Technology Ireland ICT Skillnet





MSc in DevOps

BLENDED • PART-TIME • NFQ LEVEL 9

www.ictskillnet.ie

OLLSCOIL TEICNEOLAÍOCHTA BHAILE ÁTHA CLIATH
TU DUBLIN
TECHNOLOGICAL UNIVERSITY DUBLIN

Unleash your unstoppable potential, with Technology Ireland ICT Skillnet



Technology is ever-changing. No matter what stage you are at in business or your career, there is always more to learn.

At Technology Ireland ICT Skillnet, our vision is to create **progressive futures**, helping organisations to **transform at scale** and individuals to **develop a competitive edge**, through the **power of learning**.

For almost two decades, Ireland's leading technology companies have trusted us to build the critical skills needed to thrive in a rapidly evolving market.

Let us connect you to the infinite possibilities shaping the world of tomorrow.

Supercharged skills

Each of our programmes are designed, developed, and validated by specialists from academia and industry, working together, with a constant focus on:

1. **Creating opportunity and momentum** for experienced professionals and those starting out or transitioning career.
2. Delivering learning solutions in a way that **balances work and study**.
3. Providing practical skills, along with the theoretical, allowing businesses to **navigate new frontiers in the world of tech**.



6,000+
companies supported



14,000+
learners upskilled



30+
professional programmes



Online, blended, and
in-company training supports



Government-subsidised
programme fees, up to 100%

MSc in DevOps
Bridge the digital divide and lead on innovation

As organisations increasingly adopt a DevOps culture, the demand for technologists with a combination of software development and IT operations skills has reached a critical point.

Despite growing opportunities in this field, there remains an acute shortage of professionals with recognised DevOps qualifications. Many specialists can lack the knowledge and understanding of the other cross-functional disciplines they now find themselves working with daily. Understanding not only the technical, but also the business and human factors at play during the high pressure demands of modern software delivery processes, is essential in the modern discipline of DevOps.



Developed in close collaboration with industry and academia, this 2-year part-time Level 9 Masters programme is specifically designed to teach real-world practical skills that organisations demand, while providing a recognised, industry-leading qualification.

Tailored for experienced professionals and aspiring DevOps practitioners, this programme will propel your expertise to new heights, elevate your career prospects, and help you to make a significant impact in your industry.

At a glance

Start Date
January 2027

Award
Level 9 NFQ (90 ECTS)

Delivery
Blended: Online and on-campus

Duration
2 years part-time
Classes are 2x evenings a week from 6.30-9.00pm

Fees
Skillnet subsidised: €3,495 per year
Non-subsidised: €4,325 per year

Programme Partner
Technological University Dublin (Tallaght Campus)



Programme schedule

The programme will start with a 2-day workshop that will involve all participants being physically present. This is seen as important to facilitate networking, experience sharing and group learning.

Lectures are held online two evenings per week, from 6.30 to 9.00pm. The lectures are primarily on Tuesdays and Thursdays. Occasionally, classes may alternate between Wednesday and Thursday to facilitate guest speakers. Lectures will be streamed live and will be available for download and offline viewing.

Some optional additional on-campus events may also be held. There are 2x examinations which are generally held on campus over the period of the programme.

Who is this programme for

With most technology organisations moving their delivery platforms to a DevOps approach, the shortage of people with cross sectional skills in DevOps is now acute.

Developed with industry as a direct response to this need, this Masters degree in DevOps aims to fill these important talent gaps and give credit, recognition and credibility to technologists working within the DevOps field.

This course is for current and potential DevOps engineers who want to gain recognition to develop in their role.

Semester and module breakdown

The programme will have six modules over Semesters 1, 2 and 3 and a major Research Project in Semester 4.

The Research Project provides an opportunity for students to carry out a piece of work that explores in-depth a feature or element of DevOps. If preferred, students can carry out their research project on a piece of work of direct relevance to their company or organisation.

Semester 1	**Introduction to DevOps**	Jan - May, Year 1

Module 1

Human and Organisational Issues

- Lean and Agile movements and methods
- Assess and evaluate organisational design and culture to facilitate DevOps style development, deployment and support
- Develop and manage global multi-disciplinary teams including an understanding of the cultural and practical issues which arise
- Be able to form, lead and develop teams
- Assess competence, accountability, responsibility, norms and operational management
- Collaboration, negotiation and partnering
- Managing the Future - Creating a readiness for organisational change, organisational development and change management

Module 2

Software Development Methodologies

- Technical implications of DevOps – the philosophy, the history, the SDLC, Lean, Agile Manifesto, continuous feedback and learning
- Change, Source, Defect Control Systems, Examination of major industry implementations (e.g. Atlassian, VSTS)
- Code Promotion
- Code Synchronisation
- System Debugging
- Software QA
- Automated Testing
- Software Security Vulnerability Management
- Software Telemetry and Monitoring
- Feedback and Learning

Semester 2	DevOps Fundamentals	Sept to Dec, Year 1

Module 3
Business Technology Strategy

- The Business Case for Agility and DevOps
- Lean/Agile management/ methods/frameworks (SAFE)
- Product road maps, pipelines, backlogs, valuing new features and technical debt
- Business case development and risk assessment
- Creation/management of multi-annual business plans
- Financial Management of Product and Technology life-cycles
- Project Management and Methodologies
- The end of the monolithic project
- Designing for agility and value
- Challenges for DevOps
- Regulated Software
- Impact for Customers of DevOps approach

Module 4
IT Infrastructure Fundamentals for DevOps

- Automation of Infrastructure
- Task and Process automation languages
- Advanced System Administration
- Software Security
- System Hardening
- Policies and implementation
- Virtualisation
- Containerisation
- IT Network and Infrastructure Protocols
- IT Network Monitoring
- Continuous Deployment
- Cloud Computing Concepts
- Infrastructure as Code



Semester 3	Advanced DevOps	Jan to May, Year 2

Module 5
Enterprise Architecture Design

- Architectural Design to support DevOps
- The DevOps supply-chain & PLM relationship
- DevOps in the Public Cloud
- Comparative Analysis of Cloud Offerings
- Cloud Scalability and Elasticity3
- Load Balancing
- Virtualisation Automation
- Provisioning and Orchestration
- Software Configuration Management
- Software Provisioning Management
- Security in the Public Cloud
- Degrading systems gracefully
- Chaos Monkey
- Serverless Compute in the Cloud

Module 6
Enterprise Architecture Deployment

- The DevOps paradigm/pipeline in practice requirements
- Develop Continuous Integration/Test /Deployment Release management
- Monitor and Learn
- Feedback and Iteration
- Detailed DevOps Case Study of the technical and human experiences of typical practitioners, e.g.
  - Google SRE (Site Reliability Engineering)
  - Intercom (Customer Messaging Platform)



Semester 4	DevOps Research	May to Dec, Year 2

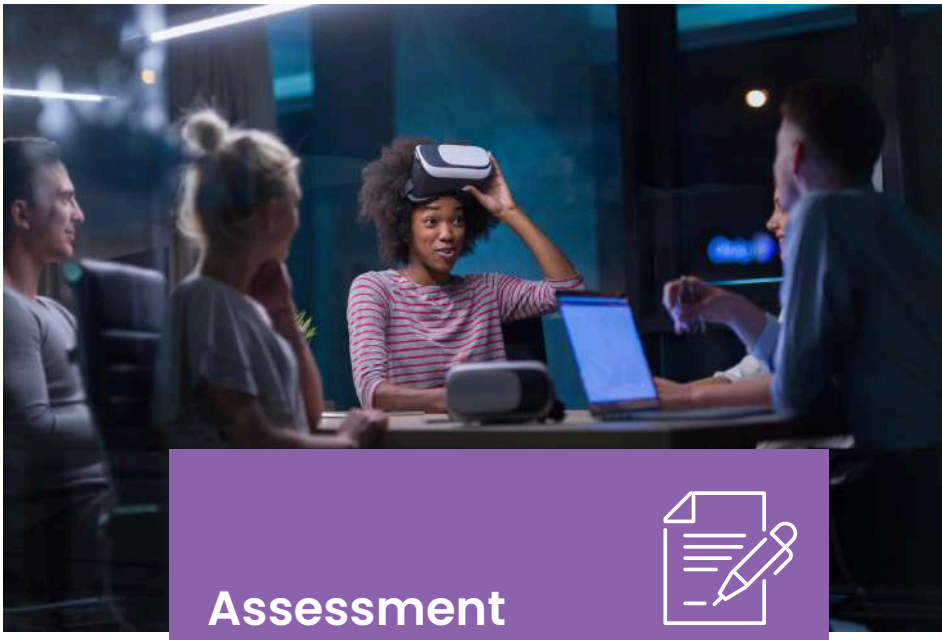
Module 7
Research Methods

- Academic Writing
- Qualitative and Quantitative research
- Surveys
- Statistics

Module 8
Research Project

- Applied piece of Research in DevOps area
- Encompasses a Proof of Concept/Prototype
- Supplements DevOps Theory knowledge

Outcomes for you



This course will help you to develop the necessary professional skills to be able to balance the trade-offs between requirements and costs, to understand business needs, and how to effectively communicate to stakeholders.

Upon completion of this course, you will have an advanced understanding of:

Systems security and how it must be pervasive.

How a systems design can impact on quality, deliverability and maintainability.

How to identify the specific requirements of different industries, such as banking, trading, security, healthcare.

Best practice, and new and emerging technologies, in the area of DevOps.

Assessment

The award structure will place greater emphasis on continuous assessment, practical and project work rather than on formal examinations. There are only 2 modules that carry an actual exam, with most subjects marked 100% via continuous assessment.

The aim is that participants will gain a deep understanding of the topics and content covered, and be able to demonstrate this acquired knowledge as proven competence in tests and exercises drawn from practical “real life” DevOps scenarios.

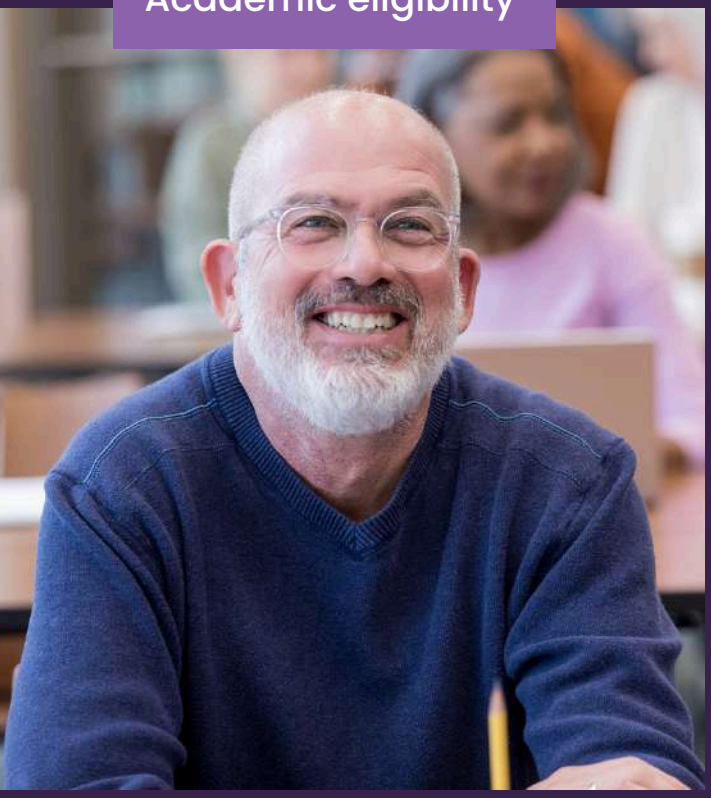
Award

Participants will receive a parchment for the Master of Science in Computing with DevOps upon successful completion of the programme.

This course was the ideal delivery method for me to upskill for work, giving me the flexibility to deal with my day job and family life. The content has been informative and covers core concepts. The combination of establishing how a DevOps focused organisation operates, coupled with some of the latest and greatest DevOps tools has given me the ability to affect real change in my organisation and already had a healthy impact on our release cadence and bottom line.

Dave Hill, Senior Software/DevOps Engineer, Dun & Bradstreet

Academic eligibility



The minimum entry requirement for standard entrants to the course is a 2:2 (GPA 2.5 or equivalent), in a Bachelor of Science in Computing (Level 8) or a cognate discipline or equivalent.

For candidates who do not meet this minimum entry requirement, the college operates a Recognition of Prior Learning (RPL) scheme whereby applicants may be considered based on relevant work or other experiences.

For applicants whose first language is not English, please note the English language entry requirements.

Funding eligibility

The fees for this programme are part-funded by Technology Ireland ICT Skillnet. The reduced programme fees are €3,495 per year.

Applicants must be employed by, or operating as, an eligible business engaged in economic activity in the Republic of Ireland. This includes private companies, sole traders, commercial social enterprises and eligible commercial semi-state organisations. Additional eligibility verification may be required for certain organisation types to avail of grant-aided fees.

Applicants who do not meet our funding criteria may in some cases be able to apply and pay the full fee of €4,325 per year if there are available places.

Please speak with our programme team to learn more about the availability of funding.

info@**ictskillnet**.ie

Programme delivered in partnership with:

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TU Dublin has five locations across Dublin, including major campuses in Grangegorman, Blanchardstown and Tallaght, and locations on Aungier Street and Bolton Street. While TU Dublin is already a leader in STEM disciplines, the University also supports the largest cohort of students of business, media, culinary arts, and the creative and performing arts. They are passionate about life-long learning, and as the largest provider of part-time education, they make an important contribution to the economic life of Ireland, enabling capacity building for the future.



Ready to develop your career in DevOps?

Our team is ready to answer any questions you might have regarding this programme. Send an email to info@ictskillnet.ie or use the enquiry form on our programme page and one of our programme leads will be delighted to assist you.

Successful applicants will be required to complete registration details both for Technology Ireland ICT Skillnet and for TU Dublin (Tallaght Campus). Programme participants will become registered students of TU Dublin.

Start your learning journey today
with Technology Ireland ICT Skillnet

Learn More

Embrace the future with confidence, with Technology Ireland ICT Skillnet as your training partner.

Technology Ireland ICT Skillnet

Programme pillars

Our wide range of programme channels allows you to access training in the latest technologies driving business development.

- Artificial Intelligence
- Cloud
- Cybersecurity
- Data Analytics
- Innovation & Transformation
- Leadership
- Quantum
- Software Architecture
- Software Development

Industry approved

With the support of our Industry Steering Group, made up of some of Ireland's most progressive companies, you can be assured that our programmes will provide you with the most relevant and cutting-edge skills that industry demands.

Fidelity Investments, Hertz, Liberty Information Technology, Ericsson, IBM, Cisco, hp, Technology Ireland Ibec

Certification you can trust

Through our strategic partnerships with some of Ireland's most influential higher education institutions, we offer a range of certificate, diploma, and masters programmes, with awards accredited on the National Framework of Qualifications.

TU Dublin, Atlantic Technological University, MTU, DCU Dublin City University, Maynooth University, University of Limerick, NCI National College of Ireland, University of Galway, TUS, UCD Dublin

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Technology Ireland ICT Skillnet

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UNSTOPPABLE POTENTIAL

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Technology Ireland ICT Skillnet is co-funded by Skillnet Ireland and network companies. Skillnet Ireland is funded from the National Training Fund and the European Union through the Department of Further and Higher Education, Research, Innovation and Science.

Skillnet Ireland

Rialtas na hÉireann
Government of Ireland

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