

## Engineering Revision

### 1. Engineering disciplines

#### 1.1. Engineering disciplines through projects and products

- 1.1.1. Engineering discipline skills

#### 1.2. The health and safety legislation governing engineering

- 1.2.1. Health and safety legislation

### 2. Applied science and mathematics in engineering

- 2.1. Application of SI units of measurement

- 2.1.1. SI units of measurement
- 2.1.2. Application of base SI units

- 2.2. Equations used to calculate energy, force, motion, electrical and geometric shapes

- 2.2.1. Equations for properties
- 2.2.2. Application of equations

### 3. Reading engineering drawings

- 3.1. Reading engineering drawings

- 3.1.1. Drawing conventions
- 3.1.2. British Standards (BS)

### 4. Properties, characteristics and selection of engineering materials

- 4.1. Properties and characteristics of materials

- 4.1.1. Properties
- 4.1.2. Characteristics
- 4.1.3. Materials

### 5. Engineering tools, equipment and machines

- 5.1. Tools, equipment and machines

- 5.1.1. Marking out
- 5.1.2. Modification
- 5.1.3. Joining
- 5.1.4. Finishing

- 5.2. Safe and correct use

- 5.2.1. Control measures

### 6. Hand-drawn engineering drawings

- 6.1. Hand-drawn engineering drawings

- 6.1.1. A freehand sketch
- 6.1.2. A hand-drafted isometric drawing sheet
- 6.1.3. A hand-drafted orthographic drawing sheet

### 7. Computer-aided design (CAD) engineering drawings

- 7.1. CAD engineering drawings

- 7.1.1. A CAD isometric drawing sheet
- 7.1.2. A CAD orthographic drawing sheet
- 7.1.3. The uses of CAD

### 8. Production planning techniques

- 8.1. Production planning

- 8.1.1. Risk assessment
- 8.1.2. Production plan

### 9. Applied processing skills and techniques

- 9.1. Skills and techniques

- 9.1.1. Prepare materials
- 9.1.2. Modify shape and size of materials
- 9.1.3. Join materials
- 9.1.4. Finish materials

- 9.2. Safe and correct use of tools, equipment and machines

- 9.2.1. Preparation and use of tools, equipment and machines
- 9.2.2. Control measures