



Government of **Western Australia**
School Curriculum and Standards Authority



ENGINEERING STUDIES

GENERAL COURSE

Externally set task

Sample 2016

Note: This Externally set task sample is based on the following content from Unit 3 of the General Year 12 syllabus.

Engineering design process

Investigating

- develop a design brief
- use research skills to identify existing solutions/products
- describe and analyse existing solutions/products
- research and describe materials and components relevant to the design brief
- consider forms of energy supplies

Devising

- produce annotated pictorial drawings of design ideas
- produce annotated orthographic drawings of design ideas
- analyse the chosen option to be used as the solution

Producing

- present specifications for the selected solution
 - dimensioned pictorial and orthographic drawings
 - orthographic drawings and sketches are 3rd angle projections and include lines (outlines, hidden detail and centerlines) and dimensioning (linear, radii, circles, holes)
 - materials selected
 - parts lists
 - costing of prototype or working model
- develop and use a timeline to construct and test the solution
- construct solutions by selecting and using appropriate tools and machines, following safe work practices
- test the solution for correct function and document, using checklists and test data

Evaluating

- evaluate the final solution in terms of
 - meeting the requirements of the design brief
 - function and finish of the product
 - variations and changes to the design

Engineering in society

Energy

- define and describe relationships between energy, power, and work

In future years, this information will be provided late in Term 3 of the year prior to the conduct of the Externally set task. This will enable teachers to tailor their teaching and learning program to ensure that the content is delivered prior to the students undertaking the task in Term 2 of Year 12.

Copyright

© School Curriculum and Standards Authority, 2014

This document – apart from any third party copyright material contained in it – may be freely copied, or communicated on an intranet, for non-commercial purposes in educational institutions, provided that the School Curriculum and Standards Authority is acknowledged as the copyright owner, and that the Authority's moral rights are not infringed.

Copying or communication for any other purpose can be done only within the terms of the *Copyright Act 1968* or with prior written permission of the School Curriculum and Standards Authority. Copying or communication of any third party copyright material can be done only within the terms of the *Copyright Act 1968* or with permission of the copyright owners.

Any content in this document that has been derived from the Australian Curriculum may be used under the terms of the [Creative Commons Attribution-NonCommercial 3.0 Australia licence](#)

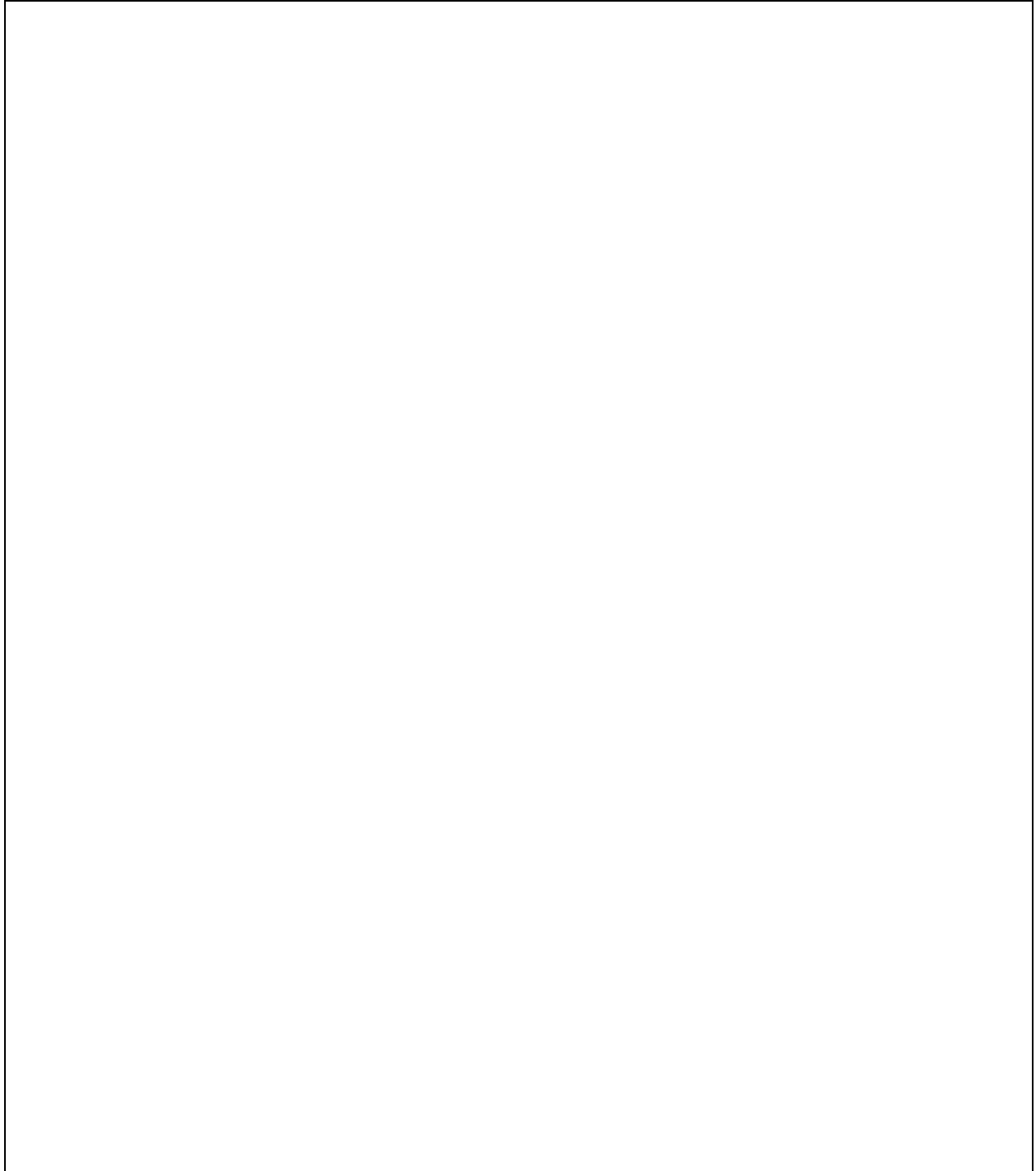
Disclaimer

Any resources such as texts, websites and so on that may be referred to in this document are provided as examples of resources that teachers can use to support their learning programs. Their inclusion does not imply that they are mandatory or that they are the only resources relevant to the course.

2. Describe, providing examples, each step in how you processed through from the devising phase to the production phase. **(12 marks)**

In support of your description:

- produce annotated pictorial drawings of design ideas
- produce annotated orthographic drawings of design ideas
- analyse the chosen option to be used as the solution

A large empty rectangular box with a thin black border, intended for the student to provide annotated drawings and analysis as part of their response to question 2.

Question 2 continued



