

# Engineering Apprenticeships

To become an apprentice in Ireland you must be hired by an employer. Apprenticeship employers are formally approved by [SOLAS](#) in advance of employing apprentices. Apprentices get a formal contract of employment as part of their apprenticeship.

**SOLAS**  
learning works



Rialtas na hÉireann  
Government of Ireland

# Engineering Services Management L7

- On completion of this two-year apprenticeship, the trainee will become a fully qualified engineering services manager, with a QQI Level 7 BSc Degree in Engineering Services Management.
- Apprentices complete their off-the-job training in a higher education institution, for which they are required to pay a student contribution. Year 1 - €750; Year 2 - €750; Total Fee - €1,500.
- By the end of the apprenticeship training, the trainee will be able to:
  - Manage the installation, commissioning and maintenance of engineering services and systems.
  - Assess the technical performance of engineering services and systems.
  - Manage a project from initiation through installation/commissioning to hand-over.
  - Diagnose faults within engineering services installations and develop solutions to resolve them.
- To find out more about this apprenticeship, click [HERE](#).

# Equipment Systems Engineer L9

- On completion of this two-year apprenticeship, you will become a fully qualified Equipment Systems Engineer, with a NFQ Level 9 Masters of Engineering by research.
- Apprentices complete their off-the-job training in a higher education institution, for which they are required to pay a student contribution. Year 1 - €900; Year 2 - €900; Total Fee - €1,800.
- By the end of your training, you will be able to:
  - Enable a connected enterprise by researching and procuring equipment, which integrates into the enterprise-control system
  - Improve the product development process
  - Develop systems and solutions that enable machines and equipment to interact
  - Propose the most appropriate cyber-physical technology solution for the enterprise
  - Implement, test and maintain solutions for manufacturing facilities
  - Design and develop cost-efficiencies in the manufacturing process..
- To find out more about this apprenticeship, click [HERE](#).

# Farriery L6

- On completion of this four-year apprenticeship, the trainee will become a fully qualified farrier, with a QQI Level 6 Advanced Certificate Craft - Farriery.
- Apprentices are not required to pay a student contribution for this apprenticeship.
- By the end of the apprenticeship training, the trainee will be able to:
  - Understand equine anatomy and physiology, conformation and movement, horsemanship and horse welfare.
  - Carry out cold and hot shoe fitting techniques.
  - Use skills such as: forging, welding, shoemaking, corrective shoeing and trimming, and therapeutic shoeing.
  - Make and maintain farriery tools.
  - Recognise lameness and injuries to the equine foot..
- To find out more about this apprenticeship, click [HERE](#).

# Industrial Insulation L6

- On completion of this four-year apprenticeship, the trainee will become a fully qualified industrial insulator, with a QQI Level 6 Advanced Certificate Craft - Industrial Insulation.
- Apprentices complete two of their three phases of off-the-job training in a higher education institution. A student contribution must be paid for this part of the training. The student contribution for this apprenticeship is €1,000 for Phase 4 and €1,000 for Phase 6.
- By the end of the apprenticeship training, the trainee will be able to:
  - Operate a wide range of machinery including guillotine; folding machines; hand and electric swaging machines; hand and electric rolling machines; electric hand shears and hand drills.
  - Interpret technical drawings, diagrams and pattern development.
  - Insulate pipe work, ductwork, valves, flanges and pressure vessels.
  - Carry out a wide range of assembly and finishing techniques - self-securing joints, riveting, fasteners, flanging, swaging and banding.
  - Perform a range of modern cutting processes.
  - Operate CNC (Computer Numerical Control) machinery.
- To find out more about this apprenticeship, click [HERE](#).

# Manufacturing Engineering L7

- On completion of this three year apprenticeship, the trainee will become a fully qualified manufacturing engineer, with a QQI Level 7 Bachelor of Engineering in Manufacturing Engineering.
- Apprentices complete their off-the-job training in a higher education institution, for which they are required to pay a student contribution. The student contribution for this apprenticeship is €1,500 for Year 1, €1,500 for Year 2, and €1,500 for Year 3 for a total of €4,500.
- By the end of the apprenticeship training, the trainee will be able to:
  - Develop solutions to a variety of problems using basic engineering principles, theories and concepts.
  - Use principles and methodologies of project management and quality management to streamline and optimise processes.
  - Use 6Sigma principles to drive data driven process improvement projects.
  - Understand and carry out advanced manufacturing processes.
  - Use process planning (PP), computer aided process planning (CAPP) and capacity planning.
  - Install electrical, electronic and mechanical sensors; signal-conditioning; and digital interfacing in engineering systems.
  - Comply with the appropriate industry regulatory framework.
  - Apply advanced manufacturing processes to product design and production.
- To find out more about this apprenticeship, click [HERE](#).

# Manufacturing Technology L6

- On completion of this two-year apprenticeship, the trainee will become a fully qualified manufacturing technician, with a QQI Level 6 Higher Certificate in Manufacturing Engineering.
- Apprentices complete their off-the-job training in a higher education institution, for which they are required to pay a student contribution. The student contribution for this apprenticeship is €1,500 for Year 1 and €1,500 for Year 2, for a total of €3,000.
- By the end of the apprenticeship training, the trainee will be able to:
  - Understand quality management systems.
  - Interpret mechanical drawings.
  - Perform routine calibration of equipment.
  - Use computer aided design (CAD) software.
  - Use engineering principles to make data driven decisions and apply technical judgment to product design.
  - Continuously improve manufacturing processes.
  - Configure and operate manual, automated and ancillary production equipment required for the manufacturing process.
  - Perform lean manufacturing analysis to identify areas for improvement, and solve problems.
  - Analyse, develop and implement preventive actions which proactively resolve product, process and systems issues.
- To find out more about this apprenticeship, click [HERE](#).

# Mechanical Automation and Maintenance Fitting L6

- On completion of this four-year apprenticeship, the trainee will become a fully qualified mechanical automation and maintenance fitter, with a QQI Level 6 Advanced Certificate Craft - Mechanical Automation and Maintenance Fitting.
- Apprentices complete two of their three phases of off-the-job training in a higher education institution. A student contribution must be paid for this part of the training. The student contribution for this apprenticeship is €1,000 for Phase 4 and €1,000 for Phase 6, for a total of €2,000.
- By the end of the apprenticeship training, the trainee will be able to:
  - Work with drilling and milling machines and welding plants.
  - Work with a variety of specialised tools such as lathes, milling machines and grinders.
  - Install, service, maintain, and rectify faults of machine tools, power and production equipment.
  - Dismantle, repair or make and fit new parts when performing plant maintenance.
  - Monitor conditions using modern maintenance techniques.
  - Write reports of completed repairs.
  - Interpret technical drawings and diagrams.
- To find out more about this apprenticeship, click [HERE](#).



# Metal Fabrication L6

- With this four-year apprenticeship, the trainee will become a fully qualified metal fabricator, with a QQI Level 6 Advanced Certificate Craft – Metal Fabrication.
- Apprentices complete two of their three phases of off-the-job training in a higher education institution. A student contribution must be paid for this part of the training. The student contribution for this apprenticeship is €1,000 for Phase 4 and €1,000 for Phase 6, for a total of €2,000.
- By the end of the apprenticeship training, the trainee will be able to:
  - Measure, mark out, cut and weld mild steel, stainless steel, alloy steels and aluminium plate and pipe.
  - Use a range of metal fabrication processes.
  - Perform a range of welding processes.
  - Interpret technical drawings and specifications.
  - Install structural steel systems.
  - Carry out safe workshop practices including marking out, drilling, tapping, riveting.
  - Work with a variety of specialised hand and power tools.
- To find out more about this apprenticeship, click [HERE](#).

# OEM Engineer L6

- On completion of this three-year apprenticeship, the trainee will become a fully qualified OEM engineer, with a QQI Level 6 Advanced Certificate in Original Equipment Manufacturing.
- Apprentices are not required to pay a student contribution for this apprenticeship.
- By the end of the apprenticeship training, the trainee will be able to:
  - Assemble, install, test, commission and electronically control engine driven systems.
  - Assemble equipment using testing procedures, interpretation of technical drawings, schematics, data and relevant OEM standards in a manufacturing environment.
  - Install, use, test and troubleshoot hydraulic, electro-mechanical, pneumatic, electrical wiring and automated control systems in a manufacturing environment.
  - Interpret technical data and use calibration, torqueing, and testing instruments for effective product assembly, fault diagnosis and rectification.
  - Provide support to customers around the use and maintenance of the products you manufacture.
  - Diagnose faults and rectify them within OEM products across engine driven systems, electrical wiring systems, battery powered systems, hydraulics systems, pneumatic systems and control systems.
- To find out more about this apprenticeship, click [HERE](#).

# Pipefitting L6

- With this four-year apprenticeship, the trainee will become a fully qualified pipefitter, with a QQI Level 6 Advanced Certificate Craft - Pipefitting.
- Apprentices complete two of their three phases of off-the-job training in a higher education institution. A 'student contribution' must be paid for this part of the training. The student contribution for this apprenticeship is €1,000 for Phase 6.
- By the end of the apprenticeship training, the trainee will be able to:
  - Understand a range of piping systems.
  - Perform a range of welding processes.
  - Read and interpret pipefitting drawings and specifications.
  - Plan, sketch and organise the fitting of piping systems.
  - Use skills such as pipefitting, pipe jointing and pipe bending.
  - Inspect and test piping systems, diagnose faults and perform routine maintenance and repairs on piping systems.
- To find out more about this apprenticeship, click [HERE](#).

# Polymer Processing Technology L7

- On completion of this three-year apprenticeship, the trainee will become a fully qualified polymer processing technologist, with a QQI Level 7 Bachelor of Science Degree in Polymer Processing Technology.
- Apprentices complete their off-the-job training in a higher education institution, for which they are required to pay a student contribution. The student contribution is paid directly to the higher education institution over the three years. Year 1 - €1,500, Year 2 - €1,500, Year 3 - €1,500; for a total of €4,500.
- By the end of the apprenticeship training, the trainee will be able to:
  - Carry out polymer processing activities including injection moulding, blow moulding and extrusion moulding.
  - Prepare and set up polymer materials, feed systems and other equipment necessary to support a polymer production process.
  - Apply process settings in order to begin a production process in line with company protocols and procedures.
  - Conduct logical troubleshooting and root cause analysis.
  - Conduct set ups and tool changes using fast changeover techniques.
  - Disassemble, clean, inspect and reassemble tooling associated with a polymer process.
  - Use principles of mould, part, die design, tubing, film and sheet.
  - Safely use polymer processing equipment including materials handling equipment, tooling, robotics, metrology, printing and post processing and packaging.
- To find out more about this apprenticeship, click [HERE](#).

# Principal Engineer L10

- On completion of this four-year apprenticeship, the trainee will become a fully qualified principal engineer, with a QQI Level 10 Doctorate in Engineering.
- To gain entry to the programme, students must pass a Qualifier Module PT 8001 for which there is a fee of €250. In addition to this there is a student registration fee of €35. Apprentices complete their off-the-job training in a higher education institution, for which they are required to pay a student contribution. Year 1 - €900, Year 2 - €900, Year 3 - €900, Year 4 - €900; for a total of €3,600.
- By the end of the apprenticeship training, the trainee will be able to:
  - Respond to abstract problems that expand and redefine existing procedural knowledge.
  - Contribute to the creative process through: problem solving, heuristics, theory of inventive problem solving, technical analysis, and critical evaluation.
  - Use numerical and statistical methods.
  - Conduct transformative research.
  - Use software, information systems and electronic encapsulation for quantitative analysis, simulation and solutions of engineering problems.
  - Oversee complex design, development, and research projects.
- To find out more about this apprenticeship, click [HERE](#).

# Sheet Metalworking L6

- With this four-year apprenticeship, the trainee will become a fully qualified sheet metal worker, with a QQI Level 6 Advanced Certificate Craft – Sheet Metal Work.
- Apprentices complete two of their three phases of off-the-job training in a higher education institution. A student contribution must be paid for this part of the training. €1,000 for phase 4 and €1,000 for phase 6.
- By the end of the apprenticeship training, the trainee will be able to:
  - Work with a variety of specialised hand and power tools to cut and shape metal and to drill or punch holes.
  - Understand a range of piping systems.
  - Understand the scientific uses and properties of metals.
  - Use mathematics to solve technical or scientific problems.
  - Operate CNC (computer numerical control) equipment.
  - Hammer down excess surface weld meta.
  - Interpret technical drawings and diagrams.
- To find out more about this apprenticeship, click [HERE](#).

# Toolmaking L6

- With this four-year apprenticeship, the trainee will become a fully qualified toolmaker, with a QQI Level 6 Advanced Certificate Craft – Toolmaking.
- Apprentices complete two of their three phases of off-the-job training in a higher education institution. A student contribution must be paid for this part of the training. The student contribution for this apprenticeship is €1,000 for Phase 4 and €1,000 for Phase 6.
- By the end of the apprenticeship training, the trainee will be able to:
  - Interpret engineering drawings to plan the production of a given part or product in line with manufacturers' specifications.
  - Operate a range of milling and boring machinery, lathes and CNC equipment in the manufacture of parts and products based on drawings.
  - Assemble manufactured parts, ensuring correct and accurate assembly of finished components.
  - Be accurate with measurements and calculations.
  - Use a range of hand and power tools.
  - Test finished products and assess for accuracy in accordance with specified drawings.
  - Use manufacturing machinery and measuring equipment.
- To find out more about this apprenticeship, click [HERE](#).

# Wind Turbine Maintenance Technician L6

- On completion of this three-year apprenticeship, you will become a fully qualified wind turbine maintenance technician, with an NQF Level 6 Advanced Certificate in Industrial Wind Turbine Engineering.
- Apprentices are not required to pay a student contribution for this apprenticeship.
- At the end of your training, you will be able to:
  - Maintain electrical, mechanical, gearbox and hydraulic systems of wind turbines
  - Maintain, test, remove and replace wind turbine components
  - Demonstrate the correct use of gearbox inspection equipment and reporting software
  - Interpret technical drawings
  - Interpret and implement wiring regulations
  - Demonstrate fault analysis, location and diagnosis on various components and systems..
- To find out more about this apprenticeship, click [HERE](#).