed a final idea that matches the requirements of the brief exactly. The application of technical skills to a high level.</p> <p>Pupils can evaluate their own work in terms of strengths and weakness along with their technical skills evaluation.</p> <p>Literacy focus- Oracy Key vocabulary linked to subject. In depth knowledge of graphic components.</p> <p>Peer and teacher led discussions using professional language to peer evaluate others work.</p>	<p>Have an understanding of different presentation methods and how they can link to the jobs. Gain skill and knowledge of how to create a portfolio that presents their best work in a physical format.</p> <p>Assessment- Pupils will be assessed against the NCFE VCERT Criteria for that unit.</p> <p>Pupils can describe entry routes in to the graphics industry.</p> <p>Production of a portfolio showing their technical skills.</p> <p>Literacy focus- Oracy Key vocabulary linked to subject. In depth knowledge of graphic components.</p> <p>Peer and teacher led discussions using professional language to peer evaluate others work.</p>	<p>implement this in to a written report. Pupils will be able to recognise their strengths and weaknesses in the subject area and suggest how to improve in each area.</p> <p>Assessment- Pupils will be assessed against the NCFE VCERT Criteria for that unit.</p> <p>Literacy focus- Oracy Key vocabulary linked to subject. In depth knowledge of graphic components.</p> <p>Peer and teacher led discussions using professional language to peer evaluate others work.</p>	<p>UNIT 3 recall and links to exam.</p> <p>Assessment- Pupils will be assessed against the NCFE VCERT Criteria for that unit. Final Exam set by the board</p> <p>Literacy focus- Oracy</p> <p>Key vocabulary linked to subject. In depth knowledge of graphic components. Peer and teacher led discussions using professional language to peer evaluate others work.</p>	<p>Exam strategy and technique Exam question breakdown extracting key information from the question</p>
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<p>YR 11 WJEC Hospitality & Catering (ACR)</p>	<p>Topic description- Unit 2 Coursework</p> <p>Subject Key piece: AC1.1, 1.2 & 1.3 - function of nutrients in the body and consumer needs Practice dishes.</p> <p>Literacy focus: Oracy- Group discussions Writing- Note taking and extended writing Reading-extended reading and research Keywords and terminology</p> <p>Assessment- Mid-term test. AC1.1, 1.2 & 1.3.</p>	<p>Topic description- Unit 2 Coursework</p> <p>Subject Key piece: AC1.4, 2.1 & 2.2. Cooking methods and planning dishes. Environmental factors. Practice of possible dishes.</p> <p>Literacy focus: Oracy- Group discussions Writing- Note taking and extended writing Reading-extended reading of recipes. Keywords and terminology</p> <p>Assessment- DC1. AC 1.4 and 2.1. Focussed practical task.</p>	<p>Topic description- Unit 2 Coursework</p> <p>Subject Key piece: AC2.3 & 2.4 Customer needs and menu plan. Practice of possible dishes.</p> <p>Literacy focus: Oracy- Group discussions Writing- Note taking and extended writing Reading-extended reading of recipes. Keywords and terminology</p> <p>Assessment- Mid-term test. AC2.3 & 2.4.</p>	<p>Topic description- Unit 2 Coursework</p> <p>Subject Key piece: AC3.1, 3.2, 3.3, 3.4 & 3.5. Production of dishes and health and safety.</p> <p>Literacy focus- Oracy Oracy- Group discussions Writing- Use of production plan. Reading-extended reading. Keywords and terminology</p> <p>Assessment- DC2. Practical work assessed.</p>	<p>Topic description- Unit 2 Coursework</p> <p>Subject Key piece: AC3.1, 3.2, 3.3, 3.4 & 3.5. Production of dishes and health and safety.</p> <p>Literacy focus- Oracy Oracy- Group discussions Writing- Use of production plan. Reading-extended reading. Keywords and terminology</p> <p>Assessment- DC2. Practical work assessed. Re-sit of Unit 1 if required.</p>	<p>.</p>
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	HT1 (Week1-7)	HT2 (Week8-15)	HT3 (Week16-21)	HT4 (Week22-27)	HT5 (Week28-32)	HT6 (Week33-39)
<p>YEAR 10 BTEC Construction In the built environment (TTM)</p>	<p>Topic description Learning aim A: Unit 6 Understand tools, materials and equipment used in carpentry and joinery processes and fabrication in industry</p> <p>A1.1Tools, materials, equipment and information for carpentry and joinery</p> <p>Materials:</p> <ul style="list-style-type: none"> wood and wood composites types of glue types of fixings <p>finishing materials.</p> <p>Topic A.2: Safe use and storage of the carpentry and joinery tools, materials and equipment</p>	<p>Subject Key piece Produce a 300mmx 300mm square practical frame consisting of 4 different traditional wood working joints- Controlled Assessment</p> <p>Assessment</p> <p>Topic B.2: Construction of a timber frame</p> <p>Cutting joints to make a timber frame:</p> <ul style="list-style-type: none"> gluing up a timber frame using sash cramps/G clamps on a level surface <p>checking frame is square (check diagonals)</p> <p>Literacy focus</p> <p>Product review and reflection-Q+A discussion/written product evaluation</p>	<p>Topic description Unit 1 – External exam preparation</p> <p>Learning aim A: Understand the structural performance required for low-rise construction</p> <p>How buildings are designed and constructed, considering:</p> <ul style="list-style-type: none"> strength stability fire resistance thermal insulation sound insulation weather resistance <p>Sustainability.</p> <p>Subject Key piece</p> <p>Assessment</p> <p>Topic reviews- Exam questions Unit 1- Review</p>	<p>Topic description Learning aim B: Explore how sub-structures are constructed</p> <p>Desk-based preconstruction:</p> <ul style="list-style-type: none"> construction health and safety plan method statements and risk assessments Informing the Health and Safety Executive (HSE). <p>Planning the site – a scaled site layout plan indicating:</p> <p>Planning the site – a scaled site layout plan indicating:</p> <ul style="list-style-type: none"> site accommodation welfare facilities storage accommodation 	<p>Topic description Unit 2- A: Understand the work of the construction industry</p> <p>Students to develop a key Understanding of how the construction industry contributes to and impacts on wider society including:</p> <ul style="list-style-type: none"> designing for appearance and aesthetics designing for sustainability designing for functionality <p>Designing for occupant and public safety.</p> <p>Students to understand the contribution to the infrastructure of the built environment in terms of:</p> <ul style="list-style-type: none"> transport networks (road, rail, air and water) drainage 	<p>Topic description Learning aim B: Understand a client’s needs to develop a design brief for a low-rise building</p> <p>Understanding the client’s needs in terms of accommodation:</p> <ul style="list-style-type: none"> rooms size function circulation orientation Floors. <p>Assessment: Subject Key piece To produce a research document outlining the construction industry within the UK.</p> <p>Design a functional low-rise building follow a set Design brief.</p>

	<ul style="list-style-type: none"> • Appropriate practices when working with carpentry and joinery equipment and materials. • Selection and use of personal protection equipment (PPE): high-visibility visor, safety boots, eye protection, dust mask, ear plugs, ear defenders, knee pads. <p>Assessment Practical- Traditional Woodworking joints manufacture.</p> <ul style="list-style-type: none"> • Comb Finger Joints • Dove tail • Half Lap • Bridle Joint • Mortise & Tenon • Dowel • Mitre-Compound/Facia <p>Literacy focus: Key subject specific language Discussion, dialogue- review Q+A practical work- 3RD- Party feedback</p>		<p>key knowledge and understanding manufacturing process, materials of low rise buildings.</p> <p>Literacy focus: Construction key vocabulary activities Understanding specific key exam vocabulary Glossary development</p>	<ul style="list-style-type: none"> • compounds • temporary roads and hard standing • fixed plant <p>Fire precaution measures.</p> <p>Learning aim C: Explore how superstructures are constructed</p> <p>The functions of a wall:</p> <ul style="list-style-type: none"> • to resist heat transfer • to reduce sound transmission • to transfer loads to foundations • to provide shelter • To provide security. <p>Understand how walls are detailed.</p> <p>Different types of construction and their advantages and disadvantages:</p> <ul style="list-style-type: none"> • cavity masonry • timber frame • Structural insulated panels (SIPs). <p>Wall-tie spacing. Internal partitions (timber, metal stud, solid blockwork).</p>	<ul style="list-style-type: none"> • provision of services (gas, electricity, water and telecommunications) within the construction industry <p>Topic A.2: The type of activities undertaken in the construction industry Know the range of work that the construction industry undertakes including:</p> <ul style="list-style-type: none"> • civil engineering, infrastructure works including railways, motorways, roads, bridges, airports, service distribution, sewers, tunnels, sea defences, flood defences, river and harbour works, renewable energies • industrial: factories, workshops, industrial estates, warehousing • residential: private housing, apartments, sheltered housing, social housing <p>Assessment Research task- The role of the construction industry (Research based- Written report)</p> <p>Design assessments meeting the needs of the client</p> <p>Literacy focus</p>	<p>Developing a range of functional designs that meet the specification of the clients requirements- Design drawing task</p> <p>Literacy focus Oracy- Group discussions Q+A process review designs proposals- Key vocabulary starter activities developing specific terminology Design evaluation 3r party feedback from group</p>
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<p>YEAR 11 BTEC Construction In the built environment (TTM)</p>	<p>Topic description Unit 3- A: Understand the effects of forces and temperature changes on materials used in construction</p> <p>Students to develop a clear understanding of the effect of forces on construction materials.</p> <p>Identifying the type and nature of forces:</p> <ul style="list-style-type: none"> gravitational forces forces as loads $F = ma$. <p>Understand the effect of forces on construction materials.</p> <p>Effect of forces:</p> <ul style="list-style-type: none"> compression and tension <p>Shear and bending.</p> <p>Subject Key piece</p> <p>Assessment</p> <p>Mathematical construction problems reviewing material load, resistance, cost, durability</p>	<p>Topic description Learning Aim B: Use mathematical techniques to solve construction problems</p> <p>B.1: Algebraic and graphical methods</p> <p>Rearranging formulae: simple formulae.</p> <ul style="list-style-type: none"> Rearranging formulae: complex formulae. Solving equations. Cartesian coordinates. <p>Subject Key piece Develop key knowledge and understanding of mathematical formulae in relation materials, forces and loads</p> <p>Assessment Controlled assessment- Complete mathematical design problem following set brief</p> <p>Literacy focus Develop knowledge and understanding of key mathematical terminology</p>	<p>Topic description Unit 1 – External exam preparation</p> <p>Students to continue to develop their key knowledge and understanding on key construction topics in preparation for exam x2</p> <p>Materials properties and uses</p> <p>Construction industry manufacturing and fabricating process</p> <p>Health and Safety in the construction industry (HSE)</p> <p>Building methods for specific structures</p> <p>Subject Key piece</p> <p>Key topic review assessments completed BTEC Exam questions</p> <p>Key vocabulary and exam language developed</p> <p>Practice exam questions covering all exam content</p> <p>Walk Talk Mock- Classroom based</p>	<p>Topic description</p> <p>Students will continue to develop their knowledge and understanding of key elements of the construction industry</p> <p>Construction processes</p> <p>Mathematical problems understanding materials load, stress and forces</p> <p>Assessment</p> <p>External set exam 60 minutes under controlled conditions (Sports hall/Conference room)</p>	<p>Topic description</p> <p>Practical construction skills and development KS5 Focus</p> <p>Students to continue to develop practical knowledge and understanding of the key construction trades within the industry in preparation for KS5</p> <ul style="list-style-type: none"> Brick laying Plastering Painting and decoration Basic plumbing Starter electrics <p>Literacy focus Develop knowledge and understanding of key mathematical terminology</p> <p>Assessment Students to complete a range of practical tasks measuring the accuracy, practical skills and knowledge of H+S working in a practical environments</p> <p>KS5 construction focus skills</p> <p>Preparations for final External re-sit x3</p>	<p>Assessment- Practical based construction process and fabrication methods Multiple trades</p> <p>Knowledge Skill base:</p> <p>Students to develop key practical skill sin preparation for KS5 practical courses</p> <p>Literacy focus- Oracy</p> <p>Extended reading reviewing KS5 post 16 courses Q+A discussions reviewing practical skill sets. Practical evaluation</p>
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Solving mathematically problems following set briefs within the construction industry

Literacy focus
Oracy- Group discussions
Writing- Note taking and exam starters
Reading-Revision and use of revision guides

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