

Master of Science in Engineering Business Management for Defence Studies (MEBM)

The increasing cost and complexity of providing modern military and security capability requires that the limited resources available are utilised with maximum efficiency and effectiveness. This requires the development of highly capable and professional military officers and civilian officials to identify and implement complex and innovative procurement, engineering and support solutions across the defence supply chain.

This educational programme, based on the University of Warwick's internationally acclaimed Masters Programme in Engineering Business Management is intended to equip participants with the essential knowledge and competences required to rise to this challenge.

On completion of the programme participants should be capable of:-

- a) Developing creative and innovative solutions to support the improvement of the Armed Forces and Security environments.
- b) Identifying the potential for improving the design of logistics and engineering processes to achieve front-line capability, maturity, reliability, and ease of support with optimal through life cost.
- c) Identifying and taking supply chain opportunities to improve capability, maturity, reliability, ease of support, shorten lead-time and reduce through life cost.
- d) Identifying and designing cost-effective improvement programmes for specific situations that align with the organisational strategy and objectives.
- e) Implementing effective capability improvements and objectively measuring the benefits.
- f) Improving the efficiency and effectiveness of managing military assets.
- g) Understanding team dynamics in order to lead, motivate and manage teams effectively to deliver organisational change and improved performance.

Entry Requirements

The candidate shall have a qualification of Bachelor of Science or Bachelor of Engineering Degree or equivalent in related fields with a minimum CGPA of 3.00 from universities recognized by Warwick University. Those with a lower CGPA must have a minimum working experience of two years.

English qualification is also required: IELTS with a minimum score of 6.5 or TOEFL with a minimum of 650.

Programme Intake

Once in a year (January Intake)

Mode of Study

Full Time and Part Time

Duration of Study

Full Time: 1 year (min) - 3 (max)

Part Time:

Medium of Instruction

English

Mode of Study

Coursework + dissertation

Programme Structure

The course comprises of 10 academic modules with one project known as dissertation. In addition, there are four skills workshops to enhancing personal development and delivering clear organisational benefit.

ACADEMIC MODULES		SKILL WORKSHOPS
1	Business and Operations Design	
2	Financial Analysis and Decision Making	
3	Project Planning, Management and Control	
4	Capability Management in Defence	Research Methodology Workshop
5	Lean Principles and Applications	Workshop on Lean Principles and Applications
6	Leading Change	
7	Supply Network Relationships in Defence	Workshop on Supply Network Relationships in Defence
8	Efficient and Effective Through Life Support	Workshop on Through Life Support
9	Quality, Reliability and Maintainability	
10	Innovation	
11	<i>Project: Dissertation</i>	

The credit for each element of the programme is shown below. The workshops do not carry any academic credits.

	No. of Modules	Credit	Total Credit	Total Duration (Approx.)
Modules	10 modules	10 CATS at M Level per module (100 hours of work per module)	90	40 hours of work
	Post Module Assignments (PMA)			60 hours of work
Project	1 dissertation	90 CATS at M Level	90	900 hours of work
			180	1000 hours

Types of Assessment

Student must pass 9 modules at 40%. Average performance on the best 9 modules must be at least 50 %. In addition to that, student must also pass oral and dissertation.

MEBM Classes

10 MODULES + PROJECT	TUTOR
1. Business and Operations Design (BOD)	1. Michael Newton
2. Project Planning, Management and Control (PPMC)	2. Michael Newton
3. Financial Analysis and Decision Making (FADM)	3. Nick Phillips
4. Capability Management in Defense (CMD)	4. Keith Eaton
5. Lean Principles and Application (LPA)	5. Neil Davis
6. Leading Change (LC)	6. Barry Winter
7. Supply Network Relationship in Defence (SNRD)	7. Stuart Young
8. Efficient and Effective Through Life Support (EELS)	8. Jeremy Smith
9. Quality, Reliability and Maintainability (QRM)	9. Jane Marshall
10. Innovation (INV)	10. Pieter Nelson
11. Project: Dissertation	

MOD	PROGRAMME COORDINATOR	DATE OF CLASSES
BOD	Prof. Dr. Risby Mohd Sohaimi	16 - 20 January 2012
PPMC	Kol Prof. Ir. Dr. Norazman bin	13-17 February 2012
FADM	Mohd Noor Lt Kol Mohd Noor bin Yahya	5- 9 March 2012
CMD	Brig Jen Prof. Dr. Shohaimi bin Abdullah	2-6 April 2012
LPA	Prof. Dr. Megat Mohd Hamdan bin Megat Ahmad	9-17 April 2012 14-18 May 2012
LC	Prof. Haslinda Abdullah	21-29 May 2012
SNRD	Rozita bte Husain	11-19 June 2012
EELS	Lt Kol Khairul Hasni Kamaruddin	23-27 July 2012
QRM	Dr. Dian Darina Indah binti Daruis	13-17 August 2012
INV	Dr. Mohd Faisal Ali	

Learning Approaches

Offers interactive learning approaches in encouraging participation and intelligent decision amongst students. This coupled with close interaction with lecturers would definitely enhance the learning process. Some of the learning approaches adopted in the program are as follows:

- Interactive Action Learning
- Syndicate Group Learning & Discussion
- Experiential Learning
- Real Project-Based Learning

Below is the typical programme learning structure repeated four times during yearly module cycle.

PMA
Mod 1
Mod 2
 1 week taught with PMA Set
 8 weeks to undertake PMA research, write and submit answer
 1 week taught with PMA Set
 3 days skills workshop & clinics for students
 PMA

MEBM Instructors

All subjects are fully taught by the instructors from Warwick University.

Course Description

Module 1. Business & Operations Design

This module explores how the principles of the systems approach and systems theory can be applied to the holistic redesign of a business or operation to create an integrated, competitive, efficient and effective organization. The major issues, which reduce the risk of a redesign failing to achieve the maximum benefits, are addressed.

Module 2. Financial Analysis & Decision Making

This module provides a financial framework to underpin the life cycle approach of managing complex projects over a long time-scale. The module considers the fundamental accounting structures necessary to provide sound information on which to make reliable decisions or to support decision-making processes from an accounting or financial perspective.

Module 3. Project Planning, Management & Control

This module provides an appreciation of the issues and current techniques for successful project planning and control, including the selection and motivation of project teams.

Module 4. Capability Management in Defence

Defence capability defines the front-line military requirement. The objective is then to design equipment and support processes that deliver that capability in the most appropriate way for the most appropriate cost, through the whole life of the equipment. The aim of the module is to give students a clear understanding of the process of strategy development in terms of defence capability and its delivery through acquisition processes, systems engineering and effective performance management

Workshop 1. Research Methodology Workshop

This is a standard University of Warwick (WMG) workshop designed to equip participants with the skills necessary to undertake and successfully complete major research project including writing and presenting a dissertation required for the award of a Masters Degree in Engineering Business Management for Defence.

Module 5. Lean Principles and Application

This module examines the principles, techniques, key tools of "Lean" and how they might apply in a variety of processes and sectors. The strategic importance of creating "lean enterprise" is explored as well as the challenges associated with achieving and sustaining this. The module also provides scope for participants to explore how they might appropriately apply Lean in their own organisations.

Workshop 2. Workshop on Lean Principles and Applications

Following delivery of Lean Principles and Applications module, this workshop will develop the practical skills required to implement lean principles within a Defence and Security context. It will focus on value stream analysis, the identification of 'wasteful' activities and provide the participants with appropriate tools and methodologies to improve the efficiency and effectiveness of logistics and engineering processes.

Module 6. Leading Change

Critical to successful organisations and the achievement of continued high standards of operation is the ability of managers to introduce successful change that yields benefits. However big or small the desired change, successful and outstanding results are only achieved when managers have a clear understanding of how individuals are motivated and how groups of people work as a team and react to one another. This module focuses on this fundamental understanding of change and also the skills and behaviours necessary to lead strategic change, cultural change and specific change initiatives.

Module 7. Supply Network Relationships in Defence

Effective supply performance flows from a network of organisations that are effectively aligned to provide products and services on time, on cost and to the specification and quality required by the customer.

The aim of the module is to give students a clear understanding of the range of procurement strategies, the means by which the defence customer engages with industry and the management and development of the customer-supplier relationship.

Workshop 3. Workshop on Supply Network Relationships in Defence

This workshop will concentrate on providing the practical skills and methodologies to enable participants to develop improved and sustainable supply network relationships in the context of the Malaysian Armed Forces. In particular it will seek to develop the required skills to enable participants to undertake more effective industry audits and supplier selection. It will also cover an identified requirement to improve overall negotiation techniques.

Module 8. Efficient and Effective Through Life Support

To aim of the module is to enable students to analyse critically the challenges and key issues for the efficient and effective delivery of Through Life Support solutions in the Defence and Security environment. Military Equipment has an initial procurement cost and a through life support cost. Often the support cost is much greater over the life of the equipment than the original capital cost. This module focuses on how best to design and deliver support solutions that optimise the military capability and the associated through life costs.

Workshop 4. Workshop on Through Life Support

This workshop will focus upon practical skills and application of relevant tools to enable decision making that impacts favourably upon long term sustainability. It will utilise cases covered during the taught module to explore real issues from demanding operational environments. It will allow in depth consideration of practical aspects of support to Malaysian armed forces, as may be applied in both benign and hostile scenarios. It will take the concepts covered in the programme to analyse and apply in an integrative manner in order that course members can develop a holistic perspective through interactive discussions and exercises.

Module 9. Quality, Reliability and Maintenance

This course module treats quality, reliability and maintenance as integral parts of manufacturing, showing how philosophies, systems, employee involvement, techniques and technology should all contribute to improving quality and reducing costs.

Module 10. Innovation Strategy

Many organisations are finding that in order to succeed in increasingly competitive markets they need people who can manage for innovation. Although, useful insights abound, the body of knowledge on the subject remains disjointed and the adoption of the appropriate skills within industry has been slow. This module aims to help participants develop new skills and knowledge about innovation that will enhance their ability to contribute to the long term competitiveness of businesses.