**Sample Assessment Outline**

Engineering Studies

General Year 11

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Sample assessment outline

Engineering Studies – General Year 11

Unit 1 and Unit 2

| **Assessment type****and weighting** | Assessmenttask weighting | **When** | **Assessment task** |
| --- | --- | --- | --- |
| Design20% | 2% | Term 1Weeks 1–2 | **Task 1:** Design project one Engineering design process* determine design brief
* investigate and develop ideas
* use research skills to identify and describe existing solutions or similar products
 |
| 3% | Term 1Weeks 3–5 | **Task 2 Part A:** Investigate materials and components* research materials and components suitable for the development of a solution
* describe materials and components relevant to the design brief

Classify types of materials* metals (pure), alloys (ferrous), alloys (non-ferrous), polymers, composites
 |
| 3% | Term 1Weeks 6–8 | **Task 3:** Develop a solution for project one* use specialist field content and principles
* complete annotated concept drawings
* annotate pictorial drawings of design ideas
* annotate orthographic drawings of design ideas
* select materials and components
* describe the chosen option
 |
| 2% | Term 2Week 9–10 | **Task 7:** Evaluate completed project one* meet the requirements of the design brief
* record function and finish of the project
* write a report on, and use photographs of, completed project
 |
| 3% | Term 3Weeks 1–5 | **Task 8:** Design project two* determine design brief
* investigate and develop ideas
* investigate materials and components
	+ core materials – physical properties of materials
	+ research specialist field and physical properties of materials and components suitable for the development of a solution
* research efficiency of selected forms of energy
 |
|  | 5% | Term 3Weeks 6–10 | **Task 10:** Develop a solution for project two* through annotated pictorial drawings of ideas to a final drawn proposal
* annotated orthographic concept drawings, either CAD or hand drawn
* annotated pictorial drawings of design ideas
* annotated orthographic drawings of design ideas
* features of the chosen option
 |
| 2% | Term 4Week 8 | **Task 13:** Evaluate completed project two* record testing the requirements of the design brief
* record the function and finish of the project
* write a report on, and present photographs, of the completed product
 |
| Production70% | 5% | Term 1Weeks 9–10 | **Task 4:** Pre-production of proposed project one* calculations relevant to design brief
	+ use fundamental engineering calculations for:
		- dimensional
		- perimeter
		- surface area
		- quantity estimates
* present specifications for the selected solution
	+ use specialist field content and principles
* working drawings – detailed orthogonal drawings
* list of materials, parts and components
* production plan on a timeline
 |
| 5% | Term 2Weeks 1–2 | **Task 5:** Pre-production skillsDevelop production skills, applying safe work practices with hand and machine skills. Model or prototype using selected production processes  |
| 25% | Term 2Weeks 2–7 | **Task 6:** Manufacture of proposed project one * use prepared production plan, materials and available equipment, and record progress in a design portfolio
* manufacture the solution by selecting and using appropriate tools and machines, and following safe work practices
* use timelines to construct and test the solution
 |
| 5% | Term 4Weeks 1–3 | **Task 11:** Pre-production of proposed project two* calculations relevant to design brief of:
	+ volume
	+ density
	+ quantity estimates
* specialist field content, principles, and specifications for the selected solution
* working drawings – detailed orthogonal drawings
* lists of materials, parts and components
* develop production plan on a timeline
 |
| 30% | Term 4 Weeks 4–7 | **Task 12:** Manufacture of proposed project two* use prepared production plan, materials and available equipment, and record progress in design portfolio
* Construct solution through selection and use of appropriate tools and machines, and following safe work practices
 |
| Response10% | 5% | Term 1Weeks 4–5 | **Task 2 Part B:** Research the definitions of energy, power and work* research forms of energy, and determine a form of energy suitable for the project
 |
| 5% | Term 3Weeks 3–5 | **Task 9:** Research and report on automation and technical innovation * define the terms automation and technical innovation and give examples of each in the engineering context
* describe the advantages and disadvantages for society, business and the environment of automation and innovation in the engineering context
 |
| Total | 100% |  |  |  |