

KS4

Design & Technology

Course Introduction (SEMH Setting)

This course provides learners with a hands-on, creative, and supportive introduction to workshop-based design and technology. Through completing a series of **AQA Unit Awards**, learners will design and make a variety of practical products such as keyrings, decorations, stationery holders, boxes, and clocks.

The course is built around practical learning experiences that encourage **confidence, teamwork, and personal achievement**. Learners are supported to take pride in their work, express creativity, and develop responsibility through safe and independent use of workshop tools and materials.

Each project provides opportunities for learners to build on success, reflect on their progress, and develop problem-solving and communication skills. The structured and nurturing environment allows learners to work at their own pace while feeling safe, valued, and motivated to achieve.

Curriculum Aims

This curriculum aims to develop not only practical and creative skills, but also key personal and social skills essential for success in and beyond school.

By the end of the course, learners will be able to:

- Demonstrate **safe and responsible** use of tools and materials in a workshop environment.
- **Follow instructions** carefully and build independence in practical tasks.
- **Express creativity** and personal identity through design and making activities.
- **Work cooperatively**, showing respect for peers, staff, and shared spaces.
- **Develop confidence and self-esteem** through hands-on achievement and recognition via AQA Unit Awards.
- **Understand and manage emotions** when faced with challenges or frustration in practical tasks.
- **Reflect on their progress**, identifying what went well and how they can improve.
- Apply practical skills to create **functional and purposeful products** they can be proud of.

The curriculum promotes **resilience, responsibility, and positive emotional development** through engaging, success-oriented learning experiences.

Health and Safety Considerations

Health and safety are at the heart of all workshop activities, ensuring that learners can work confidently and calmly in a safe environment. At the start of the course, all learners complete **AQA Unit 79020 – Workshop Health and Safety**, including a full induction and safety questionnaire.

Health and safety expectations are taught **positively and consistently**, helping learners understand that following safety routines shows responsibility and respect for themselves and others.

Key considerations include:

- Learners will complete a **supported workshop induction**, where routines, rules, and safe practices are demonstrated clearly and revisited regularly.
- **Visual reminders** (posters, symbols, colour-coded tools) will be used to reinforce safety expectations.
- Staff will provide **close supervision and calm, consistent support** during all practical activities.
- **PPE** such as goggles and aprons must be worn when required, and staff will model this behaviour.
- Learners will be encouraged to take **personal responsibility** for keeping their workspace tidy and organised.
- Risk assessments will consider **individual emotional needs**, ensuring tasks and equipment are appropriate to each learner's ability and confidence level.
- Positive reinforcement will be used to reward safe and responsible behaviour.

The focus is on creating a **calm, structured, and emotionally safe workshop** where learners can take pride in their work, develop practical skills, and grow in confidence through positive relationships and meaningful achievement.

SEE (Oldham) Design & Technology (Academic Year: 2025/26)

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 7	- Learn workshop safety & routines - Demonstrate basic tool handling - Understand measuring & marking out	- Create simple design sketches - Annotate designs using key words - Explore basic materials - Introduction to CAD basics	- Follow step-by-step instructions - Use simple hand tools safely - Assemble a basic product	- Understand simple electrical circuits - Identify components (LED, switch, resistor) - Build a simple light or buzzer project	- Apply basic finishing techniques - Self-evaluate product quality	- Use design → make → evaluate cycle - Demonstrate growing independence
Assessment	- safety quiz - Practical tool-handling checklist - Measured task accuracy check	- Design sheet with annotation - CAD introductory task - Teacher feedback on ideas	- Completed product assessed for accuracy & finish - Observation checklist	- Working circuit test - Component identification quiz	- Product finish assessment rubric - Simple evaluation sheet with prompts	- Final mini-project - End-of-year practical grade - Reflection sheet
Year 8	Improve accuracy in measuring & cutting Use templates and jigs Strengthen CAD skills	- Understand cams, levers & motion - Design and build an automata toy	- Create an electronic night-light or alarm - Identify resistors/switches & how they work - Intro to programmable components	- Develop 3D prototypes - Test early models and refine designs	- Research user needs - Write a simple design specification - Communicate ideas with diagrams	- Build functioning product from specification - Evaluate performance
Assessment	Accuracy test piece CAD drawing task	- Mechanism movement test - Annotated diagram assessment	- Functionality test of working circuit - Worksheet on electronic components	- Model evaluation sheet - Peer assessment of prototype	- Specification rubric - User-focused design ideas review	- Final build quality assessed - Evaluation referencing specification

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Year 9	- Study material properties - Learn about sustainability and responsible design - Analyse existing products	- Use vacuum forming/laminating - Improve joining techniques - Apply higher precision	- Build an amplifier/speaker - Solder safely - Use CAD to design case	- Build architectural models - Understand structural principles	- Work independently on a design problem - Apply full design cycle	- Complete a mini-NEA - Practice GCSE-style documentation
Assessment	- Materials test - Product analysis task	- Practical skills assessment - Accuracy and finish scoring grid	- Working electronics test - PCB soldering quality check	- Structure stability test - Model accuracy assessment	- Project plan & prototype review - Teacher conference assessment	Mini-NEA graded with GCSE-style rubric
Year 10	- Learn material properties, industrial processes - Understand tolerances & stresses	- Respond to a design brief - Conduct user research - Produce initial ideas & modelling	- Create programmable electronic systems - Understand inputs/outputs/processes	- Develop advanced 3D CAD models - Manufacture using CAM	- Produce high-quality functional prototype - Apply finish & accuracy	- Deepen theory knowledge - Master exam question structure OR Revisit topic-based knowledge
Assessment	- End-of-term theory test - Vocabulary/definitions quiz	- NEA-style design folder marking - Peer feedback on ideas	- systems diagram test - Working programmed circuit	- CAD competency assessment - CAM output quality check	- Practical making rubric - Materials choice justification	- Mock exam - Topic-based quizzes
Year 11	- Problem identification - User and context research - Specification creation - Generation of initial design ideas	- Develop ideas into final design - Model and test solutions	- Complete practical product - Apply finishing techniques	- Test product function - Complete full evaluation	Theory Consolidation	
Assessment	- NEA section 1–2 graded - Teacher check-in for design quality	- NEA development section assessment - CAD and modelling quality grading	- NEA practical outcome marking - Photographic evidence of making	- NEA evaluation section grade - User testing results	- Mock exam - Topic-based papers	