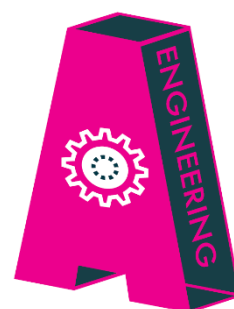




**ICBE** | IRISH CENTRE  
FOR BUSINESS  
EXCELLENCE

# Boost your business with a Lean Sigma Manager Apprenticeship

| An Employers Guide





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# Introduction

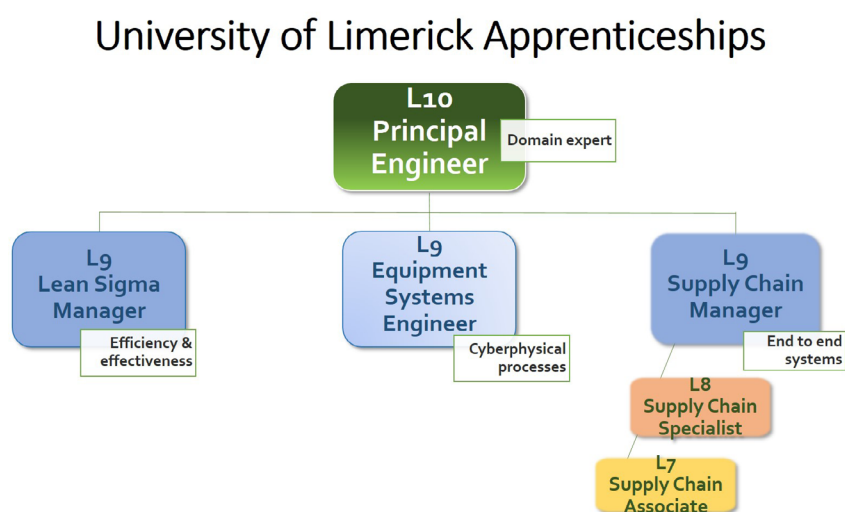
As part of the new National Apprenticeship Programme, the University of Limerick (UL) is Ireland's first University to offer apprenticeships at higher level. Included in the suite of executive programmes, UL offer a Lean Sigma Manager apprenticeship.

These qualifications have been created 'by industry for industry' and are aimed at building Ireland's capacity to be world industry leaders through enhancing the skills of its existing workforce.

The programmes at UL are designed for people who are already working and wish to gain additional knowledge and experience within their role. As such, all of our participants already have employment contracts that meet or exceed the duration of the apprenticeship. Extensive consultation with industry has taken place in regards to curriculum content and structure, with high emphasis on real-world skills and employability.

All of the programmes are designed to minimise the student's time away from the workplace using a 70:30 'on-the-job' to 'off-the-job' ratio. This is achieved through the use of blended and online programme delivery for maximum benefit.

## The suite of Executive Apprenticeship Programmes on offer at UL



## Apprenticeships Consortia

For each apprenticeship programme a Consortium Steering Group (CSG) or Industry Lead, has been developed. Their role is to ensure that the Apprenticeship programme(s) conforms to, and evolves with the requirements of the occupational profile and to ensure that it is enterprise-led and meets labour market needs.

Each CSG is composed of relevant stakeholders including employers, programme specific occupational associations, any occupational regulators or relevant professional bodies and UL. The CSG will undertake periodical reviews of the programme and in particular the learning outcomes so as to ensure relevancy of the programmes and aligning the needs of Industry with skills development. The consortial lead for the Lean Sigma Manager apprenticeship is the Irish Centre for Business Excellence (ICBE).

# Lean Sigma Manager Apprenticeship

This new apprenticeship programme was designed by a consortia of Lean & Six Sigma industry partners working closely with the University of Limerick as delivery partner. It was developed to ensure a consistent number of Lean Sigma Managers are developed and retained across a wide variety of sectors and organisations. The goal is to develop a high level of Master Black Belt skilled practitioners who can increase effectiveness and reduce costs across a variety of manufacturing and service sectors in Irish businesses.

This programme is an “ON-THE-JOB LEARNING” model, designed to empower the apprentice with underpinning knowledge, skills and competencies required to become a Master Black Belt in Lean & Six Sigma. It is open to a wide range of employers, across all industry sectors, both large and small firms, on a national basis. It offers a unique opportunity to learn in a practical, supportive environment while simultaneously working towards a recognised Masters Level 9 Award. Successful graduates can further their careers through implementing Lean & Six Sigma approaches across multiple sectors with this highly transferrable qualification. There is a progression route to the Level 10 Doctoral apprenticeship - the Principal Engineer.

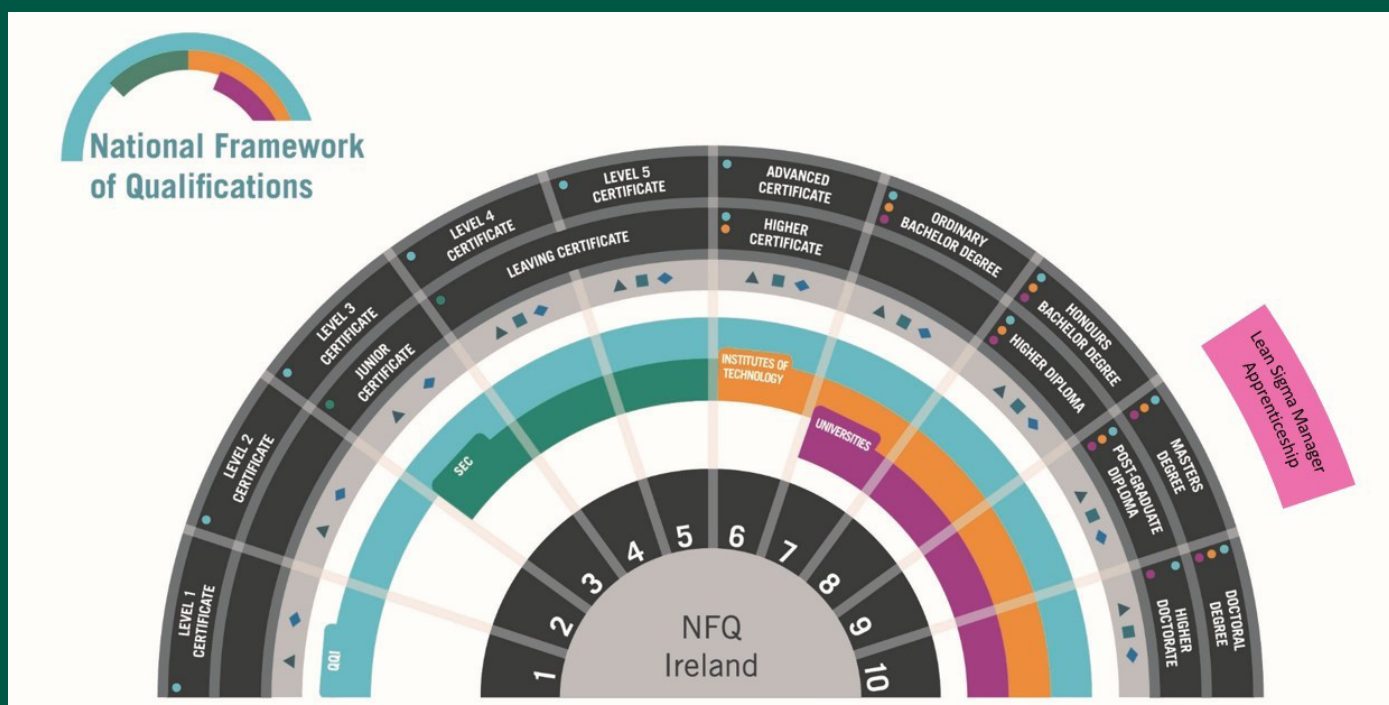


## National Framework of Qualifications

National qualifications frameworks (NQF) describe what learners should know, understand and be able to do on the basis of a given qualification. These frameworks also show how learners can move from one qualification, or qualification level, to another within a system. Over 150 countries are now developing, or have developed, a national qualifications framework.

The Irish NQF, is a framework through which all learning achievements may be measured and related to each other in a coherent way and are organised based on their level of knowledge, skill and competence. Because all NQF qualifications are quality assured, learners can be confident that they will be recognised at home and abroad.

Upon completion, the graduate will achieve a Level 9 Masters in Strategic Quality Management, NQF Level 9 Major Award.



# Lean and Six Sigma Overview

Lean and Six Sigma are two process improvement methodologies which both work toward the same ultimate goal: eliminating waste and creating efficient processes. They simply take different approaches on how to accomplish this.

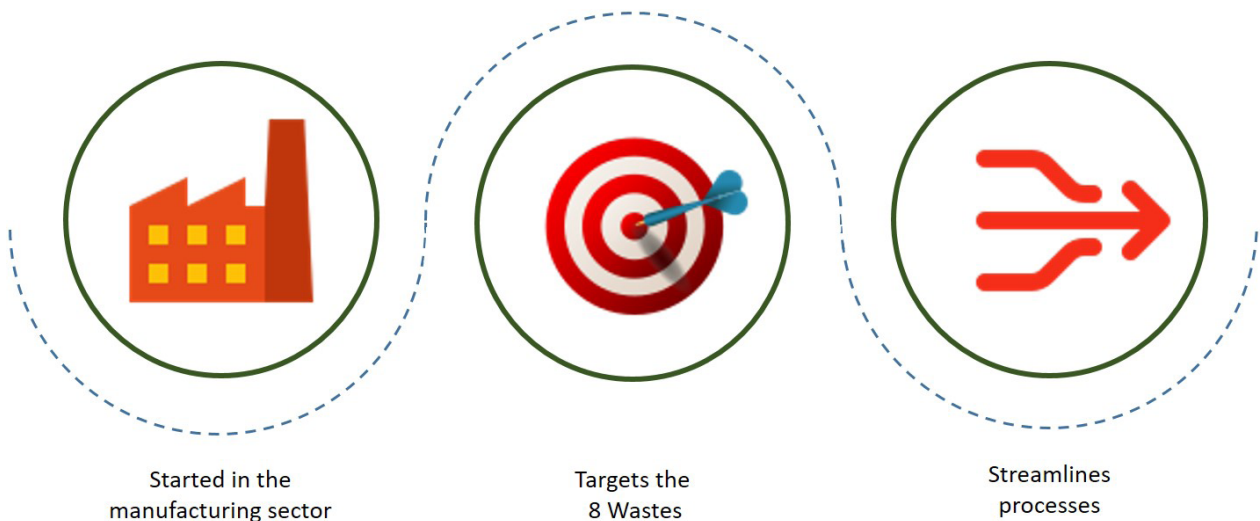
When used together they become extremely powerful business transformational tools.

Businesses all over Ireland are adopting Lean Six Sigma to maximise their organisation's potential, increase team morale and effectiveness, and minimise waste and downtime.

## What is Lean?

Lean is a toolset geared to improve process flow and eliminate waste. Lean started out in the manufacturing sector. It was an approach for streamlining production by eliminating any unnecessary or wasteful elements of the production process.

Today, Lean has travelled expanded far beyond its origins. It is now widely implemented in all sectors of industry and business.



## How Does Lean Work?

Lean targets waste, eliminating anything that is “non-value add” from your processes. Using the 8 wastes as a guiding point, a Lean approach will consider all elements and stages within a process. This evaluation carefully determines which parts of the process are value-add and essential to quality and productivity, and which elements are considered ‘waste’.

## What are the 8 Wastes?

- Defects
- Over-production
- Waiting
- Non-utilised talent
- Transportation
- Inventory
- Motion
- Extra-processing

## What is Six Sigma?

Six Sigma is set of management tools and techniques designed to improve business by reducing the likelihood of error. It is a data-driven approach that uses a statistical methodology for eliminating errors in a process.

Six Sigma was originally developed in the motor manufacturing sector but like Lean, it is now widely applied in other organisations and industries.



## How Does Six Sigma Work?

Many refer to Six Sigma as “problem solving”. Six Sigma is used to identify flaws, variations, or defects in a process, and to correct them.

Using the DMAIC Cycle (Define, Measure, Analyse, Implement, Control), a process can be mapped and analysed to identify and resolve issues or flaws. DMAIC defines the steps a Six Sigma practitioner is expected to follow, starting with identifying the problem and ending with the implementation of long-lasting solutions

## What are the Benefits of Lean Six Sigma?

There are a great many benefits from correctly implementing Lean & Six Sigma. We have highlighted a few below to give you an overview.

- Less Waste, Defects & Variation
- Lower Costs
- More Savings
- Increased Profits
- Improved Efficiency
- Higher Team Engagement
- Better Processes
- Consistent Quality
- Shorter Cycle Times
- Problem Solving Skills
- Faster Lead Times
- Increased Capacity

## Programme Overview

### January Start

90 credits (European Credit Transfer System - ECTS)

<b>Duration:</b>	2 years (and project write-up time)
<b>Delivery:</b>	Online learning
<b>Community of Practice:</b>	Additional Industry based seminars and company benchmarking visits to explore Lean & Six Sigma in practice in Irish and International enterprises.

Year 1	Year 2
<b>Spring</b>	<b>Spring</b>
Lean Tools / Lean Thinking 1	Quality Science Introduction
Leadership & Change Management	Problem Solving Tools
	EIP (Enterprise Improvement Project)
<b>Summer</b>	<b>Summer</b>
<b>Autumn</b>	<b>Autumn</b>
Lean Tools / Lean Thinking 2	Quality Science Advanced
Lean Tools Project	Six Sigma Project
	EIP (Enterprise Improvement Project)
	<b>Spring</b>
	EIP Write up

### Community of Practice

Alongside the modules apprentices will be participating in the Community of Practice (CoP). This an integral part of the programme and includes:

- Company Visits
- Mentoring - recording your meetings with your mentor
- Joining a Lean/SixSigma network
- Masterclasses
- Reflective Journal



**Programme Overview**  
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# Employer Duties & Responsibilities

## Embarking on the Lean Sigma Manager Apprentice

Before undertaking an apprentice on the Lean Sigma Manager programme, an employer should first consider the following questions:

### 1. Can you provide the apprentice with continuity of employment (both On-the-Job and Off-the-Job) over a 2-year period?

The apprenticeship runs for 2 years. Your potential apprentices must have a contract of employment that meets or exceeds their time on the programme. All organisations who employ apprentices must adhere to the guidance provided in the Apprenticeship Code of Practice. This Code of Practice is intended to assist both employers and apprentices to understand their duties and responsibilities relating to the apprenticeship programme. As part of the employer approval and apprentice registration processes, employers and apprentices agree to comply with this Code of Practice.

A copy of the code of practice can be found at:

[www.apprenticeship.ie/Documents/ApprenticeshipCodeOfPractice.pdf](http://www.apprenticeship.ie/Documents/ApprenticeshipCodeOfPractice.pdf)

### 2. Can you provide access for the apprentices to the type of work that allows them gain the necessary experience and develop their skills across the full range of competencies included in the programme?

On-the-job learning requires working in an environment where the apprentice can practice the tools and techniques that they are learning on their programme modules. It also includes identifying meaningful projects for the apprentice to work on and allowing them the time and resources to do so.

Employer support includes releasing the apprentice for company benchmarking visits and/or masterclasses which enhance the learning of the apprentice. These will take place periodically throughout the year and apprentices can usually choose from a variety of visits/masterclasses that best suit their individual interests.

The programme is currently being run as an online Masters programme with students attending virtual classes on one Saturday per month in the Spring and Autumn semesters. In addition to this, students are required to do a considerable amount of self study.

All apprentices on the Lean Sigma Manager Masters programme are required to complete three projects. These are:

Year 1: Lean Project

Year 2: Six Sigma Project

Year 2: Enterprise Improvement Project (Masters Thesis)

The University of Limerick will provide guidance to students on the suitability of projects but these must be facilitated within the apprentice work environment. Students will be allocated a supervisor for their EIP project in line with their particular topic.

### 3. Can you provide a qualified or experienced staff member who will act as the apprentice's Workplace Mentor and whose key role is to enable the concepts learned to be embedded and to provide advice and guidance on projects?

Each apprentice is allocated an Industry Mentor (a maximum of 4 apprentices to 1 mentor) whose key role is to support and enable the apprentice to complete the programme and the project work. The role of the 'in-company mentor' is not to formally assess any part of the apprenticeship programme as all assessments are done by the University of Limerick.

Mentors fulfil a vital role as advocate/facilitator/enabler depending on their role in the company and specific experience. An apprentice may have more than one in-company-mentor if they wish, though this is not compulsory.

Mentors must agree to have regular documented meetings with the apprentice throughout the programme and these form part of the learner's e-portfolio. The in-company mentor may have one or more of the following:

- Enabling capacity – to ensure the candidate dedicates enough 'on-the-job' time to the programme to ensure successful completion in the given timeframe.
- Subject matter knowledge in the area of study.
- Academic expertise through having completed a higher programme of study (at minimum a level 8) and/or have 5+ years of relevant sector experience.

Customised training for the mentor will be provided by the University. Continuous support throughout the duration of the programme is also provided. The Workplace Mentor will be required to provide a CV and proof of qualifications to determine their suitability to mentor.



## Role of the Workplace Mentor

- Familiarise themselves with the Lean Sigma Manager apprenticeship programme.
- Facilitate the apprentice's learning in the workplace by conducting a minimum of 4 mentoring meetings per year.
- Promote independence and autonomy in learning and in the completion of workplace projects.
- Foster a supportive environment to complete workplace projects.
- Facilitate peer learning with other experienced members of staff.
- Attend a mandatory briefing day workshop at the beginning of the apprenticeship programme.

### **The workplace mentor may also:**

- Participate in and/or contribute to the National Programme Board.
- Liaise with the academic supervisor and the apprenticeship programme manager on student progress.

# Registering an Apprentice

The employer must be approved by UL and SOLAS in order to register an apprentice on this programme.

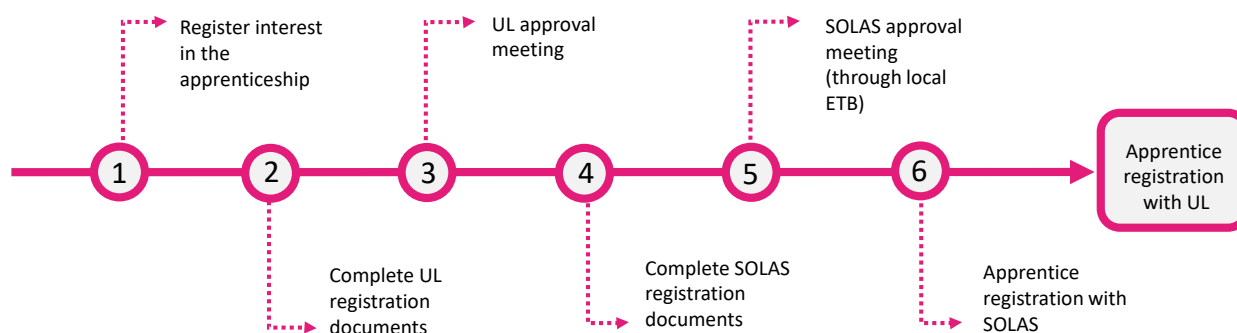
## The Role of SOLAS



SOLAS, as the further education and training authority, is the lead agency responsible for apprenticeships on behalf of the Government. They work in close partnership with employers, the Higher Education Authority, Quality and Qualifications Ireland, industry and education and training providers across further and higher education.

SOLAS' responsibility includes maintenance of a national register of employers approved to take on apprentices and a national register of apprentices. SOLAS have authorised the network of over forty authorised Officers (AO) located within Education and Training Boards (ETB) around the country, to carry out key employer assessment and liaison activities for the apprenticeship system, along with apprentice registration and ongoing support and monitoring duties.

For an employer to gain approval to train apprentices in a particular occupation, s/he must demonstrate that they have the capacity and the ability to provide quality, relevant on-the-job training to apprentices as per the requirements of the national apprenticeship programme and the statutory apprenticeship system overall.



## Stages to become an Approved Employer

### Stage 1:

1. Register interest by completing the [Expression of Interest form](#) or by emailing [apprenticeships@ul.ie](mailto:apprenticeships@ul.ie).
2. Complete and return the following UL company registration forms and documentation:
  - d. UL Employer Suitability to Train form
  - e. In-company mentor CV or template
  - f. Proof of mentor qualifications (photo/scan of parchment(s))
  - g. Apprentice CV
  - h. Proof of apprentice qualifications (photo/scan of parchment(s))
3. Attend an approval visit with UL programme manager, mentor, apprentice and person responsible for apprenticeships in the organisation.
4. Following UL approval, the UL programme manager will send all documentation to the local ETB.

## Stage 2:

1. ETB arranges a second approval visit and will ask the employer to complete the following:
  - a. SOLAS Suitability to Train form
  - b. Apprentice registration form
  - c. Provide apprentice photo (signed)
2. Following Solas approval\*, the UL programme manager will provide the apprentice with a link to apply to UL as a student and register on the programme.

## Apprentice/Student Registration

3. Apprentices applies to UL by completing the online application form and uploading the following:
  - a. A copy of passport (in the event of not having a passport, a copy of birth cert will be accepted).
  - b. An official copy of qualifications, undergraduate and postgraduate (transcripts and parchments required).
  - c. English language certificate if English is not their first language.
  - d. A copy of most recent CV.
  - e. Online registration fee of €35
4. Apprentices will receive an official offer letter for the programme which they must accept by doing one of the following:
  - Pay €250 acceptance fee (which comes off your total fee payable)
  - Attach a letter of sponsorship on headed paper which must be signed and stamped by your company
3. On receipt of payment or sponsorship letter, the apprentice will be sent instructions on how to enrol onto their course and register for their modules to officially become registered students of UL.

The company registration with UL and SOLAS is a one-off process and any additional apprentices who wish to register in subsequent years can express an interest by emailing: [apprenticeships@ul.ie](mailto:apprenticeships@ul.ie).

There is no limit on the number of apprentices that an organisation can have.



\* If the employer is deemed unsuitable, the SOLAS Authorised Officer will identify what requirements remain to be met and subsequently, a re-visit can be scheduled to re-assess.

# Entry Requirements

## Who is this programme suitable for:

The programme is suitable for existing employees seeking to progress within their organisation and develop skills relevant to the workplace.

- Employees who wish to learn tools and techniques to improve efficiency and reduce waste in their organisations
- Career changers.

## Apprentice Entry Requirements

- Must be employed by a SOLAS 'Approved Employer' and registered as an apprentice.
- Aged 18 or over.
- Must have achieved a 2.2 or above at Degree Level 8 or above.
- Certified and non-certified Recognition of Prior Learning will also be considered.
- International applicants must present the equivalent of a full Level 8 qualification or higher.
- English is the language of tuition and assessment. Apprentices for whom English is not a first language must demonstrate proficiency in English and hold a minimum of a B1 CEFR or recognised equivalent.
- Non-EU applicants are subject to work permit regulations.

# Frequently Asked Questions



## What is the value proposition of Lean Sigma Manager apprenticeship to employers?

This programme has been developed to meet current and future demand for Lean & Six Sigma qualified personnel employed across all industry sectors. Although initially developed for a manufacturing environment, Lean & Six Sigma tools and techniques are transferrable across all sectors (manufacturing and service). This is one of a suite of new 'Industry 4.0' apprenticeships developed by the university of Limerick to meet the demands. This apprenticeship will be an industry game changer; empowering apprentices with the essential blend of knowledge, skills and competencies they need to become an effective employee.

The programme is ideal for industries who have Operational Excellence or Business Improvement or who wish to build these in various sectors including but not limited to:

- Pharmaceutical
- Medical Devices
- Contact Centres
- Communications
- Food Production
- Financial Services
- ICT
- Engineering
- Construction
- Logistics & Transport
- Healthcare
- Insurance
- Education
- Manufacturing

## Is there a cost associated with taking on a Lean Sigma Manager Apprentice ?

There is a €900\* euro student contribution attributed to this programme which can either be paid by the organisation or the student.

## Does the apprentice have to leave work for long periods to attend college?

This work based learning programme has been designed to be flexible in terms of time, location, and mode of learning. Virtual learning is delivered on a Saturday to minimize work interruptions but students will be expected to attend benchmarking visits which may be face-to-face or virtual. This visits to other companies will take place during normal working hours.

It will be delivered by using a blend of:

- 70% learning on the job through projects
- 30% Online tutorials

There will be a requirement to attend a monthly tutorial for 6 Saturdays per year (one per month in the Spring and Autumn semesters). There will also be occasional masterclasses or tutorials during working hours but these are at a minimum. There is also a requirement for a minimum of four workplace mentor meetings per annum.

*\*This fee has been set at 30% of the annual student contribution set by the Irish Government. For the years 2021/2022- this fee will be subject to change in line with any national amendments to the student contribution fees.*

## Do apprentices have to study in Limerick?

No – the Lean Sigma Manager apprentices attend online tutorials on Saturdays which can be done from home. All other learning is done in the apprentices organization or at the site benchmarking visits.

## What qualification does the apprentice get?

Upon successful completion of the programme, the apprentice graduate will be a Master Black Belt in Lean & Six Sigma having achieved the Level 9 Masters in Strategic Quality Management.

Progression opportunities are available for those who wish to continue their studies into the Professional Doctorate Programme (Level 10). Indeed, apprenticeships are acknowledged as vital elements in the economic regeneration of countries across the globe. The continued expansion of apprenticeships into new occupational areas will enhance their image and profile and are a real option to academic-only learning pathways.

## What is the Community of Practice?

A Community of Practice affords apprentices opportunities to interact and engage in peer-to-peer learning activities around the academic content and on-the-job learning.

Key components of the programme are industry based seminars and company visits to explore supply chain management in practice in Irish and International enterprises. Apprentices will have different levels of experience and knowledge of supply chains depending on their organizational role and will benefit from seminars and visits to expand their knowledge and learning.

In company mentor meeting form an essential component of the Community of Practice. Mentors agree to having 4 formal mentoring meetings with their apprentice during each academic year. These are recorded by the apprentice as part of their learning log.



# Contacts

If you would like to discuss apprenticeships with one of our programme managers, please contact us using one of the following methods:

Email: [apprenticeships@ul.ie](mailto:apprenticeships@ul.ie)  
Tel: Philomena Kelly 061-237770  
Elaine Butler 061 237798

Further information on our apprenticeship programmes can also be found at:

Web: <https://www.ul.ie/gps/apprenticeships>

