



Duty • Honour • Integrity




FULL TIME

MSc International Technology Management for Defence and Security Taught in Malaysia



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Introduction

Global investment in technology is growing faster than in most other areas, and as a result the discipline of technology management has become increasingly important. Getting the most out of technology investments is becoming much more complex, and much harder to achieve.

Strong and effective management and governance, as well as technical skill, are paramount in ensuring technologies are properly managed within organisations. Technology Management is of strategic importance to companies and governments worldwide, and essential for national competitiveness and prosperity. By developing the capability to better understand and manage technologies effectively, Malaysia can compete on a global playing field.

You will be taught at NDUM 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 by staff from NDUM, and supported by experts from your organisations. NDUM has collaborated with WMG at the University of Warwick on Postgraduate programs since 2012, and we are pleased to be able to offer an MSc International Technology Management for Defence and Security to our students. This programme has been developed by WMG in collaboration with local Malaysian experts in technology management in the defence and security sector.

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, and the softer skills that you will 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 excellent management education with real business application.

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, it has become a leading higher education institution, earning the title of University of the Year 2014-2015 from The Times and Sunday Times.

Warwick's 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.

The University is proud that the QS annual World University Rankings have named Warwick as one of the world's Top 50 universities. Furthermore, The Times Higher Education (THE) have declared it one of the seven fastest-rising young universities in the world.

Warwick was one of the first universities to break out of the 'ivory tower' and realise the benefits of connecting academia with industry and government. Right from the start, it has worked with thousands of successful companies, from global corporates, to SMEs and local start-ups. The scope of expertise means their partners are rewarded with connected solutions across the entirety of the institution.

These links with industry mean Warwick is able to transfer the latest knowledge and thinking to their students across all 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.

It's 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 application in business and industry and government.

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

Founded by Professor Lord Bhattacharyya in 1980, WMG is driving innovation across the areas of business transformation, digital manufacturing, systems, materials, and design. Working together with industry and governments, they develop solutions focused on addressing industry and governments technical challenges. Their 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. drink, healthcare, IT, pharmaceuticals, security, and rail.

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Today WMG is one of the world's leading research groups, cited by UK government as an international role model for how universities, business and governments can successfully work together. Some of their partners include Airbus, AstraZeneca, Bosch Ltd, Dyson, GE Aviation, 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, WMG has become a leading centre for both technical and management education, Challenging traditional ways of thinking, and sharing their expertise and experience, WMG develop's well-rounded individuals who can progress to the highest level.

www.wmg.warwick.ac.uk

About National Defence University of Malaysia (NDUM)

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's degree courses in the fields of engineering, sciences and management while not neglecting the basic requirements of military training.

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 Bachelor's degree courses were accredited and awarded by University Teknologi Malaysia in the beginning.

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 serve as full officers in the Malaysian Army, Royal Malaysian Navy, Royal Malaysian Air Force, also in other Government Sectors and Non Government Sectors.

Collaboration between NDUM and WMG

NDUM has been collaborating with the University of Warwick since 2012, as part of a global partnerships campaign. The collaboration started with the inception of an MSc in Engineering Business Management for Defence Studies (MEBM). The collaboration will be enhanced with the introduction of the new MSc in International Technology Management for Defence and Security (MITMDS)

About the MSc International Technology Management for Defence and Security (MITMDS) programme

Designed by WMG's Technology Management team at the University of Warwick, this programme is aimed at those who aspire to become influential leaders and managers in Engineering, Design, Manufacturing, Operations and Support functions in government or industry; those who can analyse business opportunities, operationalise technologies and innovate in ways of working.

The programme looks at how to deliver value and benefit through the exploitation of innovation and fast technological change.

Over the course of one year, you'll develop a clear understanding of the international technology landscape and gain the expertise to manage the development, acquisition and operation of technology, particularly with respect to emerging and digital technologies.

A mix of research-led teaching, practical exercises and international case studies, and exploring 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 an MSc International Technology Management for Defence and Security from the University of Warwick, UK.

Objective of the MITMDS

The objective of the course is to provide in-depth knowledge, useful skills and a critical understanding of the concepts and tools relevant to strategic analysis, leadership and international management of technology, with a strong focus on their application in the Defence & Security environment.

Who should enrol?

Typically, students will have a background in science, engineering or other relevant discipline, but this is not essential. If you have a particular interest in technology management and a good level of business or operational competence we would be pleased to consider your application.

This programme will be of particular relevance to individuals in, or looking to move into, a leadership or managerial role in which technology decision-making and innovation play a major part.

While the programme is designed for full-time students studying over a period of 12 months, there are opportunities for working professionals to take the programme over a two to three year period.

MITMDS modules

- Technology Strategy
- Technology Management & Innovation for Defence & Security
- International Acquisition & Collaboration
- Leadership & Change in the Defence & Security Sector
- Project Planning, Management & Control for Defence & Security
- Research Methodology
- Systems Thinking & Systems Engineering
- Project Financial Management
- Reliability, Maintainability & Operability
- Managing in a Defence & Security Multi-Programme Environment

In addition to attending ten modules - each of a week's duration - you will undertake a significant research project that relates to the management of technology or technical functions in an international context, and is relevant to the defence and security sector. Each module is described in more detail below.

MITMDS MODULES SYNOPSIS

Technology Strategy

Looks at where Technology Strategy sits within an organisation's overall strategy. It examines the process of technology strategy development and the implementation of a successful technology strategy.

Organisation Strategy

- Internal and external analysis
- Vision, mission and strategy
- Stakeholder analysis and management
- Communication for effective strategic management

Technology Strategy (and alignment with organisation strategy)

- Drivers and key technology trends in the defence & security sector
- Process of technology strategy development
- Review of the main academic approaches, tools and techniques for developing and implementing technology strategy
- Technology road mapping
- Practical approaches for the implementation of technology strategy

Technology Management and Innovation for Defence & Security

Considers the role and value of innovation and technology in organisations, with a focus on the defence and security sector. It addresses how to manage innovation and technology at both a strategic and operational level in organisations. It reviews how to select and apply appropriate frameworks and techniques for identifying, assessing and delivering technological change at an acceptable risk.

- Innovation & competitive performance
- Relationship between technology and innovation
- Emergent technologies in defence & security
- Creating an environment for innovation
- Linking technology management to technology strategy
- Technology management frameworks
- Technology readiness assessment and technology auditing

International Acquisition & Collaboration

Develops the skills and knowledge to enable efficient and effective acquisition decision-making, within an international context, where collaboration can enhance financial, technological and operational performance.

- International approaches to Acquisition
- Acquisition Strategies and Procedures

- Influences and Impacts of complex challenges and cultural environments
- Approaches to Acquisition
- Collaboration and relationships, risk and consequences
- Whole life approaches
- Professionalism, decision making, people & processes.
- Being the Intelligent Customer

Leadership & Change in the Defence & Security Sector

Equip students with an understanding of the leadership challenges of operating in a public/private multiple stakeholder environment and to be able to both initiate change and to implement change in the specific context of technological enhancement applied to Malaysia's defence and security sectors

- Exploring the Public and Private sector context in/for Malaysian defence
- Stakeholder analysis and management
- Contemporary theories and Models of Change
- Leadership of self and others in relation to problem definitions
- Transition, transformation and continuous improvement
- High Involvement approaches
- Resistance and compliance – getting to Win/Win

Project Planning, Management & Control for Defence & Security

Covers the generic principles of Project Management Planning and Control for any project in any environment, then focuses on the specific approaches, tools and techniques that are relevant to wider technology management projects in a defence and security environment.

- Definitions of Projects, Programmes and Portfolios (P3M)

- Project lifecycles and methodologies
- Characteristics of different projects in different environments (Type, Scale, Complexity, Uncertainty, Volatility, Ambiguity and Risk)
- Tools and techniques for the planning management and control of time, cost, performance and risk
- Formulation and Management of project teams through the life-cycle
- Selection of appropriate methodologies and tools

Research Methodology

Introduces the generic aspects of research methodology that are needed in order to define, implement and write-up a research project within the defence and security sector and provides an overview of some of the main research techniques that could potentially be employed.

- Introduction to the research process
- Research design
- Reviewing the literature
- Critical thinking
- Qualitative data analysis
- Quantitative data analysis
- Writing an academic document

Systems Thinking & Systems Engineering

Establishes key principles and methods of systems thinking to help students assess complex problems and needs in the Malaysian defence and security sector.

- Systems thinking and systems engineering concepts and principles
- How systems engineering activities are directed and managed effectively to meet a business' goals
- Identifying stakeholders
- Capturing and managing requirements and translating

these, systematically, into appropriate solutions

- Managing systems engineering teams
- Risk management in systems engineering

Project Financial Management

Addresses the financial management of projects and provides a basic understanding of business accounting statements, so that participants can interpret financial information. It gives an introduction to management accounting practices as an aid to effective project financial planning and control, and introduces the financing of projects.

- Introduction to Project and Business Finance
- Financial statements
- Profit vs. Cash. Control of cash flow and its implications
- Budgetary Control Systems and Techniques
- Costing Techniques to ascertain, recover and control costs
- Marginal Costing and Contribution Analysis
- Capital Expenditure Evaluation and Financial Evaluation of Projects
- Financing and business structures for large projects

Reliability, Maintainability & Operability

Develop the skills and knowledge to be able to apply confidently reliability and maintenance concepts to business operations, and understand their impact on operational performance.

- Introduction to Reliability, Availability and Maintenance (RAM)
- QFD
- RAM tools – FMEA, FTA, RBD, Markov Analysis
- Asset management

- Data analysis of RAM for aiding operational decisions
- Maintenance methods and RCM exercise
- Life cycle costing methods

Managing in a Defence & Security Multi Programme Environment

Builds on Project Planning Management and Control for Defence & Security' module, and extends the application of appropriate tools and techniques to the larger, more complex scenario of multiple projects, where the interactions and risks present a further dimension of challenges to success. Also, explore themes and concepts introduced in the 'Leadership & Change' module, with specific reference to their application in the Project and Programme Environment.

- The Multi-Project Context
- Negotiation & Project Selection
- Programme Team Structure & Strategy
- Project Lifecycle
- Stakeholder Engagement
- Resource Management
- Communication for Collaboration
- Project and Programme Leadership
- Specific characteristics of Multi-Project Management in the Security/Defence sector

Project

Your project is worth 50% of your final grade and supports you in developing your personal research skills.

For International Technology Management, the project will relate to the management of technology or technical functions in an international context.

Warwick will use their best efforts to deliver the course as described in this brochure and meet the degree level learning objectives of the course. There may be circumstances beyond our control that lead to some change.

See

www.warwick.ac.uk/study/postgraduate/terms

“MSc International Technology Management equipped me with the business acumen necessary for today’s constantly changing workplace. Studying at WMG was great, thanks to its unique course structure, which meets the needs of global industry. The assessments really helped to develop my knowledge of business, management and strategy. I know that the skills I have gained from this course will really help to bolster my career.”

Eligibility for the programme

Entry requirements

A Bachelor Degree 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.

Applicants with higher diploma may apply and each application will be considered on its merits.

Language requirements

As the course will be delivered in English, you should have one of the following qualifications completed in the last 2 years.

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

FEES

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

Part-time students should contact UPNM for detailed prices.

Company sponsorship may be available depending on your employer

Application

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Getting in touch

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