



HOLY ROOD RC
HIGH SCHOOL

**COURSE PATHWAY
INFORMATION**
SESSION 2025-26

**DESIGN,
ENGINEERING &
TECHNOLOGY**

Love * Forgiveness * Justice * Compassion



DESIGN, ENGINEERING & TECHNOLOGY





DESIGN & MANUFACTURE

HIGHER

SQA COURSE UNITS

- Design
- Materials and Manufacture

COURSE ENTRY REQUIREMENTS

Pupils would be expected to have attained:

- Design and Manufacture at National 5
- Art and Design at National 5 or Higher

SKILLS DEVELOPED ON THIS COURSE

- Research and evaluation.
- A range of graphics skills and techniques.
- Modelling and manufacturing.
- An understanding of the commercial implications of Designing and Manufacturing processes and their impact on society

COURSE INFORMATION

Design - pupils will gain the skills needed in order to progress from an initial brief to design proposals. They will develop experience in evaluating proposals in order to refine and improve them.

Materials and manufacture- Pupils will gain the skills needed in order to plan and produce models. They will also develop a strong appreciation of industrial techniques and processes.

ASSESSMENT

To achieve the course award at Higher Grade level the pupils have to pass assessments for all of the SQA units along with the course assignment and the external exam paper.

CAREER PATHWAY

Successful completion of this course could support progression towards:

- College/University courses in product design, engineering, architecture, automotive design etc.
- Employment in areas such as design offices, architectural firms, engineering companies etc.

DESIGN,
ENGINEERING &
TECHNOLOGY

For further information about this course please contact:

Curriculum Leader: Miss K Grant
Teaching Staff: DET
S5/6 Year Head



GRAPHIC COMMUNICATION

HIGHER

SQA COURSE UNITS

- 2D Graphic Communication
- 3D Graphic Communication

COURSE ENTRY REQUIREMENTS

Pupils would be expected to have attained:

- National 5 level in Graphic Communications
- National 5 level or Higher in Art and Design

SKILLS DEVELOPED ON THIS COURSE

- Creativity in the production of graphic communications to produce visual impact to meet a specified purpose.
- Evaluating the effectiveness of graphics in communicating and meeting their purpose.
- Understanding of graphic communication standards protocols and conventions where these can apply.
- Understanding of the impact of graphic communication technologies on our environment and society.

COURSE INFORMATION

The course will give pupils the opportunity to work in a real-life way by solving a range of different graphics briefs.

2D Graphic Communication

Pupils develop their creativity and skills by initiating, developing and communicating ideas using 2D graphic techniques.

3D Graphic Communication

Pupils will develop spatial awareness by initiating, developing and communicating a range of 3D techniques

Throughout the 2D and 3D units, pupils will develop an understanding of how graphic communication technologies impact on our environment and society.

ASSESSMENT

To achieve the course award, pupils will have to pass assessments for all the SQA units along with an assignment and a final Exam. Each element is worth 50%.

CAREER PATHWAY

Successful completion of this course could support progression towards:

- College/University courses
- Employment in areas such as Engineering, Design and Architecture

DESIGN, ENGINEERING &
TECHNOLOGY

For further information about this course please contact:

Curriculum Leader: Miss K Grant
Teaching Staff: DET
S5/6 Year Head



DESIGN & MANUFACTURE

NATIONAL 5

SQA COURSE UNITS

- Design
- Materials and Manufacture

NAT 5 – COURSE ENTRY REQUIREMENTS

- National 4

SKILLS DEVELOPED ON THIS COURSE

- Skills in Designing
- Skills in the manufacturing of prototypes.
- Knowledge and understanding of manufacturing, materials and processes
- An understanding of the impact of Design and Manufacturing on the environment and society.

COURSE INFORMATION

Design- Pupils will gain knowledge of the design process from initial Brief to completed Design proposal through the completion of folio work.

Materials and Manufacture- Pupils will gain the practical skills needed to manufacture their ideas along with an understanding of real-life manufacturing techniques and processes.

ASSESSMENT

NATIONAL 5 – to pass the Course award at National 5 level pupils will have to complete all units plus the course assessment. The course assessment consists of a Design and Manufacturing assignment and an external exam. 45% of the marks for the exam, 55% for the assignment (30% for design folio, and 25% for manufactured item).

CAREER PATHWAY

Successful completion of the course could support progression towards:

- Higher grade Design and Manufacture.
- College/University courses in product design, engineering, architecture, automotive design etc.
- Employment in areas such as design offices, architectural firms, engineering companies etc.

DESIGN,
ENGINEERING &
TECHNOLOGY

For further information about this course please contact:

Curriculum Leader: Miss K Grant
Teaching Staff: DET
S5/6 Year Head



ENGINEERING SKILLS

NATIONAL 5

SQA COURSE UNITS

- Design and Manufacture
- Mechanical and Fabrication
- Electrical and Electronic
- Maintenance
- Employability

COURSE ENTRY REQUIREMENTS

Pupils would be expected to have attained:

- Engineering Skills National 4
- Practical Wood Working Skills National 4 or 5
- National 4 or 5 Design Manufacture

SKILLS DEVELOPED ON THIS COURSE

- Communication
- Numeracy
- Information Technology
- Problem Solving
- Working With Others
- Employability

COURSE INFORMATION

The content of the course focuses on basic hand skills across the disciplines of mechanical, fabrication, electrical, electronic, control, maintenance and manufacture. Central to the course are generic employability skills valued by employers in the engineering sector. The skills are developed in each of the four units and are assessed at least twice. These add value to the development of the basic vocational skills.

ASSESSMENT

Pupils can readily gather evidence for assessment during their work in these practical skills units. Reviewing progress with engineering employability skills and attitudes will take place in the practical context of work in the different activities. Pupils will complete a review in the different practical activities attached to each unit, requiring a total of four reviews throughout the duration of the Course. Assessment of interpreting drawings and specifications and materials should also take place during the work in skills specific practical units.

CAREER PATHWAY

Successful completion of this course could support progression towards:

- College/University courses
- Employment in areas of various engineering disciplines

DESIGN,
ENGINEERING &
TECHNOLOGY

For further information about this course please contact:

Curriculum Leader: Miss K Grant
Teaching Staff: DET
S5/6 Year Head



GRAPHIC COMMUNICATION

NATIONAL 4 NATIONAL 5

SQA COURSE UNITS

- 2D Graphic Communication
- 3D Graphic Communication
- Value Added Project (N4 only)

COURSE ENTRY REQUIREMENTS

Pupils would be expected to have attained:

N5 Graphic Communication:

- N4 Graphic Communication

N4 Graphic Communication:

- S1 - S3 BGE

SKILLS DEVELOPED ON THIS COURSE

- Visual literacy by interpreting 2D and 3D graphic drawings.
- Spatial awareness in 2D and 3D graphic situations.
- Knowledge of standard graphic communication equipment, and software.
- Knowledge of graphic communication standards and protocols.
- Knowledge of a range of computer aided graphics techniques and practice.
- Knowledge of colour, illustration and presentation technique.

COURSE INFORMATION

Graphic Communication is an exciting course that combines both 2D and 3D graphic communication techniques. It allows pupils to use CAD modelling and solve real life challenges. Pupils will also learn about graphic design rules and how these can be used to create effective graphic communication within a variety of different areas. The course will also allow pupils to develop your understanding of the different standards that are used in industry.

ASSESSMENT

N5 Graphic Communication is assessed by 67% external exam and 33% from internal course assignment task. N4 Graphic Communication is continuous assessment of the different units.

CAREER PATHWAY

Successful completion of this course could support progression towards:

- At National 4 level will lead to National 5
- At National 5 level will lead to Higher Graphic Communication and advanced higher graphic communication
- College/University courses in related subjects
- Employment in areas such as Engineering, Architecture and Design (many different fields)

DESIGN, ENGINEERING &
TECHNOLOGY

For further information about this course please contact:

Curriculum Leader: Miss K Grant
Teaching Staff: DET
S5/6 Year Head



METALWORK SKILLS

NATIONAL 5

SQA COURSE UNITS

- Bench Skills
- Machine Processes
- Fabrication and Thermal Joining

COURSE ENTRY REQUIREMENTS

- Engineering Skills National 4
- Practical Wood Working Skills National 4 or 5
- National 4 or 5 Design Manufacture

SKILLS DEVELOPED ON THIS COURSE

- Communication
- Numeracy
- Information Technology
- Problem Solving
- Working With Others
- Employability

COURSE INFORMATION

This course requires pupils to gain knowledge in several aspects of metal work while working through both practical tasks and written assignments.

The content of the course covers health and safety, reading and interpreting drawings, sustainability, workshop tools all while manufacturing metal products within very tight tolerances. This course will also introduce pupils to the forge and heat treatment of metals as well as thermal joining techniques.

ASSESSMENT

Pupils are assessed continuously on their adherence to health and safety through each of the projects.

Unit Assessment – Each practical model is marked in line with the SQA standards

Course Assessment - consists of an SQA issued Practical model worth 70% of the overall mark as well as a written exam paper for the other 30%.

CAREER PATHWAY

Successful completion of this course could support progression towards:

- College/University courses
- Employment in areas of various engineering disciplines

**DESIGN,
ENGINEERING
&
TECHNOLOGY**

For further information about this course please contact:

Curriculum Leader: Miss K Grant

Teaching Staff: DET

S5/6 Year Head

DESIGN, ENGINEERING & TECHNOLOGY

