**Assessment Type 3: Resource Study (30%)**

STAGE 2 DESIGN, TECHNOLOGY & ENGINEERING

RESOURCE STUDY AT3

Students undertake one resource study comprising two parts.

**Part One: Resource Investigation**

Students **investigate and analyse** the functional characteristics and properties of two or more materials or components that they are considering for use in the creation of their solution. They report on how their research into and testing of the functional characteristics and properties of these materials or components will affect the student selection for use in the realisation of their solution.

**Assessment**

The specific features of the assessment design criteria assessed in this part are:

Investigation and Analysis (I1)

Design Development and Planning (D2)

**Part Two: Issue Exploration**

Students **investigate and analyse ethical, legal, economic, and/or sustainability** issues related to their solution.

The specific features of the assessment design criteria assessed in this part are:

Investigation and Analysis (I2)

Evaluation (E1)

The resource study should be presented in written or multimodal form. It should be up to a maximum of 2000 words if written or the equivalent in multimodal form (where 1000 words is equivalent to 6 minutes).

The following specific features of the assessment design criteria for this subject are assessed in the resource study:

Investigation and Analysis (I1) (I2)

Design Development and Planning (D2)

Evaluation (E1).

Performance Standards for Stage 2 Design, Technology, and Engineering

Resource Study

| - | Investigation and Analysis | Design Development and Planning | Production | Evaluation |
| --- | --- | --- | --- | --- |
| A | Comprehensive and insightful analysis of the design features of products, processes, materials, systems, and/or production techniques.Purposeful research and critical analysis of ethical, legal, economic, and/or sustainability issues. | Insightful and comprehensive communication of design concepts using relevant technical language and visual representations.Insightful and thorough planning, development, testing, and validation of design concepts and procedures. | Highly proficient application of skills, processes, procedures, and techniques to create a solution.Comprehensive development of solutions to technical problems that arise during the solution realisation. | Comprehensive and insightful evaluation of the solution features, realisation process, and/or response to issues. |
| B | Thoughtful and well-considered analysis of the design features of products, processes, materials, systems, and/or production techniques.Detailed research and well-considered analysis of ethical, legal, economic, and/or sustainability issues. | Thoughtful and well-considered communication of design concepts, using relevant technical language and visual representations.Well-considered planning, development, testing, and validation of design concepts and procedures. | Proficient application of skills, processes, procedures, and techniques to create a solution.Thoughtful development of solutions to technical problems that arise during the solution realisation. | Well-informed and detailed evaluation of the solution features, realisation process, and/or response to issues. |
| C | Considered analysis of the design features of products, processes, materials, systems, and/or production techniques.Research and some analysis of ethical, legal, economic, and/or sustainability issues. | Clear communication of design concepts, using technical language and some visual representations.Competent planning, development, testing, and validation of some design concepts and procedures. | Competent application of skills, processes, procedures, and techniques to create a solution.Development of solutions to technical problems that arise during the solution realisation. | Considered evaluation of the solution features, realisation process, and/or response to issues. |
| D | Identification of the design features of products, processes, materials, systems, and/or production techniques.Some description of information about ethical, legal, economic, and/or sustainability issues. | Basic communication of design concepts, using some technical language.Some planning and development of design concepts and/or procedures. | Basic application of some skills, processes, procedures, and techniques to create a solution.Some endeavour to develop solutions to technical problems that arise during the solution realisation. | Some description of the solution features, realisation process, and/or response to issues. |
| E | Attempted identification of the design features of products, processes, materials, systems, and/or production techniques.Some accessing of information about ethical, legal, economic, and/or sustainability issues. | Superficial and simplistic communication of design concepts.Limited use of information to plan design concepts. | Limited application of emerging skills.Attempted development of a solution to a technical problem. | Emerging recognition of the solution features, realisation process, and/or response to issues. |