At Junior Certificate level the student can:

1 **Theory**
   Demonstrate knowledge of engineering materials, equipment, processes and workshop safety

2 **Production of a piece of work**
   Apply the basic knowledge and skills necessary to produce artefacts using engineering materials

3 **Engineering Drawings**
   Interpret basic engineering drawings and follow basic design procedures
At Junior Certificate level the student can:

Demonstrate knowledge of engineering materials, equipment, processes, and workshop safety

Learning Targets - This has been demonstrated by your ability to:

1. State rules for safe and correct use of specified tools and procedures
2. Observe and comply with workshop rules
3. Identify typical measuring tools and measuring devices in everyday classroom use
4. Recognise common engineering metals and plastics
5. Identify plastics and metals in everyday use in the environment
6. Suggest different uses for common engineering metals and plastics
7. Suggest reasons for choices of material for everyday purposes, e.g. nuts and bolts/cars/drill bits/buses
8. Identify basic metalwork hand tools
9. Identify workshop machines
10. List different joining methods (nuts and bolts/solder/rivets/adhesive etc.)
11. Suggest reasons for choice of joining method
12. Suggest appropriate finishes for different jobs

Refer also to: English, Art, Materials Technology: Wood, Technical Graphics, Maths, Science
At Junior Certificate level the student can:

Apply the basic knowledge and skills necessary to produce artefacts using engineering materials

Learning Targets - This has been demonstrated by your ability to:

1. Observe and comply with workshop rules
2. Select and use the correct tools to mark out a piece of work
3. Use hand tools to shape a piece of work
4. Demonstrate correct use of a drilling machine
5. Join metals using soft solder technique
6. Produce a piece of work which contains internal and external thread
7. Produce a piece of work which uses rivets
8. Produce a piece of work using a centre lathe
9. Produce a piece of work which uses adhesive
10. Produce at least two examples of different types of finish
11. Use a stencil to aid a decorative finish (e.g. enamelling)

Refer also to: English, Art, Maths, Materials Technology: Wood, Technical Graphics, Science
At Junior Certificate level the student can:

Interpret basic engineering drawings and follow basic design procedures

Learning Targets - This has been demonstrated by your ability to:

1. Recognise basic engineering drawings
2. Relate pictorial views to engineering views
3. Match engineering drawings to objects at different stages of production
4. Extract some information from basic engineering drawings
5. Recall the steps followed in producing a piece of work
6. Produce a sketch of a finished piece of work
7. Identify the steps which caused problems and those which were easy in the production of a finished item
8. Identify the steps enjoyed most when producing an item
9. Examine a finished item you have made and identify changes you would consider
10. Change the piece of work if necessary
11. Find a simple object and list the steps needed to make it (e.g. teapot stand/bracket for hanging basket)

Refer also to: English, Art, Maths, Materials Technology: Wood, Technical Graphics, Science