

Key Stage 4 Curriculum Overview Tech Award Level 1 & 2 Engineering

Year	Key learning	Term 1 Term 2 Term 3	Term 4	Term 5	Term 6
Year 10	Topic/ Key ideas	Unit 1 Manufacturing Engineering Products This unit introduces learners to interpreting different types of engineering information in order to plan how to produce engineered products. Learners will develop the skills needed to work safely with a range of engineering processes, equipment and tools. With these skills, learners will acquire knowledge of a range of engineered processes that are fit for purpose for producing an end product. Finally, learners will learn how to test the final product against the information given in the technical information to ensure that they have met the given standards of the assigned brief	Solving Engineering Problems This unit introduces learners to how engineering design is impacted by a range of external considerations such as the properties of materials, both traditional and smart developing materials, as well as methods of manufacturing in both the traditional and new and emerging technologies. The unit also gives the learner the opportunity to explore how engineering achievements have had an impact on modern day life at home, work and in society in general. Finally, the unit allows learners to develop understanding and skills to assist them in the solving of engineering problems		Unit 2 Designing Engineering Products This unit allows learners to experience and gain understanding of how an engineered product is adapted and improved over time. The unit is linked to the engineering product produced in Unit 1 of the qualification. It will require the learner to work to a given brief to adapt an existing component, element or part of the engineering outcome that they produced for Unit 1.
	Learning objectives	1.1 Understanding engineering drawings 1.2 Planning operations 1.3 Using engineering tools and equipment 1.4 Implementing engineering processes	3.1 Understanding the effects of engineering achievements	3.2 Understanding properties of engineering materials	2.1 Understanding function and meeting requirements 2.2 Proposing design solutions 2.3 Communicating an engineered design solution 2.4 Solving applied engineering problems
	Key Assessment and when?	This unit is internally assessed through controlled assessment. Number of marks: 80/200 Format: The assignment brief will include a scenario and several tasks issued to centres in a candidate assessment pack via the WJEC Secure Website. Tasks are not intended to change for the lifetime of the qualification. This assessment contributes 40% to the overall qualification grade.	Format: short and extended answer questions based around applied situations. Learners will be required to use stimulus material to respond to questions. This unit's assessment will require learners to draw on knowledge and understanding from Units 1 and 2.	Format: short and extended answer questions based around applied situations. Learners will be required to use stimulus material to respond to questions. This unit's assessment will require learners to draw on knowledge and understanding from Units 1 and 2.	This unit is internally assessed through controlled assessment. Duration: 10 hours Number of marks: 40/200 Format: The assignment brief will include a scenario and several tasks issued to centres in a candidate assessment pack. Contributes 20% to the overall qualification grade.
	Key homework and resources to support learning	Student resources located in Teams Homework to reinforce theory Homework related to research for practical element	Student resources located in Teams Homework to reinforce theory	Student resources located in Teams Homework to reinforce theory	Student resources located in Teams Homework to reinforce theory Homework related to research for practical element
		Term 1 Term 2	Term 3	Term 4	Term 5
Year 11	Topic/ Key ideas	Unit 2 Designing Engineering Products	Unit 2 Designing Engineering Products		

		This unit allows learners to experience and gain understanding of how an engineered product is adapted and improved over time. The unit is linked to the engineering product produced in Unit 1 of the qualification. It will require the learner to work to a given brief to adapt an existing component, element or part of the engineering outcome that they produced for Unit 1.	This unit allows learners to experience and gain understanding of how an engineered product is adapted and improved over time. The unit is linked to the engineering product produced in Unit 1 of the qualification. It will require the learner to work to a given brief to adapt an existing component, element or part of the engineering outcome that they produced for Unit 1.			
Learning objectives	<p>2.1 Understanding function and meeting requirements</p> <p>2.2 Proposing design solutions</p> <p>2.3 Communicating an engineered design solution</p> <p>2.4 Solving applied engineering problems</p>	3.3 Understanding methods of preparation, forming, joining and finishing of engineering materials	3.4 Solving engineering problems	Revision of 3.1 – 3.4		
Key Assessment and when?	<p>This unit is internally assessed through controlled assessment.</p> <p>Duration: 10 hours Number of marks: 40/200</p> <p>Format: The assignment brief will include a scenario and several tasks issued to centres in a candidate assessment pack.</p> <p>Contributes 20% to the overall qualification grade.</p>	<p>Theory tested through lesson and Homework.</p> <p>Practice Papers and questions</p>	<p>Theory tested through lesson and Homework.</p> <p>Practice Papers and questions</p>	<p>Theory tested through lesson and Homework.</p> <p>Practice Papers and questions</p>		
Key homework and resources to support learning	<p>Student resources located in Teams</p> <p>Homework to reinforce theory</p> <p>Homework related to research for practical element</p>	<p>Student resources located in Teams</p> <p>Homework to reinforce theory</p>	<p>Student resources located in Teams</p> <p>Homework to reinforce theory</p> <p>Practice Papers</p>	<p>Student resources located in Teams</p> <p>Homework to reinforce theory</p> <p>Practice Papers</p>		