Postgraduate Diploma in Science in Cybersecurity

(Blended delivery) All classes in Semester 1 due to Covid 19 Restrictions will be delivered online.

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

Location: Online and IFSC Campus

Start Date: The course is expected to start in the week commencing 28th September 2020.

Indicative Schedule: Monday and Wednesday 18.00 - 22.00 and a number of Saturdays 09.00 - 16.00.

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

Duration: 1 year, 3 semesters. September to December 2020, January to May 2021 and May to August 2021.

Applications: Apply online at www.springboardcourses.ie

Fees: A student contribution fee of €695 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 20th November 2020.

Course Description

Cybersecurity is an essential need for a modern society in which information technology and services pervade every aspect of our lives. The Cybersecurity field has the fastest growth rate while the labour market encounters a severe workforce shortage. As a graduate of the course you will be able to:

- Conduct independent research and analysis in the cybersecurity domain including secure application design, development and testing within a given context e.g. web, cloud computing, and forensic investigation
- Demonstrate practical skills and expert knowledge of technologies and tools that support cryptanalysis, application and service vulnerability detection and patching, security incidents detection and log file analysis
- Critically evaluate the design and implementation and evaluation of a research idea
- Analyse and evaluate the legal, ethical and economic ramifications of developing secure applications and services
- Communicate effectively to a range of audiences in both written and verbal media and undertake self- learning in order to acquire new knowledge

Career Prospects

Cybersecurity Ventures estimates that a business or consumer will be the victim of a ransomware attack every 5 seconds by 2021. As the world's data store grows over the next five years, more of it will be taken hostage by cybercriminals. The Irish government is seeking to fill the shortage of skilled cybersecurity personnel to protect companies against cybercrime as well as respond to security breaches.

Companies who have hired 2018 and 2019 graduates from this course include: Version 1 (Associate Consultant), Irish Aviation Authority (Project Management System Specialist), Amazon Web Services (Cloud Support Associate), AKKA Academy (Graduate Technology Consultant), Fidelity Investments (Senior System Analyst and Senior Software Quality Engineer), PwC (Technology Consultant), Dell EMC (Software Solutions Engineer), Kontainers (Business Analyst).

Who is the course for?

This course is ideal for ICT professionals or graduates with a level 8 degree on National Framework of Qualifications (NFQ), in computing/ computer science or in a cognate area (STEM) that wish to develop a career as a cybersecurity professional; to take a leading technical or managerial role; to progress faster in their exmployment or to apply the knowledge in their current role. Candidates who do not hold a computing degree and are currently working in the IT sector may be considered based on relevant academic qualifications or extensive work experience. Candidates are expected to have programming ability.

Award and Progression

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

Academic Entry Requirements

A minimum of a level 8 primary degree in Computing or a cognate area with a 2.2 award or higher or equivalent on the National Qualifications Framework in Computing or a Cognate area. Candidates are expected to have programming ability. Cognate area means a STEM (Science, Technology, Engineering, and Mathematics) degree that also taught programming/application development related modules. An assessment and/or interview may be conducted to ascertain suitability if necessary for candidates who do not meet the normal academic requirements.

The college operates a Recognition of Prior Experiential Learning (RPEL) scheme meaning applicants who do not meet the normal academic requirements may be considered based on relevant work and other experience. This may be assessed using a portfolio of learning, demonstration of work produced, and an interview. The programming ability of the applicant will also be assessed. Non-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

This programme has a BYOD (Bring Your Own Device) policy. Specifically, students are expected to successfully participate in lectures, laboratories and projects using a portable computer (laptop/notebook) with a substantial hardware configuration. The minimal suitable configuration is 8GB of RAM (16GB are recommended); a modern 64-bit x86 multi-core processor (Intel i5 or superior); 250+ GB of available space in hard disk; WiFi card; and a recent version of Ubuntu, macOS, or Windows.

It is the responsibility of each student to ensure their computer is functioning correctly and that they have full administrator rights. NCI IT cannot provide support for these personal devices.

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.

Course Content

The course offers two specialisations: Forensics and Cloud Security. Learners must select one specialisation.

Year 1 / Semester 1
- Security Fundamentals
- IT Law and Ethics
- Network Security and Penetration Testing

Year 1 / Semester 2
- Secure Programming for Web
- Cryptography
- Malware Analysis
- Career Bridge

Year 1 / Semester 3
- Research in Computing
- Secure Programming for Application Development
- Cloud Security
  - *Cloud Security Elective*
- Incident Response and Analytics
  - *Forensic Elective*
- Forensics and eDiscovery
  - *Forensics Elective*

Relevant Employment / Placement can be undertaken within the course timeline, generally 2nd or 3rd semester, or commenced within 3 months of course completion.

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