

# MSc APPLIED CYBER SECURITY

## WORLD LEADING

Informed by world-class research being undertaken at CSIT, our GCHQ/ NCSC recognised 'Academic Centre of Excellence in Cyber Security Research'.

## INDUSTRY FOCUSED

Influenced by a strong engagement with world leading security companies.

## APPLY YOUR SKILLS

Opportunities for internships in industry.

```
String username = getUsername();
if (username.length() > 0) {
    if (!database.userExists(username)) {
        throw new LoginException("User " + username + " doesn't exist.");
    }
    if (!isIdentityAssertion(username, password)) {
        String passwordHint = null;
        try {
            passwordHint = database.getPasswordHint(username);
        } catch (NotFoundException e) {
            // Password not found
        }
        String passwordHave = null;
        if (passwordHint != null) {
            throw new LoginException("Authentication Failed: " + passwordHint + "Have " + passwordHave);
        }
    }
} else {
    // anonymous login - let them in
    System.out.println("\nanonymous login - let them in");
    loginSucceeded = true;
    principalsForSubject.add(new Principal(username));
    principalsForSubject.add(new Principal(username));
}
```

## CONTACT US

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# MSc APPLIED CYBER SECURITY



## Course Content

This innovative programme is at the forefront of technical advances in cutting-edge cyber security topics such as cryptography, computer forensics, malware, networking, software development, as well as investigating the increasingly important legal and ethical issues in cyber security.

This is an applied course, which mixes theoretical skills with practical work in the lab to give you hands-on experience.

The MSc Applied Cyber Security has GCHQ/NCSC full certification.

## The Environment

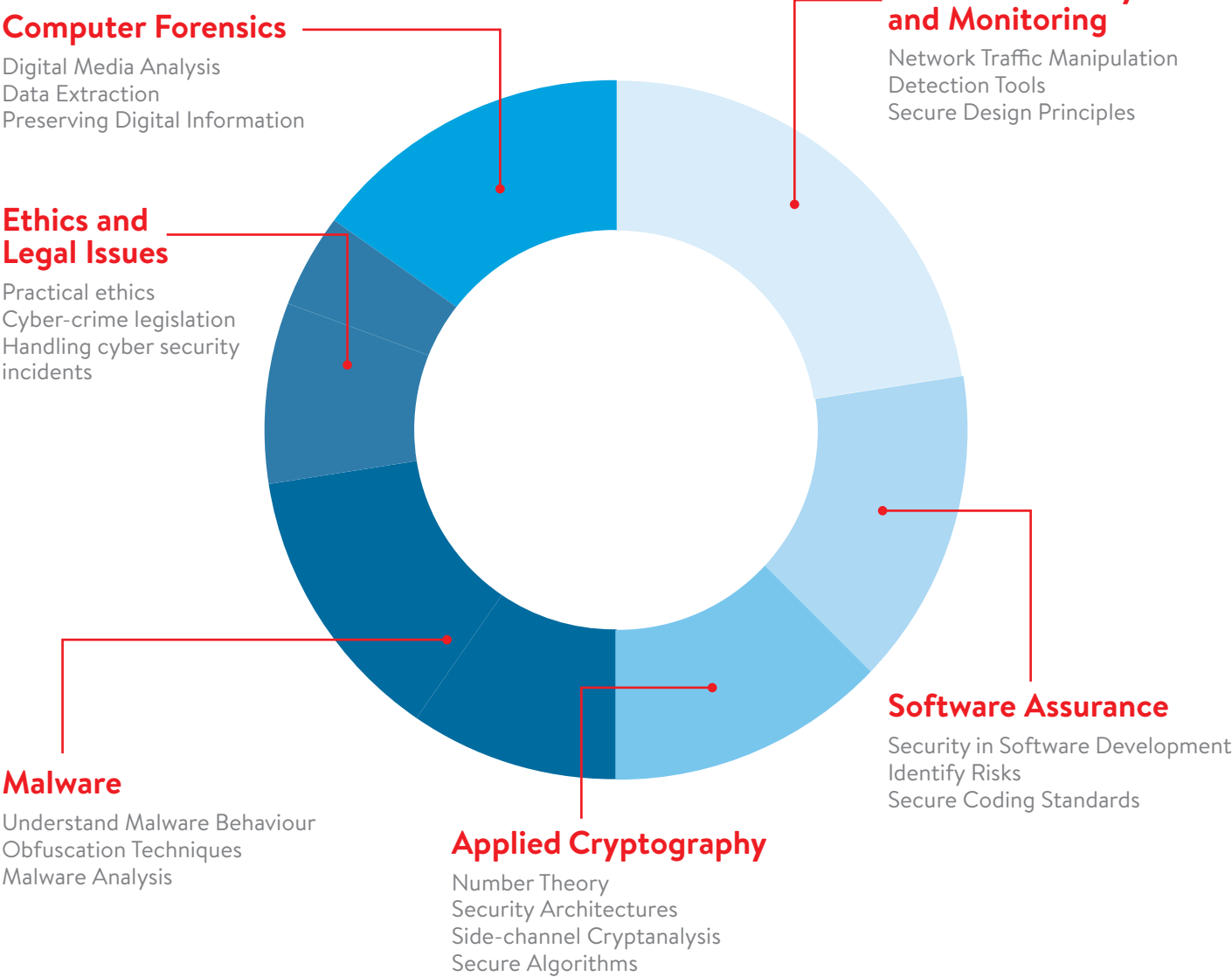
Our MSc is informed by the world-class research being undertaken at the Centre for Secure Information Technologies (CSIT). In 2008 CSIT was established as the UK's Innovation and Knowledge Centre (IKC) for cyber security.

In 2015 Queen Elizabeth II awarded CSIT a Queen's Anniversary Prize for Higher and Further Education for its work in strengthening global cyber security and protecting the online activity of billions of internet users around the world.

Northern Ireland is the #1 international investment location for USA cyber security development projects (fDI Markets, Financial Times 2017)

Belfast is rapidly developing a reputation as a global hub for cyber security and we hope students will be inspired to thrive in this dynamic and exciting environment.

# SKILLS



**Course Director**  
Kieran McLaughlin

## Who will be teaching you?

For each module, your tutor is an active researcher in their area, including people like:

**Phil O’Kane**, who has 20 years’ programming for financial institutions, **Maire O’Neill**, one-time UK Female Inventor of the Year and an acknowledged international expert in the field of cryptography and computer forensics expert **Gary Edgeworth**, who works in industry with law enforcement.

## Who are you?

You’ll be analytical, quizzical, technical. A modern-day

codebreaker. Cyber security is a challenge that will not go away, affecting companies, individuals and even governments.

## You could be

A recent graduate – possibly a maths or engineering graduate with good programming skills, or you might be a good developer but have little knowledge of cyber security.

Already working in industry – experienced in technical software development, and looking to upskill and enhance your professional development.

An international student looking to study a UK master’s degree, to meet an international need.

## What you’ll get up to

You’ll do a 3-4 month research project investigating a cutting-edge problem in cyber security. You can choose to do a year in industry to gain professional experience and apply your new skills in practice. You’ll also have access to the School’ expert dedicated career guidance team, with custom support for CV development and interview preparation.

## Where could you be in five years?

- in threat intelligence
- as a chief information security officer <sup>(CISO)</sup>
- in network security
- in information assurance
- at security operation centres

...anywhere in the world

## To discuss the course in more detail or if you have any questions contact:



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FIND OUT MORE ABOUT THE COURSE:  
<http://go.qub.ac.uk/appliedcyber>