**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** | Assessment  task weighting | **When** | **Assessment task** | |
| --- | --- | --- | --- | --- |
| Design  20% | 2% | Term 1  Weeks 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 1  Weeks 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 1  Weeks 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 2  Week 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 3  Weeks 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 3  Weeks 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 4  Week 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 | |
| Production  70% | 5% | Term 1  Weeks 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 2  Weeks 1–2 | **Task 5:** Pre-production skills  Develop production skills, applying safe work practices with hand and machine skills. Model or prototype using selected production processes | |
| 25% | Term 2  Weeks 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 4  Weeks 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 | |
| Response  10% | 5% | Term 1  Weeks 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 3  Weeks 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% |  |  |  |