

# Resistant Materials Learning Journey at TECC

- Careers**
- Jewellery and Silversmithing
  - Engineering
  - Mechanical Engineering
  - Furniture Design and Make
  - Computer Games Design
  - Space Technologies
- T- Levels e.g.**  
BUILDING SERVICES  
ENGINEERING FOR  
CONSTRUCTION
- A level**
- Design and Technology
  - Engineering
- Vocational VTQS e.g.**
- Construction
  - Engineering

## NEA

- Section A:** Identifying & investigating design possibilities (10 marks)
- Section B:** Producing a design brief & specification (10 marks)
- Section C:** Generating design ideas (20 marks)
- Section D:** Developing design ideas (20 marks)
- Section E:** Realising design ideas (20 marks)
- Section F:** Analysing & evaluating (20 marks)



**REVISION**

**Final Exam**

**Post 16**

Year 11 Mock Exam  
November

NEA starts June  
Year 10  
Mock Exam



**Year 11**

**Unit 3 - Section A and C**

- Designers and Companies
- Mechanisms
- Programmable components

- Unit 1 - Section B Specialist – Bi – Plane**
- selection of materials or components
  - forces and stresses
  - ecological and social footprint
  - sources and origins
  - using and working with materials
  - stock forms, types and sizes
  - scales of production
  - specialist techniques and processes
  - surface treatments and finishes



**Unit 2 Section A – Core Materials – Storage**

- Material properties
- Modern materials
- Composite materials
- Papers and boards
- Polymers
- Textiles
- Orthographic Drawing
- Tolerances
- Material management
- Use appropriate marking out methods, jig, templates and formers
- 2D and 3D CAD



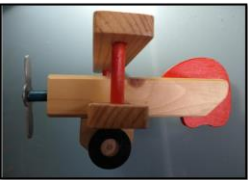
**SketchUp**

**Mock NEA Sustainable Lighting**

- Research
- Specification and brief
- Design Ideas
- Modelling
- Cutting lists and manufacture of prototype.



**Year 10**



**Year 9 – Sustainable Game**

- Designing for a target market
- Analysing a context
- 6RS and sustainable design
- Using CAD to design a themed graphic
- Making prototypes using papers and board
- Learn how to make a range of wood joints
- Efficient use of materials
- Social and moral issues
- Advanced modelling skills
- Testing and evaluating



**End of unit written assessment**

**2D DESIGN**



**Year 9**

**End of unit written assessment**

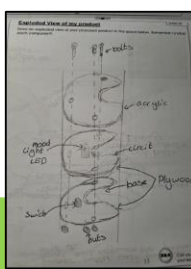
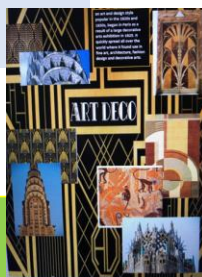
**Year 8 – 20th Century Mood Light**

- Analyse the work of past and present professionals and others to develop and broaden their understanding
- Using CAD to produce components
- Identify Electronic Systems
- Soldering
- To be able to create a range of design ideas using their research
- How to analyse existing products effectively
- Writing design specifications
- Using standard components
- Combining a range of materials to make a functioning product using a range of tools and processes
- Modelling ideas
- Exploded Drawing

**Year 8**



**End of unit written assessment**



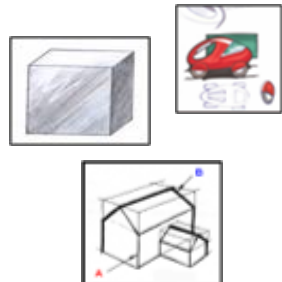
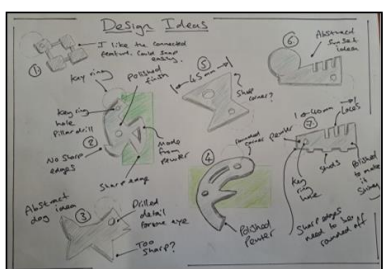
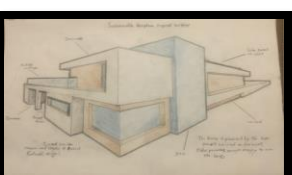
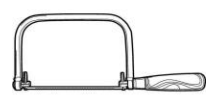
**2D DESIGN**

**Year 7 – Graphical Communication**

- 1-point perspective
- 2-point perspective
- Isometric drawing
- Freehand Sketching
- Rendering and enhancement techniques

**2D DESIGN**

**Year 7**



**Year 7 – Introduction to the workshop**

- By able to identify properties and uses of different metals
- Working with metal
- Developing skills with basic hand tools
- Developing creativity techniques
- Health and safety in the workshop
- Develop skills in 2d CAD
- Wood finishes
- Design and make a pewter cast key tag
- Make a plywood wood key tag using hand tools

