



# GENERATION APPRENTICESHIP

ICT | [www.apprenticeship.ie](http://www.apprenticeship.ie)

## CYBERSECURITY PRACTITIONER BSc

Limerick for IT in partnership with the University of Limerick have developed a new Level 8 Honours Degree - Cybersecurity Practitioner Apprenticeship.

Developed by industry for industry, this is a work based education programme which supports the development and knowledge base of Cybersecurity amongst practitioners in organisations. It combines practical implementation and learning in the workplace with blended learning through the University of Limerick. This apprenticeship programme aims to address this critical skills shortage of skilled professionals in Cybersecurity and provide a talent pipeline for industry.

In 2020, Cyber Ireland surveyed the current labour market for cybersecurity skills in Ireland. The Cyber Security Skills Survey results have highlighted strengths and identified challenges, including Cybersecurity skills gaps (people lacking appropriate skills) and skills shortages (a lack of people available to work in cybersecurity job roles). These shortages are affecting organisations of all sizes (micro, small, medium and large), across a range of sectors, including indigenous and foreign owned companies.



<b>Apprenticeship</b>	Cybersecurity Practitioner
<b>NFQ Level</b>	Level 8 BSc Degree (Hons)
<b>Qualification upon completion</b>	BSc Degree (Hons)
<b>Duration</b>	3 years
<b>Industry Lead</b>	Limerick for IT
<b>Education Provider</b>	University of Limerick
<b>Delivery</b>	<ul style="list-style-type: none"><li>• Blended learning with online masterclasses</li><li>• Practical laboratory classroom and assignments</li><li>• Industry Reflective Journals and On the job application through Projects</li><li>• Peer to peer learning community of practice</li></ul>
<b>Applications by</b>	June for a September Start

### For Professionals who wish to:

- Enhance your career prospects as a cybersecurity professional.
- Quickly gain the knowledge to assess cyber risk and implement effective technical and organisational controls.
- Create, maintain, audit and improve systems to meet particular needs, often as advised by a business analyst or systems architect.
- Develop test protocols for hardware systems, software systems and the integration of both.
- Write diagnostic programs and design and write code for operating systems and software to ensure efficiency.

## Benefits to the Employer

- Developed by industry for industry
- Improves staff retention and productivity
- Addresses and tackles skills shortage
- Government subsidized qualifications

## Benefits to the Apprentice

- Gain a Degree while working
- Develop career enhancing skills
- Learn best-practice from other organisations
- Excellent career progression prospects

## How it Works

This three year programme is structured for blended delivery of online learning and face to face sessions which minimizes time 'off the job'.

- Programme content will be delivered both virtually and on campus. A combination of evening and day lectures and masterclasses will be scheduled for apprentices to engage in.
- Apprentices attend on-campus a minimum of 1 day per week during the semester to engage primarily in labs and tutorials.
- Apprentices will be registered on the University of Limerick Virtual Learning platform where they will be able to access programme content, examination and assessment requirements, electronic library and on-line collaboration spaces.
- Participation in a Community of Practice. This will allow participants to interact and engage in peer-to-peer learning activities.
- Support from an industry mentor within the company throughout the apprenticeship.
- Professional competencies and skills as well as linking on the job and off the job elements will all be captured through significant reflective learning modules that are built into the programme and narrated on an ongoing basis through the years of study.
- In Year 3, apprentices undertake a capstone project based on their employer.

## Entry Criteria

- Employers must be approved by SOLAS and commit to support the apprentice throughout the programme.
- Programme participants should hold an NFQ level 6 at minimum in a relevant area.
- Advanced entry into Year 2 will be possible for students who hold a relevant Level 7 qualification in an ICT related discipline and have relevant work experience.

## Course Content

### YEAR 1

#### Autumn

OPERATING SYSTEMS 1  
COMPUTER SOFTWARE 3  
MODERN COMMUNICATIONS FUNDAMENTALS  
COMPUTER NETWORK: STANDARDS, PROTOCOLS AND THE INTERNET OF THINGS

#### Spring

OPERATING SYSTEMS 2  
CP/IP NETWORKING  
MOBILE & WIRELESS COMMUNICATIONS

#### Summer

REFLECTIVE LEARNING JOURNAL 1

### YEAR 2

#### Autumn

INTRODUCTION TO SECURITY AND CRYPTOGRAPHY  
COMPUTER LAW, INVESTIGATIONS, AND ETHICS  
REFLECTIVE LEARNING JOURNAL 2

#### Spring

DATA SECURITY  
INTRODUCTION TO CLOUD COMPUTING  
REFLECTIVE LEARNING JOURNAL 3

#### Summer

REFLECTIVE LEARNING JOURNAL 4

### YEAR 3

#### Autumn

APPLIED CLOUD COMPUTING  
INTRODUCTION TO DATA ENGINEERING AND MACHINE LEARNING  
PROJECT 1  
REFLECTIVE LEARNING JOURNAL 5

#### Spring

HOST AND NETWORK SECURITY  
COMPUTER FORENSICS  
PROJECT 2  
REFLECTIVE LEARNING JOURNAL 6

Further Information and how to apply email [apprenticeships@ul.ie](mailto:apprenticeships@ul.ie). You can also contact one of our programme managers, Philomena Kelly 061-237770 or Elaine Butler 061-237798 [www.apprenticeship.ie](http://www.apprenticeship.ie)

