Atherton State High School
On Eagles' Wings

Engineering Studies (Applied)
Learning & Assessment Overview 2021

Year 11				Year 12			
ESK Unit 1 **The engineering industry**		**ESK Unit 2** **Communication and teamwork in engineering enterprises**		**ESK Unit 3** **Welding and fabrication enterprise**		**ESK Unit 4** **Working cooperatively in engineering workplaces**	
The unit introduces students to the industry practices and production processes associated with manufacturing enterprises in the engineering industry including safety and product quality. Students will individually manufacture a folding tool box as specified on a basic drawing. The toolbox will incorporate cantilevers, hinged lids and resistance welding. Students will be required to keep an individual annotated production journal with sketches and photographs. They will also undertake an examination, with both theory and practical components, on OH&S, sheet metal and welding safety and measurements.		This unit introduces students to the industry practices associated with tradespeople who work in teams using production skills and procedures to create quality products from specifications. Students will undertake Oxy Acetylene welding exercises to demonstrate various types of welds and then the assembly/manufacture of two Angle brackets from a detailed working drawing. As team members, students will then manufacture a Hose Reel from specifications using a simple production line. Students will have the use of the scrollwork and ring rolling machine. The hose reel is to be Oxy welded together. Students will keep an individual annotated production journal with weekly log, costing and procedure lists, sketches and/or photographs.		This unit builds on prior learning of industry practices and production processes used in the safe creation of quality products. Students will individually manufacture a Machine Vice from predefined specifications. They will maintain an individual annotated production journal with weekly log, costing and procedure lists, sketches and/or photographs. Students will also manufacture a Nut Cracker to specification with various types of welds using MMAW and GMAW.		This unit teaches students to be effective team members focused on the safe and efficient creation of quality products. Students will work in teams to manufacture a Portable BBQ to predefined specifications. The students will have the use of large and small MIG welders as well as MMAW and Oxy-acetylene welding equipment. They will maintain an individual annotated production journal with weekly log, costing and procedure lists, sketches and/or photographs. Students will also manufacture a Candle Wall Sconce with a combination of scrollwork using ring rolling machine, craft equipment and welding using GMAW and OAW.	
Unit Duration		**Unit Duration**		**Unit Duration**		**Unit Duration**	
Yr 11 Weeks 1 - 16 (16 weeks)		Yr 11 Weeks 17 - 32 (16 weeks)		Yr 12 Weeks 1 - 13 (13 weeks)		Yr 12 Weeks 14 - 33 (18 weeks)	
Assessment Task/s		**Assessment Task/s**		**Assessment Task/s**		**Assessment Task/s**	
ESK 11.01.01 **Examination** *Conditions:* 60-90 minutes, short responses 50-150 words per item, supervised in class *Issued:* Week 5 *Due:* Week 5	**ESK 11.01.02** **Cantilever Toolbox Project** *Conditions:* 45 hours, product component supervised in class, multimodal component 6 A4 pages or equivalent *Issued:* Week 6 *Due:* Cutting & Procedure List Week 6 Finished project & completed Log Book Week 16	**ESK 11.02.01** **Welding Practical demonstration - two Angle brackets** *Conditions:* 15 hours, supervised in class *Issued:* Week 17 *Due:* Week 20	**ESK 11.02.02** **Hose Reel Project** *Conditions:* 40 hours, product component supervised in class, multimodal component 6 A4 pages or equivalent *Issued:* Week 21 *Due:* Cutting & Procedure List Week 21 Finished project & completed Log Book Week 33	**ESK 12.03.01** **Machine Vice Project** *Conditions:* 45 hours, product component supervised in class, multimodal component 8 A4 pages or equivalent *Issued:* Week 1 *Due:* Cutting & Procedure List Week 2 Finished project & completed Log Book Week 10	**ESK 12.03.02** **Nut Cracker Practical demonstration** *Conditions:* 10 hours, supervised in class *Issued:* Week 11 *Due:* Week 13	**ESK 12.04.01** **Portable BBQ Project** *Conditions:* 45 hours, product component supervised in class, multimodal component 8 A4 pages or equivalent *Issued:* Week 14 *Due:* Cutting & Procedure List Week 16 Finished project & completed Log Book Week 29	**ESK 12.04.02** **Practical demonstration - Candle Wall Sconce** *Conditions:* 10 hours, supervised in class *Issued:* Week 30 *Due:* Week 33