

# LEAN MANUFACTURING OPERATIVE APPRENTICESHIP STANDARD

**Standard Code STO420**  
**Course Level 2**  
**Work based**  
**Funding Level £6000**  
**Duration 15mths including EPA**

## *Course Description*

The Manufacturing Industry offers an exciting and varied career both in the UK & abroad providing a broad spectrum of opportunities for people to work in a technically advanced and innovative environment. Businesses within the sector range from small family run manufacturing operations to large multi-national companies driving the countries growth & wealth.

The UK's Manufacturing Industry is highly regarded worldwide for its innovation and manufacturing excellence and requires a high degree of skill & knowledge across all levels of their organisations.

A Lean Manufacturing Operative will be expected to carry out their work safely and meet the exacting quality standards demanded in a fast paced and efficient processing environment and develop into a multi-skilled operator through process ownership. A lean manufacturing operative can be required to carry out manufacturing activities on multiple products with different specifications consecutively e.g. automotive manufacturing – Multi models manufacturing results in the manufacturing of different models of vehicle with different specification variants within a high-volume environment.

They will be required to prepare, control, contribute to and complete manufacturing operations, and follow manufacturing processes and standard operating procedures (SOPs) whilst adhering to specific safe working policies & procedures. A Lean Manufacturing Operative will be responsible for maintaining Health and Safety requirements at all times e.g. wearing correct Personal Protective Equipment (P.P.E.) correct use of equipment and tooling, safe stopping and resetting of machinery, maintain an organised work area e.g. 5s (Sifting, Sorting, Sweeping, Spick & Span and Sustain) ensuring the safe disposal of waste in line with environmental systems and regulatory requirements (ISO 14001). They will be required to contribute, develop and support improvement in the manufacturing operation using continuous improvement methods, kaizen tools, process visualisation using lean principles and problem-solving tools and techniques. They will be responsible for carrying out quality checks throughout the

manufacturing operations to ensure quality is built in and that any defects or concerns are highlighted and dealt with in line with relevant quality standards (ISO 9002).

They will work closely with stakeholders and will have clear reporting lines to ensure appropriate escalation e.g. team leader, line leader, process leader, supervisor etc. should problems occur within the process.

**Examples of the job titles from across the manufacturing sector that would be covered within this standard are:** Team Member Production; Manufacturing Production Operative; Manufacturing Assembly Operative; Manufacturing Inspection/Quality Assurance Operative; Manufacturing Logistics Operative; Manufacturing Material Handling Operative; Manufacturing Process/Finishing Operative.

### ***Off the Job Training***

A key requirement of an Apprenticeship is Off-the-job training. This must make up at least 20% of the apprentice's contracted hours, over the total duration of the apprentice's planned training period. Off-the-job training must be directly relevant to the apprenticeship standard and must take place within the apprentice's normal working hours.

The new learning must be documented and reflected on through the Learner Journal on their e-portfolio.

### ***Entry Requirements***

The Apprentice will need to be in a relevant role and show a willingness to undertake the knowledge, skills and behaviours required. They will also need to have Level 2 Maths and English (GCSE at Grade 4/C or above or equivalent) or be prepared to attend a block study period for Maths and English if this is required.

Apprentices may be required to attend an interview and undertake relevant skills assessments.

Once they have been accepted on to the programme all apprentices will be required to attend a Lincoln College Induction. Apprentices will require access to a tablet/computer to access their e-portfolio.

### ***Knowledge, Skills and Behaviours***

#### **KNOWLEDGE**

- **Health & Safety:** Relevant statutory, organisational and health and safety regulations relating to lean manufacturing operations and safe practices.
- **Environmental:** Compliance procedures/systems in line with regulatory requirements e.g. ISO 14001 or other relevant environmental standards.

- **Production:** Their individual roles and responsibilities within the organisation and the flexibility required to deliver products to meet customers costs/delivery targets/requirements e.g. Just in time (JIT).
- **Lean Manufacturing Operations:** Manufacturing standard operation procedures (SOPs) adherence and development of lean processes.
- **Quality Control:** Process equipment monitoring, data collection, error proofing and operating procedures e.g. ISO 9002 or other relevant quality standards.
- **Problem Solving:** The tools and methods of effective problem-solving using data, reports and documents to resolve production related issues e.g. A3 report, graphs, matrices and escalate concerns.
- **Continuous Improvement:** How to study and identify ways to improve the safety, quality, cost or process efficiency using lean manufacturing tools e.g. kaizen.
- **Communication:** How to share information using a range of methods within the manufacturing environment e.g. oral, written, electronic, information boards, visual displays.
- **Work Place Organisation:** How to maintain a safe and efficient work site through work place organisation e.g. 5s and process ownership.

## SKILLS

- **Health & Safety:** Work safely at all times, complying with health and safety legislation, regulations, and other relevant guidelines. Identifying risks within their processes and support/carry out countermeasure activities to improve safe working. Manage tooling, equipment and materials daily in-line with supplier standards e.g. COSHH (Control of Substances Hazardous to Health).
- **Environmental:** Comply with environmental procedures and systems and contribute to the achievement of specific standards e.g. ISO 14001 or other relevant environmental standards and use the 4R's (Reduce, Re-use, Recycle, Recover) where possible.
- **Production:** Demonstrate their ability to carry out their role effectively, efficiently and flexibly maintaining lean manufacturing principles to meet customer's demands e.g. JIT.
- **Lean Manufacturing Operations:** Demonstrate their skill and knowledge following SOPs and building their versatility across a number of processes and process areas. Select and use appropriate tools, equipment and materials to carry out the manufacturing operation.
- **Quality Control:** Demonstrate appropriate process documentation control. Accurately completing check sheets, monitoring process and equipment data efficiently and legibly using the correct terminology required to meet the quality standard e.g. ISO 9002.
- **Problem Solving:** Demonstrate their ability to identify and resolve problems within the lean manufacturing environment using effective problem-solving tools and techniques. Manage problems that may occur during the manufacturing process within the limits of their responsibility and escalate as appropriate.
- **Continuous Improvement:** Generate ideas and contribute to process improvement activities individually or as part of a team through fact finding and analysis to improve the safety, environment, quality, cost or production process. Identifying and eliminating the 7 wastes (defects, over production, transportation, waiting, inventory, motion and processing).

- **Communication:** Demonstrate communication skills which include oral, written, electronic (PC), information boards or visual displays to effectively share information.
- **Work Place Organisation:** Maintains and monitors the work site efficiently and effectively at all times using the elements of sifting, sorting, sweeping, spick & span (5's) within the lean manufacturing environment.

## BEHAVIOURS

- Punctual, reliable and takes responsibility for their own actions.
- Show respect for others, having regard for diversity and equality.
- Respond positively to change in the working environment.
- Integrates within the team and supports others.
- Can work independently and effectively in challenging situations.
- Maintains quality of work under pressure.
- An open and honest communicator.
- Listens to other people's opinions.
- A positive and respectful attitude.
- Follows instructions and guidance and demonstrates attention to detail.
- Seeks opportunities to develop and adapt to different situations, environments or technologies.
- Displays an ongoing commitment to learning and self-improvement.
- Seeks feedback and acts on it to improve their performance.

## Assessment

Assessment is done through a combination of practical tasks, written assignments, oral discussions and online tests throughout the programme. To ensure that we can support you to meet these, we will complete an in-depth initial skills analysis to ensure that we can tailor our delivery to meet these unique requirements. We will then use the most relevant delivery methods to support your learners which include:

- One to one coaching from a dedicated, professional assessor/instructor allocated to the learner for the duration of the programme.
- Work based assignments and projects to be completed in an e-portfolio. Case studies and in College course days as and when required for each learner.
- Job shadowing and mentoring.
- Formal review of progress every 12 weeks.
- Employer led in house training.
- Independent learning and research as directed by the assessor/instructor.

## End Point Assessment

There will be an End Point Assessment (EPA) as the final stage of an Apprenticeship. The Apprentice must demonstrate their learning to an independent end point assessor and the overall grade available is distinction, pass or fail.

### End-Point Assessment includes:

**Assessment method 1:** Observation with Question & Answer.

Apprentices must be observed by an independent assessor completing work in their normal workplace; or at an approved EPAO centre; The rationale for this assessment method is:

- this is a practical role, best demonstrated through observation.
- observation allows the assessment of work tasks in the apprentice's normal place of work, using tools and equipment with which they are familiar, which is likely to enable the apprentice to perform at their best.
- questioning component enables the checking of underpinning knowledge.

### Assessment method 2: Professional discussion

This assessment will take the form of a professional discussion, which must be appropriately structured to draw out the best of the apprentice's competence and excellence and cover the KSBs relevant to this assessment method. It will involve the questions that will focus on the knowledge, skills and behaviours relevant to this assessment method which will take into account the supporting evidence in the Portfolio. The professional discussion must last for 40 minutes.

## Qualifications

- EAL Level 2 Diploma in Manufacturing (knowledge and skills) 603/3589/0.
- ETCAL Level 2 Diploma in Manufacturing (knowledge and skills) 603/5151/2.
- Pearson BTEC Level 2 Diploma in Manufacturing (knowledge and skills) 603/4344/8.
- OAL Level 2 Diploma in Manufacturing (Knowledge and Skills) Ofqual number: 603/6783/0.

## Fees

As an Apprentice, you will pay no course fees. However, your employer may have to pay towards your training as well as providing you with a wage. All Apprentices must receive a minimum wage of £4.30 per hour within their first year of training from their employer, although they can, and often do, pay more. In the second and subsequent years of an Apprenticeship programme, the national minimum wage for your age would apply.

If you are an employer and want to find out more information regarding employer contributions and any further costs related to the Apprenticeship programme, please contact our dedicated Apprenticeship team at [employers@lincolncollege.ac.uk](mailto:employers@lincolncollege.ac.uk)

## **Benefits**

Employers have designed the Apprenticeship Standards to meet the needs of the sector and industry. Ensuring they include:

- Relevant Knowledge, skills and behaviours ensure that the Standard is relevant to the occupation.
- Widening participation Apprenticeship standards provide opportunities to employees that may not previously have been available.
- Development tools A cost effective way to train your employees to undertake specific roles in your business.
- Return on Investment On average, an apprentice who has completed their course will increase business productivity by £214 per week (CEBR, 2015).