Duty • Honour • Integrity

WMG
THE UNIVERSITY OF WARWICK

FULL-TIME
MSc IN CYBER SECURITY AND MANAGEMENT

Contents

Introduction

Threats to our cyber security are real, and Malaysia requires professionals with the knowledge and skill to understand and mitigate threats systematically. We believe that strong and effective management and governance, as well as technical skill, are paramount in ensuring cyber security risks are properly managed within an organisation. Through this combined approached, Malaysia can maintain and protect its critical services and information infrastructure.

NDUM has collaborated with WMG at the University of Warwick on postgraduate programmes since 2012, and we are pleased to be able to offer their MSc in Cyber Security and Management to our students. This programme has been very well received in the UK and can now be studied right here in Malaysia.

Welcome

To make an impact on business and industry today, you are expected to be a problem solver, team player, practitioner, and strategist. WMG's MSc programmes will help you develop the vital mix of technical knowledge and management theory, plus the softer skills that you'll need to create impact throughout your career.

As one of the largest academic departments at the University of Warwick (ranked in the top ten UK universities), and a leader in applied research and development with global companies, WMG offers world class management education with real business application. You will be taught by visiting WMG tutors in intensive blocks of study. Assignments are designed to enable you to apply your learning to your industrial context, and your chosen major research project will be supervised jointly by your company experts and staff from NDUM.

You will also have the opportunity to augment your study by undertaking modules at one or more of our other partner centres should any modules not be offered at present in Malaysia, or if business needs mean that you are based elsewhere for a time?

Visit our MSc Facebook page to see what life is like as a WMG student: http://www.facebook.com/wmgmasters

If you decide to join a WMG programme, I look forward to meeting you and supporting you through your study.

Eur Ing Professor Amanda Dowd, BSc, PhD, CEng, FIET
Academic Director of Graduate Studies (WMG)

About Warwick

The University of Warwick is a leading university in the UK, where the starting point is always 'anything is possible'.

Part of the renowned Russell Group, and one of the UK's prominent universities for teaching and research, Warwick has consistently ranked within the UK Top 10 since its inception in 1965. In just 50 years, we have become a leading higher education institution, earning the title of University of the Year 2014-2015 from The Times and Sunday Times.

Our vision is to be a truly world class university. One with a dynamic, enterprising approach to solving global challenges; one that enables students to create their place in the world; one that defines the university of tomorrow. We are proud that the QS annual World University Rankings have named us as one of the world's Top 50 universities. Furthermore, The Times Higher Education (THE) have declared us one of the seven fastest-rising young universities in the world.

We were one of the first universities to break out of the 'ivory tower' and realise the benefits of connecting academia with industry. Right from the start, we've worked with thousands of successful companies, from global corporates, to SMEs and local start-ups. The scope of our expertise means our business partners are rewarded with connected solutions across the entirety of our institution.

These links with industry mean we are able to transfer the latest knowledge and thinking to our students across all our faculties, giving them the best possible start in their career. Indeed, Warwick graduates are the third most often targeted by the UK's top employers. In the QS World University Rankings, Warwick is ranked in the Top 20 in the world for employer reputation.

Our vibrant international community and outstanding resources and reputation mean that by choosing Warwick, you will be making a significant step towards your future.

www.warwick.ac.uk

About WMG

WMG offers you a unique opportunity to gain a world class management education with real business and industry application.

One of the largest academic departments at the University of Warwick, we are a leading multidisciplinary group making a real impact through collaborative R&D and world class education.

Founded by Professor Lord Bhattacharyya in 1980, we are driving innovation across the areas of business transformation, manufacturing, systems, materials, and design. Working together with industry, we develop solutions to both business and technical challenges. Our work has helped organisations to improve their competitiveness in a wide range of sectors including automotive, aerospace, defence, digital, construction, energy and utilities, finance, food and drink, healthcare, IT, pharmaceuticals, security, and rail.

Today WMG is one of the world's leading research groups, cited by UK government as an international role model for how universities and business can successfully work together. Some of our partners include Airbus, Arup, Bosch Ltd, Jaguar Land Rover, Nikon, Siemens, TVS Motors, Tata Motors, and Tata Steel.

By leveraging the results of these collaborations, and transferring that knowledge to our students, we have become a leading centre for both technical and management education, developing the future skills base for global industry. Challenging traditional ways of thinking, and sharing our expertise and experience, we develop well-rounded individuals who can progress to the highest level.

In the UK, we deliver undergraduate engineering programmes, a substantial full-time Master's programme spanning 14 specialist courses, award-winning part-time professional education, and PhD and EngD programmes. We welcome students from 60 countries to the Warwick campus each year, and have a vibrant international community.

Partnering with universities and institutions in China, India, Malaysia, Singapore, Thailand, Cyprus, and Turkey means that we can combine our expertise and ethos with their knowledge of the regional marketplace. This ensures we are still providing you with the best possible education even if you can't study with us in the UK.

We also work with global companies to create custom programmes for their workforce, both in the UK and overseas. Our partners have included AstraZeneca, BAE Systems, Bharat Forge, China Aviation Industry Corporation, HSBC,

Rolls-Royce, and UTC Aerospace to name a few. We are also a key partner in the Jaguar Land Rover Learning Academy, which provides lifelong learning opportunities to its workforce.

As a legacy of our success over the last 35 years, we have an alumni network of over 30,000 people, reaching every corner of the world. We are proud of the accomplishments and contributions of all our students, many of whom have gone on to become global CEOs or successful entrepreneurs in their own right.

www.wmg.warwick.ac.uk

About

National Defence University of Malaysia (NDUM) WMG

UPNM was formerly known as Akademi Tentera Malaysia (ATMA) or the Malaysian Armed Forces Academy which was established on June 1, 1995. The institution was also branded as the sole organization responsible in upgrading the knowledge and academic status of the armed forces by offering bachelor degree courses in fields of engineering, sciences and managements while not neglecting the basic requirements of military training.

The bachelor degree courses were accredited and awarded by University Teknologi Malaysia in the beginning. Lecturers – some from within the armed forces, some hired by the academy and the rest deputised by UTM where all were fully committed to changing the face of the Malaysian armed forces.

In November 10, 2006, ATMA's responsibility was recognized and further given a boost when it was upgraded to university status creating the current UPNM. The establishment of the university was announced by our former Prime Minister Datuk Seri Abdullah Ahmad Badawi during the Budget 2007 reading at the Malaysian Parliament. The setting of the university cost was RM500 million and was fully borne by the Government of Malaysia.

The university's first intake of students was for the 2007/2008 session which amid new changes having admission the first intake of civilian undergrads. Universiti Pertahanan Nasional Malaysia prepares the Malaysian military and civilian leaders to better address national and international security challenges through multi-disciplinary educational programmes, research, professional exchanges and outreach. Though the university was not too long ago established, it has already chalked up over 11 years of experience in education

and training since 1995 with over 1000 graduates in the fields of engineering, computer science and management. These graduates have all been successfully inducted and now suit as full officers in the Malaysian Army, Royal Malaysian Navy, Royal Malaysian Air Force, also in other Government Sectors and Non Government Sectors.

Collaboration NDUM and WMG

NDUM has started its collaboration with The University of Warwick since 2012 as part of its global partnership. The collaboration started with the inception of a Master program i.e. Master of Science in Engineering Business Management for Defence Studies (MEBM). The collaboration will be enhanced with the introduction of new program which is well received in UK, i.e. the MSc. in Cyber Security and Management (MCSM).

About
the programme
MSc Cyber Security and Management (MCSM)

Designed by WMG's Cyber Security Centre at the University of Warwick, this programme is for those wanting to take a leading technical or managerial role in an organisation critically dependent on data and information communication.
Our MSc in Cyber Security and Management (CSM) will help you to understand and apply cyber security in a consultancy, strategic, business or management context.

Over the course of one year, you'll develop a clear understanding of the cyber threat landscape and will acquire the skills to build and manage secure systems to support the strategic deployment of cyber security within an organisation.

A mix of research-led teaching, practical exercises, and real-world scenarios from guest speakers will help you to really engage with the programme and understand how to apply your learning to your own organisation.
Upon successful completion of the programme, you will be awarded your MSC in Cyber Security and Management from The University of Warwick, UK.

Objective of the MCSM

To provide advance understanding of managing cyber security within an organization. The student will be taught the techniques and technologies used in an organization security architecture and cover key areas of information risk management and network in defence. The course also prepares students in the broad skills required for effective management and leadership excellence.

Who should enrol?

Typically, students will have a background in computing or IT, but this is not essential. If you have a particular interest in cyber security and a good level of technical competence we would be pleased to consider your application.

Individuals in, or looking to move into, the following career roles are particularly encouraged to apply:

- ✓ Military officer
- ✓ Police officer
- ✓ Security agency officer
- ✓ Information security officer
- ✓ Risk officer

- ✓ Cyber investigation officer
- ✓ Cyber intelligence officer
- ✓ Chief information officer
- ✓ Protective security officer
- ✓ Educator

Modules

The programme is comprised of 10 taught modules (assessed through post-module assignments), and one major project/dissertation.

Modules will each run over five days, at NDUM, and will be delivered by WMG tutors. You will be expected to submit your post-module assignment within 6 weeks of the completion of each module.

Security Architectures and Network Defence

The first Cyber Security module begins by introducing the domain and the core fundamental concepts relating to cyber security. Students will gain a comprehensive understanding of the underlying security infrastructure and in particular the protocols required in setting up a system where secure transaction (financial or communicational) are required.

The syllabus also includes malware and attacks, the threats ecosystem, phishing, pharming and data theft, the AAA of security, firewalls and defence and Intrusion Detection System.

Industrial Espionage and Counterfeiting

This module examines the motivations for industrial espionage and the various method of attack on the physical security of an organisation, its electronic infrastructures and its staff and suppliers.

Student will learn to analyse and mitigate potential attacks through industrial espionage; will develop an understanding of counterfeiting attacks and design countermeasures; and will carry out risk

Cryptosystems and Data Protection

This module focuses on the technology and concepts behind data protection and in particular the numerous cryptosystems and protocols that allow us to keep communications private.

We also focus on the use of encryption technology to provide authorization and access control systems. Throughout the module we disentangle often complex protocols to begin to understand how they work. The module will enable you to develop a broad understanding of data-centric protection, data-leakage threats and vulnerabilities and key prevention and detection technologies.

Information Risk Management and Governance

This module will develop your ability to establish and maintain an information risk management framework in order to guarantee that security and assurance strategies are aligned with business objective and are consistent with legal and regulatory obligation.

A strong focus will be put on business continuity and resilience and there is an emphasis on the practical nature of this process and the issues that face managers in the real world.

Digital Forensics, Evidence and Intelligence

Cyber-crime affects all walks of life and transcends personal, social and business domain. This module investigates the core techniques currently used for the purpose of data retrieval, evidence preparation, crime scene management and intelligence extraction where the source of data is a digital storage system. It will give an overview of national and international digital forensic investigation infrastructures and put legal procedure into context.

Global E-Business

In this module you will critically examine the processes and organisational structures that enable future manufacturing and service enterprise to win business, deliver systems, products or services and maintain relationships in the radically more complex business landscape.

Business Strategy

Management

The increasingly dynamic and complex global business environment in which most organisations operate requires managers to be aware of the impact of strategic decision-making on their business. This module introduces the main features of strategic thinking and the strategic management process including the strategy formulation process.

Leading Change

Organisations today operate in a rapidly changing business environment that demands ever higher standards of operations, business efficiency and customer service. This module is designed to give participants an understanding of change and the reasons for it. We look at the strategic models and tools and measures, as well as giving the hands-on experience of managing change and dealing with the consequences of change within a simulated business environment.

Project Planning Management and Control

This module provides an understanding of the principles, philosophies and methods of project management. It establishes an appreciation of, an ability to apply, current tools and techniques for project planning and control, including the selection and management of project teams.

Financial Analysis and Decision Making

This module provides an understanding of the main accounting statements together with an awareness of basic accounting principles, terminology and techniques which will enable you to interpret financial reports and information. An introduction to management accounting practices as an aid to effective operational financial planning controls is also included.

Your project

Your project accounts for 50% of your final grade and will support you in developing your personal research and analytical skills. Through the project you will be able to focus on a topic of specific interest you or your organisation. This might include risk management, security policy, enterprise security cultures, intrusion detection, cloud exploitation and procurement strategies, data forensics, and security testing.

Within the first month of the programme you will be expected to submit a proposal for your dissertation, and you'll be assigned an appropriate academic supervisor from WMG.

Submission of the final dissertation (20,000 words) will be three months after completion of your final module. However, you are expected to work on this alongside the taught modules, and to devote an appropriate amount of time to the project throughout the year. The dissertation will be assessed by an oral exam at the end of the year.

"This is real life! The course is perfectly designed to prepare people for a working environment. For each module, there's an intensive week of learning that provides a wealth of information. Then through the PMS, I was able to research the subject in more depth and present my findings in a document that would be relevant to someone at board or ministerial level. It's exactly what you do as a consultant: research and analyse information, then make your findings meaningful to a particular audience and their business priorities."

Rebecca Falconer, UK
MCSM Graduate 2016

Eligibility for the programme

Entry requirements

Bachelor of Science in IT or Computer Science, or Technology Management, with a minimum CGPA of 2.50 from a university recognised by the University of Warwick.

Those with a lower minimum CGPA must have a minimum of two years' work experience in a related field.

Language requirements

As the course will be delivered in English, you should have one of the following qualifications:

- IELTS: 6.5
- TOEFL iBT: 92
- ADFELPS: 7

FEES

*RM 12000 to RM 30000
(*Subject to change)

Application

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UNIVERSITI PERTAHANAN NASIONAL MALAYSIA
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Perak
Pahang
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Kuala Lumpur
Negeri Sembilan
Melaka
Johor

Getting in touch

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The information contained in this brochure was correct at the time of going to print.