Stowmarket High School

Engineering

Learning Journey

Stowmarket High School
THE FUTURE · OUR BUSINESS

inspirational futures

Employability Skills taught in Engineering:

Aiming High	Staying Positive
Listening	Creativity
Presenting	Independence
Resilience	Risk Taking
Experimenting	Problem Solving
Communication	Precision
Technical Skills	

GCSE Exams!

- A levels
- Apprenticeships
- Vocational & Applied Diplomas

Year 11

Unit 2 – Producing Engineering Products

- Revision Study Program
- Assembly on components – Photos & Evaluations
- Reflecting on Manufacturing Processes
- Time Management (Gantt Chart)
- Bill of Parts / Jobs List
- Practical Task (CAD / CAM)
- Practical Task (Workshop / Hand Tools)
- Practical Task (Workshop / machinery)
- Introduced to Unit 2
- Evaluations & Proposals
- 3D CAD Development
- CAD Orthographic
- Design Development
- Design Comparison (Weight & Rate)
- Initial Design Ideas

Year 10

Unit 1 – Engineering Design

- Evaluation of product & Project
- Construction of coat hook rack & peg
- Assembly methods (permanent & temporary)
- CAD / CAM development & manufacture
- Introduced to Design Brief
- Initial Research
- Product Analysis / Functions & Features
- Materials & Components Research
- Introduction to WEEE
- Specification
- Introduced to blow moulding process
- Introduced to rotational moulding process
- Introduced to vacuum forming process
- Casting pour process
- Finishing processes for project
- Evaluating product & project.
- Introduced to Injection moulding process
- Introduced to milling process
- Introduced to spinning process
- Introduced to pressing process
- Introduced to extrusion process
- Introduced to forging process

Casting Project (Manufacturing Processes)

Coat Hook Project (Centre Lathe)

- Backboard design & Development
- Time management & production plans
- Centre lathe turning operations
- Introduction to issues relating to sustainability
- Introduction to centre lathe
- Working to a plan / drawing
- Design & development of casting mould
- Introduced to casting process
- Development of metal working practical skills
- Introduction to casting project & requirements

Year 9

Structures / Bridge Building Project

- Introduction to electronic components
- Wood Finishing Processes
- Metal assembly processes (using taps & dies)
- Metal finishing techniques & processes
- Understanding Material Properties
- Introduction to structure types (frame & shell)
- Design & development of bridge ideas
- Construction of bridge structures
- Evaluations of testing observations
- CAD 3D Modelling Skills Development
- Introduction to material testing methods
- Introduction to bridge types
- Creating an orthographic / working plan
- Testing bridges to destruction

Technical Drawing & CAD Skills

- Introduction to SolidWorks (CAD)
- Development of orthographic drawing skills
- Reintroduction to orthographic drawing
- Development of isometric drawing skills
- Reintroduction to isometric drawing

Angle Poised Lamp Project

- Development of CAD / CAM skills (2D Design)
- Development of wood working practical skills
- Development of metal working practical skills
- Interpreting Engineering Drawings
- Developing creative and analytical skills through prototyping
- Investigating Polymers (properties & applications)
- Investigating Metals (properties & applications)
- Introduction to workshop tools & Equipment

welcome