

Apprenticeship Training Programme

Phase 1: *With Employer*

Induction Training
Introduction to Health & Safety Training
Introduction to Tools & Equipment
Introduction to Basic Skills

Phase 2: *Delivered in Training Centre (20 weeks)*

Course Content:

Induction
Bench Fitting
Turning
Milling
Surface Grinding
Press Tools, Jigs & Fixtures, Mouldmaking
Introduction to CNC
Related Theory

Phase 3: *With Employer*

Work Based Assessments

Phase 4: *Delivered in Educational Colleges (11 weeks)*

Course Content:

Turning
Milling
Surface Grinding
Engineering Steels, Mouldmaking, Jigs & Fixtures
CNC Programming, Operations & Computers
Related Theory

Phase 5: *With Employer*

Work Based Assessments

Phase 6: *Delivered in Educational Colleges (11 weeks)*

Course Content:

Machining
Press Tools & Polymer Forming Techniques
CAD/CAM
Related Theory

Phase 7: *With Employer*

Work Based Assessments

The overall duration of this apprenticeship is a minimum of 4 years provided all phases are successfully completed. On successful completion of the programme the learner is awarded a Level 6 Advanced Certificate Craft - Toolmaking.

For further information please contact your local Education & Training Board Training Centre or log onto www.SOLAS.ie

The Craft of Toolmaking



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 **Apprenticeship**

KNOWLEDGE. SKILL. COMPETENCE

Overview

A toolmaker is a skilled worker who produces and maintains precision tools used in the production of metal, plastic and other materials of all shapes and sizes. The work of a toolmaker involves interpreting drawings and technical data to machine and assemble with great accuracy jigs, fixtures, moulding tools, dies and punches. Care and attention to detail and high precision are the hallmark of toolmaking.

Work activities

Toolmakers work to high specifications and quality requirements to produce machine tools used in manufacturing. Manufacturing industries use the tools to make a very diverse range of parts and products, from dashboards to pen tops, to central heating boilers. Toolmakers also make moulds to form shapes, jigs to guide cutters or hold a part in place, and dies, which are shaped blocks that are used to cut, stamp or press materials.

At the beginning of their work, toolmakers may use technical drawings to learn about the product. Next, they operate a range of specialist engineering machines such as lathes, Computer Numerical Controlled (CNC) machines, and grinding, milling and boring machines.

Toolmakers use hand tools like files, and small machines like grinding and polishing machines to smooth and finish a tool. When they are satisfied with the tool, the toolmaker fits it onto the production machine and supervises a test run.

They normally wear safety clothing such as overalls, and hearing and eye protectors when necessary.

Aspects of Work

- Learning new practical skills
- Operating machines
- Using tools or machinery to shape metal
- Learning and developing new craft-related skills, knowledge and competence
- Understanding technical drawings and diagrams
- Being accurate with numbers in counting, measuring and arithmetic
- Work requiring accuracy and attention to detail
- Working in a workshop or factory
- Doing small and detailed tasks needing careful handling
- Practical skills and theoretical knowledge
- Being physically active
- Understanding the scientific uses and properties of materials
- Working in a noisy environment
- Taking responsibility for own learning, including the allocation of study time

Personal qualities and Skills

Producing high levels of accuracy demands patience and concentration. You need to be able to read, understand and analyse engineering drawings. Good number skills are important to make precise measurements and calculations.

A practical approach to problem-solving is necessary. You need to work logically and plan your work.

Co-ordination and hand skills are important for using a wide range of machine tools, hand tools and other equipment. Many toolmakers work alone, so you may need to work effectively without supervision.

Toolmakers spend much of their time on their feet and need to be fairly fit and active.

Opportunities

Opportunities arise from time-to-time for promotion to supervisor level. Many persons use an apprenticeship as a first step in proceeding to such occupations as instructors, teachers, training advisers, managers and owners of businesses.

Where apprentices and crafts persons have the necessary ability, initiative and basic qualifications, opportunities are available for advancement. These include advanced technological and management courses which are available in Institutes of Technology, schools of management, professional institutes, etc.

Persons anxious to advance themselves in their careers are advised to discover for themselves what opportunities are available.

Educational Requirements

The minimum age at which the employment of an apprentice may commence is 16 years of age.

The minimum educational requirements are:

1. Grade D in five subjects in the Department of Education & Science Junior Certificate Examination or an approved equivalent,
or
2. The successful completion of an approved Pre-Apprenticeship course
or
3. Three years' work experience gained over sixteen years of age in a relevant designated industrial activity as SOLAS shall deem acceptable

You must obtain a job as an apprentice in your chosen occupation. Your employer must be approved to train apprentices and must register you as an apprentice within 2 weeks of recruitment.

In certain crafts, apprenticeship applicants are required to pass a colour vision test approved by SOLAS.