Would you like to be able to analyze a cyber attack, or reverse engineer malware? Would you like to know how to process a crime scene, interrogate suspects and witnesses, and prepare a statement for court? Would you like to be able to perform electronic discovery of documents, investigate spear phishing, intellectual property theft, blackmail, defamation, fraud and various other forms of corporate misconduct where crucial evidence exists in digital form? If your answer is “yes”, then this MSc program will give you the knowledge, skills, and practice. The programme is for students with a background in computer science, information technology, or a related discipline. It covers all aspects of digital investigations from legislation and crime scene processing to digital forensics, reverse engineering, and forensic reporting. Students also learn how to prevent re-occurrence of incidents by applying appropriate information security countermeasures. The information security component covers key technical elements of modern network security technology, information security management, and penetration testing. The programme can be used to upskill or to reorient a technical career.

Course Content and structure

The programme starts in September and finishes in August the following year. Students attend lectures and practical sessions on Tuesdays, Wednesdays, and Thursdays during the Autumn and Spring semesters. Some hands-on workshops are delivered on weekends. A Digital investigation Project occupies the entire summer semester from the middle of May to the middle of August. Besides coursework, students benefit from a monthly Digital Forensics Seminar Series and optional visits to the Irish law courts to better understand the litigation process, and the role and responsibilities of expert witnesses. A limited number of industrial internships are available each year to suitable candidates upon successful completion of the programme.

Subjects studied include:
- Law for IT Investigators
- Computer Forensics Foundations
- Investigative Techniques, Live Forensics and Court Testimony
- Reverse Engineering for Information Security and Forensics
- Network Security and Forensics in a Corporate Environment
- Information Security Management and Penetration Testing
- Digital Investigation Project - an individual or team-based research project on a real-world topic in digital investigation
- Additional modules may be available.

Modules and topics shown are subject to change and are not guaranteed by UCD.
Graduate Profile

Preet Payal, IT Security Analyst at Deloitte Ireland

“I liked the way the assignments were designed. This course isn’t something you can be spoon fed. Apart from lectures you have to do your own research and learn, which proves to be beneficial in the long term.”

Graduate Profile

Vishvander Singh, Threat Analysis Engineer, Symantec Ireland

“Definitely I would recommend UCD to international students because of the study culture and renowned professors and research opportunities. To be honest I have had an amazing experience here.”

Assessment

Your coursework will be assessed using a variety of methods including group and individual assignments, written exams and graded presentations.

Facilities and Resources

Students perform self-study assignments during the year, using their personal computers and UCD’s online computer lab. They have access to a Virtual Crime Scene Simulator and the loan of forensic equipment as needed.

Entry Requirements

Applicants normally have a bachelor’s degree in computer science (2.1) or equivalent work experience. Understanding of programming concepts and some familiarity with Java, C or C++ programming is required.

International Fees and Scholarships

Tuition fee information is at www.ucd.ie/fees. This fee includes tuition and examination costs. You should also budget for living expenses while studying at UCD. UCD offers a number of postgraduate scholarships for full-time, self-funding international students, holding an offer of a place on masters programmes. Please see www.ucd.ie/international/scholarships for further information.

Accommodation

UCD has accommodation for over 2,500 students across five locations. Places are limited and more information is available at www.ucd.ie/residences/. For information and advice on living off-campus, please contact the UCD Residences Off-Campus Office or the UCD Student Union Accommodation Services. Please visit www.ucdaccommodationpad.ie/ and www.ucdsu.ie for further details.

Related Masters Programmes of Interest

- MSc Digital Investigation and Forensic Computing (Part-time, Distance learning) F021

Career Opportunities

Our graduates are employed as malware analysts, digital forensics and information security consultants, information security managers, and developers of security software. Our graduates work in the Irish divisions of Deloitte, Ernst & Young, Grant Thornton, KPMG, PwC, FireEye (formerly Mandiant), IBM, HP, Dell, Facebook, SAP as well as in law enforcement, banks and financial institutions such as Bank of America, Merrill Lynch, JP Morgan, Bank of Ireland, Central Bank of Ireland, Deutsche Bank, and Pioneer Investments.

Assessment

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Apply Now

This programme receives significant interest so please apply early online at www.ucd.ie/apply

Entry Requirements

Applicants normally have a bachelor’s degree in computer science (2.1) or equivalent work experience. Understanding of programming concepts and some familiarity with Java, C or C++ programming is required.

Graduate Profile

Mitchell Impey, Head of Information Security Audit, Danfoss A/S, Denmark

“I picked UCD for two reasons, the national police force here in Denmark spoke highly of the programme and when I realized that it was led by Dr. Gladyshev, the decision was clear. The chance to do this online, the topics covered and the price were other factors of importance as well. One very interesting component of the course was the legal class.”

EU Enquiries

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