Postgraduate Diploma in Science in Cloud Computing

(Classroom Delivery) (1 Year)

For programmes described as Classroom Delivery, there will be a mixture of online and on-campus delivery. The college will transition back to classes on campus in accordance with Government guidelines. Students should be prepared for a return to campus and also note in some instances, some elements of online learning may remain in place as required.

Location: Online

Start Date: The course is expected to start in the week commencing 20th September 2021

Indicative Schedule: Tuesday & Thursday 18.00 - 22.00 and a number of Saturdays 09.00 - 18.00.

Career Bridge classes will be delivered one day per week in Semester 2 from 17.00 to 18.00. Day to be confirmed.

Duration: Sept to Dec 2021, Jan to May 2022 & May to Aug 2022

Applications: Apply online at www.springboardcourses.ie

Fees: A student contribution fee of €650 is applicable if you are in employment. No fees applicable if you are unemployed. The scheme does not cover any allowance for books and materials.

If a student contribution fee is applicable this must be paid in full no later than Friday 19th of November 2021.

Course Description

Different analysts estimate the value of the cloud computing market differently. According to "Forecast: Public Cloud Services, Worldwide, 2016-2022" Report published by Gartner—a leading industry analyst— the worldwide public cloud services market is projected to grow 17.5 percent in 2019 to total 214.3 billion USD, up from 182.4 billion USD in 2018. Using a service-oriented classification, ITCandor report – "Cloud services $246 billion and still growing at 25% "published in 2019 estimates the overall value of the market at 246 billion USD in June 2019, growing at 25% and up from 109 billion USD in 2015. All in all, Cloud Computing has become a dominant technological force in the global economy.

The overall goal of Postgraduate Diploma in Cloud Computing degree is to provide graduates with essential research and development skills in Cloud Computing. Upon completion of this course, graduates will be able to perform independent research that puts them into a position to make informed and critical decisions regarding requirements elicitation and analysis, implementation, evaluation, and documentation in Cloud Computing. The programme team is focused on keeping the content of the course relevant and has created an industrial panel consisting of members from multinational organisations and SME's that are engaged with Cloud Computing.

The programme team has identified a set of core modules worth 50 credits within the Postgraduate Diploma that represent the most relevant skills for learners to progress and get suitable employment after they complete their studies. Learners on the programme will gain in depth knowledge and skills in the core topics of Cloud Computing including:

· Cloud, Fog, and Edge Architectures
· Cloud Services and Scalable Programming
· DevOps and Security
· Data Governance, Compliance, and Ethical

Additionally, learners will be offered to undertake 10 credits by selecting two out of five 5-credit modules on Cloud Machine Learning, Blockchain, Quantum Computing, Innovation I and Innovation II.

Career Prospects

A number and range of opportunities for skilled graduates exist in the Computing/IT sector in Ireland which have been well documented in reports such as the "Ireland's National Skills Strategy 2025": "The Cross-sectoral skills improve an individual's employability and enable occupational mobility. Among the key cross sectoral skills identified [are] the core technology skills e.g., software developers, cloud, security, networking and infrastructure.

As stated on the IDA website (https://www.idaireland.com/doing-business-here/industry-sectors/cloud-computing): "Ireland is rapidly becoming a dominant force in Cloud Computing, building on its international reputation as a leader in ICT. Many key players have already been attracted to Ireland while a wide spectrum of technology companies with Irish operations are actively expanding into and researching the Cloud."

In fact, the IDA considers Cloud Computing an entire sector on par with aviation or pharmaceutical. Many key players have already been attracted to Ireland while a wide spectrum of technology companies with Irish operations are actively expanding into and researching the Cloud. This Irish government has developed a comprehensive strategic approach to develop the sector in recognition of Ireland's potential to become a world leader in Cloud Computing. This focus has already attracted world leaders, such as EMC, Citrix and Dropbox. The skills in demand today are Java, Linux, Amazon Web Services (AWS), Software Development, DevOps, Docker and Infrastructure as a Service (IaaS), included in roles such as:

· Cloud Architect
· Cloud Software Engineer
· Cloud Sales, Cloud Engineer

· Cloud Systems Administrator
· Cloud Consultant
· Cloud Network Engineer
· Cloud Product Manager

Through the Cloud Competency Centre at NCI, this programme has been actively engaged with major cloud multinationals (AWS, IBM, and Microsoft). Additionally, we have received support from indigenous cloud-intensive companies. Recent NCI graduates in cloud computing have gone on to work as technology analysts in Citi, support engineers in SAP, network engineers in HP Enterprise, site & reliability engineers in Asavie, operations engineers in IBM and Workday, Technical Support Engineers in Zendesk, Marketing Cloud Technical Support in Salesforce, among others.

Students will consolidate the acquired knowledge and skills by carrying out a 3-month work placement. There will also be a Career Bridge module that will help the students to enhance their employability skills and improve their overall career prospects.

Who is the course for?

Graduates of the PGDip Cloud Computing are ethically prepared to undertake management and leadership roles. The programme learning outcomes have been designed to incorporate skills such as Problem Solving, Planning, Time Management, Communication, and Decision Making. The following modules include relevant learning outcomes and continuous assessments (projects) which foster such skills: Cloud Architectures, Cloud Platform Programming, Cloud DevOpsSec, and Blockchain Concepts.

As a graduate of this course, you will be able to:
· Create and deploy commercial multi-tier applications onto multiple (public/hybrid) cloud platforms
· Plan and architect highly-scalable computing/data analytics solutions for business and scientific needs
· Design pattern-based application code to run efficiently in a cloud environment

- Evaluate security strategies associated with cloud computing and apply them to ensure the technical sustainability of an organisation
- Perform a migration from a traditional ICT environment to a cloud-based platform
- Manage the process of running an IT department from a cloud environment.

Award and Progression

Graduates of the Postgraduate Diploma in Cloud Computing are awarded an NFQ Level 9 qualification and can optionally complete the additional 30 credits required to upgrade their qualification to the MSc in Cloud Computing. (Not included under Springboard+, additional fee would apply).

Academic Entry Requirements

Applicants are required to hold a minimum of a level 8 honours qualification (2.2 or higher) or equivalent on the NFQ in a cognate discipline. The Postgraduate Diploma in Cloud Computing is aimed at graduates of a systems-oriented computing discipline:

- Computer Engineering: Typically involves software and hardware and the development of systems with software, hardware, and communications integration.
- Computer Science: Relatively broad and with an emphasis on the underlying science aspects.
- Software Engineering Focuses on large-scale software systems, certain ideas from the world of engineering in building reliable software systems.

An assessment and/ or interview may be conducted to ascertain suitability, if necessary, for candidates who do not meet the normal academic requirements. Non-native English-speaking applicants must demonstrate fluency in the English language as demonstrated by IELTS academic score of at least 6.0 or equivalent.

Laptop Requirements

Students are expected to successfully participate in lectures, laboratories and projects using a laptop computer with a substantial hardware configuration. A suitable configuration is 6GB of RAM (8GB or more are recommended); a 64- bit x86 processor (Intel i5 or superior); 250+ GB of hard disk; wifi card; and a recent installed release of Windows operating system. It is the responsibility of the student to ensure their laptop is functioning correctly and that they have full administrator rights to the machine. NCI IT cannot provide support to personal devices.

This course requires internet access you will be required to ensure you have sufficient broadband speed and reliable connectivity from your place of study.

Free Laptop loan for eligible students on this course: Students who are eligible for HEA funding for this course may also be eligible for a free laptop provided on a loan basis for the duration of the programme. This will be a suitable specification machine for completion of the programme but must be returned once you have finished your course. Overall numbers of laptops available are subject

to maximum numbers and no other alternatives can be offered.

Check *https://www.ncirl.ie/Students/ Student-Services/Support-Services/S tudent-Laptop-Fund* for updates on the next opening date for applications.

Assessment

The programme is assessed by means of continuous, in-semester, assessment and final examination. http://courses.ncirl.ie. Please note that in some instances exams may take place in the daytime and at weekends.

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Course Content
(Classroom Delivery) (1 Year)

Year 1 / Semester 1
- Cloud Architectures
- Cloud Platform Programming

Year 1 / Semester 2
- Cloud DevOpsSec
- Scalable Cloud Programming
- Blockchain Concepts
- Career Bridge

Year 1 / Semester 3
- Fog and Edge Computing
- Data Governance, Compliance and Ethics
- Cloud Machine Learning

Springboard Careers Advisors will proactively support you to find relevant employment during the course or following completion of the course.

*Note that all modules count towards the final award classification.

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