



**PART-TIME  
PROGRAMMES 2019**

MANAGEMENT | ENGINEERING | TECHNOLOGY | INNOVATION

# Welcome

"Academic excellence with industrial relevance is at the heart of what we do. It's what makes us unique. I'm passionate about ensuring that industry has leaders with the skills to shape and sustain its future. Our modular approach to professional education will help you broaden your knowledge and capabilities. You will be able to add value to your company, so that you can make a real impact in your sector."

Professor Lord Kumar Bhattacharyya,  
Kt, CBE, FEng, FRS  
Regius Professor of Manufacturing  
Chairman and Founder, WMG



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# Shaping your future

You want to develop your career, stay ahead of the curve and achieve your full potential. Successful businesses need people to bring new perspectives, innovative thinking and fresh ideas. You can hone your skills, develop new knowledge and have a life enhancing experience with an industry focused qualification from WMG, University of Warwick. Our highly relevant and practical programmes will help you make a difference to your company and achieve your goals. Be empowered to shape your future.



## Flexible part-time study options

We appreciate that undertaking a course of study involves a considerable investment in terms of time and money, so you'll want to ensure that you make the right decision. This brochure will provide you with information to help consider the options.

We have short courses that can provide you with the technical or professional knowledge that you require immediately.

Our four year, part-time undergraduate degree programme provides a different, flexible way to study for a degree, or it can form part of a Level 6 Degree Apprenticeship if your employer supports this.

Our Master's modules cover a range of specialist technical and management topics. It is possible to study an individual module that particularly meets your immediate knowledge needs, build modules into a Postgraduate Certificate or Award, or enrol from the outset on a full Master's degree programme (for more details see pages 12-13).

## Highly valuable for you and your company

Studying while working is challenging, but our programmes offer a great deal of flexibility. Typically, each of our modules require 4.5 days out of the office and they are scheduled well in advance allowing you to plan your time.

Of course, you will also need to undertake reading and assignments, but these assignments are usually related to your workplace and help you to apply what you have learnt. Students often find that the assignments provide valuable evidence of continuing professional development, demonstrate to their organisations their developing knowledge, and often benefit the company by providing an analysis of an area of operations.

Going forward, whatever learning journey you decide to take, equipping yourself with the ability to make decisions in difficult situations and to initiate and prosper from increasingly disruptive innovations will be important.



"Studying at WMG has been an enormous benefit both in my professional and personal development and I would encourage anyone that has the opportunity to grasp it whole heartedly. The course taught me a lot about topics that I didn't have a great deal of experience in but also provided opportunities to refresh learning and understand how industry peers deal with different issues. I see the benefits every day at work and I certainly approach situations with more confidence."

**Neil Smith**  
Business Manager, Rolls Royce Plc

# Why Warwick?

With a reputation for excellence in research and teaching, for innovation, and for links with business and industry, Warwick is one of the leading universities in the UK.

## Our vision

We strive to lead rather than follow and are renowned for our entrepreneurialism and global outlook. We are as respected for boundary breaking research as we are for teaching and business collaborations.

Our vision is to be a truly world class university - one with a dynamic, enterprising approach to solving global challenges, that enables students to create their place in the world, and that defines the university of tomorrow.

## Our location

Warwick has an award-winning campus situated in the heart of England, just five miles from the city of Coventry. Our campus is surrounded by beautiful green space, but with easy access to transport links. We are one hour from London by train, and Birmingham Airport is just 20 minutes away.

## A vibrant campus university

With four star conference facilities, and shops, banks, sports facilities, bars and restaurants at your disposal, we have an attractive and lively environment.

Our outstanding academic resources include access to over 1 million printed works and over 48,000 e-books and e-journals to help in your study.

## Our alumni

The 185,000 strong global Warwick Alumni Network allows you to connect with graduates from almost every country and profession, and tap into a host of benefits provided by the University.



**Consistently placed in the TOP 10 UNIVERSITIES IN THE UK**  
*(The Sunday Times, The Guardian, The Complete University Guide)*



**MOST TARGETED UNIVERSITY NATIONALLY**  
by the UK's top 100 graduate employers  
*(The Graduate Market in 2018, High Fliers Research Ltd)*



**RANKED AT 7TH**  
overall in the UK's 2014 Research Excellence Framework



**One of the WORLD'S TOP 100 UNIVERSITIES**  
*(54th by the QS World University Rankings and top 100 of the Times Higher Education's 2018 World Reputation Rankings)*

# Why choose WMG?

## Our research capabilities

We deliver a unique combination of world class education with real business and industry application.

We are a multidisciplinary, research-led department renowned for collaborative R&D with global companies, and industry relevant education.

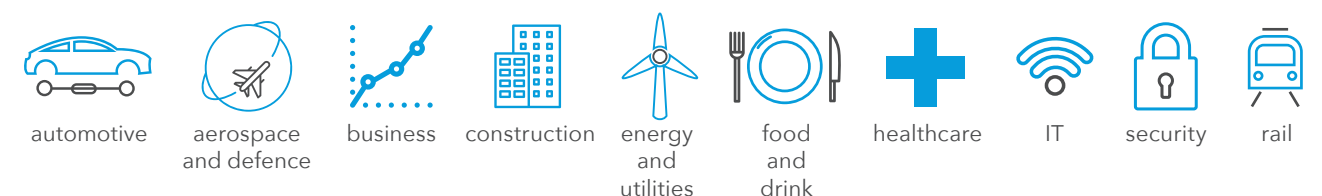
Our broad portfolio of programmes offers award-winning part-time education from apprentice and undergraduate, to postgraduate and executive level.

Our approach to education is to add real value to a company through its people. We have practical insight into how innovation can be managed in organisations and how individuals can use effective leadership skills to bring about change and improvement.

We have forged strong links with leading engineering, manufacturing, technology, and service-led companies, as well as key industrial bodies. As one of the largest academic departments at the University of Warwick, our ability to deliver high quality, industrially relevant education is evident in the industry accreditation awarded to many of our programmes.

Our tutors are able to bring their subjects to life by blending their academic knowledge with their experience in a variety of industry sectors, supporting you in applying what you learn directly back into your company. We will encourage you to be creative, to develop your entrepreneurial spirit, and to think on a global scale.

## Sectors we work with



- Digitally Enhanced Manufacturing**
  - ▶ Automation Systems
  - ▶ Cyber Security
  - ▶ Data Science
  - ▶ Digital Lifecycle Management
  - ▶ Dynamic Supply Chains
  - ▶ Innovative Business Models
  - ▶ Service Ecosystems
  - ▶ Visualisation
- Health and Wellbeing**
  - ▶ Applied Psychology
  - ▶ Data Science
  - ▶ Health Informatics and Health Data Science
  - ▶ Healthcare Technologies and Biomedical Engineering
- Intelligent Vehicles**
  - ▶ Connectivity and Wireless Communication
  - ▶ Cooperative Autonomy
  - ▶ Cyber Security
  - ▶ Human Factors
  - ▶ Verification and Validation
- Materials and Manufacturing**
  - ▶ Additive Layer Manufacturing
  - ▶ High volume Automotive Composite Manufacturing
  - ▶ Metrology
  - ▶ Nanocomposites
  - ▶ Plastics
  - ▶ Steels Processing
  - ▶ Sustainable Materials and Manufacturing
- Transport Electrification**
  - ▶ Battery Scale-Up
  - ▶ Battery Systems Engineering
  - ▶ Cell Engineering
  - ▶ Electrochemical Materials
  - ▶ Modelling and Control Systems
  - ▶ Power Electronics, Machined and Drives
  - ▶ Vehicle Propulsion Systems



# Choose your pathway

## Undergraduate programme

- ▶ Four-year work-based Engineering Degree for company sponsored staff
- ▶ Offers a flexible and non-traditional path into university education
- ▶ Welcomes participants from a range of ages and company backgrounds

Read more on pages 10-11

## Business and management postgraduate programmes

- ▶ Select from eleven different, innovative Master's streams and customise with a choice of 30 modules
- ▶ Study in a flexible way, with limited time out of the office
- ▶ Undertake projects that relate back to your workplace
- ▶ Network with other professionals from a range of sectors

Read more on pages 12-17

## Specialist postgraduate programmes

- ▶ Follow a structured course designed to explore your specialism in depth
- ▶ Aimed at those seeking formal recognition in their specialist field
- ▶ Undertake a company based project
- ▶ Discuss ideas and concepts with industrial and academic experts

Read more on pages 20-22



"The course really gave me the ability to step back and see the bigger picture. After I graduated I made the jump to management and now look after a team of 50 people. I find I apply the knowledge and approaches I learnt regularly to my role. Thanks to the course I also have a higher understanding of the importance of the softer side of management and I'd be really keen to do further study with WMG."

**Bethan Murray**  
Production Leader - Modules  
Rolls Royce Plc



"The knowledge and learning that I gained through the WMG programme has been instrumental in supporting my career path and helping me secure senior global roles across blue chip organisations in many market sectors."

**Adrian Smith**  
Programme Director  
AstraZeneca



"I would really recommend this course, mainly because the staff had real life experiences and therefore understood how it works in business. The course structure was fantastic, allowing individuals to personalise their learning needs and requirements."

**Matt Cartwright**  
BHL Marketing Supervisor  
Caterpillar



"The programme and certification has added immeasurable value to my career and me as a person. The programme has helped me improve my critical thinking ability, problem solving, deepened my subject knowledge and also helped me develop self-confidence. I would say I discovered myself during my time at WMG and my company has benefited from my increased knowledge; and time and resource savings."

**Ejeh G. Godwin**  
Supply Operations Manager  
(P&S Lead)  
Syngenta





# BEng Applied Engineering

Developed in collaboration with employers in the engineering sector, our Applied Engineering Programme offers a flexible and non-traditional path through university education and welcomes participants from a range of ages and company backgrounds. It can also be used as part of a Degree Apprenticeship.

This course will develop you as a multi-disciplinary engineer, giving you a wide scope of career paths to follow. During the four-year work-based Engineering degree you will learn the fundamentals of engineering and technology including mechanical engineering, electrical and electronic engineering, materials and design. You will also develop knowledge and skills in business operations, innovation and cross-organisation efficiency.

To enrol on the programme, you must have the support of your employer, and have a good standard in Maths and Physics (e.g. A Level or equivalent). If you don't have a Maths or Physics qualification, we can assess your ability using our own entry tests.

This programme is for company sponsored staff and we have over 350 students on the programme.

## Modules

### Year 1

- ▶ Applied Engineering Design
- ▶ Electrical and Electronic Principles
- ▶ Engineering Business Management and Operations
- ▶ Engineering Mathematics
- ▶ Materials and Manufacturing Processes
- ▶ Static Mechanics and Energy Methods

### Year 2

- ▶ Design for Manufacturing
- ▶ Dynamic Mechanics and Thermofluids
- ▶ Engineering Systems
- ▶ Instrumentation and Control
- ▶ Numerical Methods for Modelling
- ▶ Quality Methods

### Options for Years 3 and 4

- ▶ Advanced Quality Techniques
- ▶ Aerodynamics
- ▶ Asset Management
- ▶ CAD/CAM
- ▶ CAE (CFD, FEA) and Physical Correlation
- ▶ Electrical and Electronic Systems
- ▶ Factory Line Simulation
- ▶ Functional Systems
- ▶ Industrial Financial Decision Making and Risk Analysis
- ▶ Industrial Processes
- ▶ Logistics
- ▶ Materials for Advanced Applications
- ▶ Measurement Systems and Metrology
- ▶ Mechatronics and Systems Control
- ▶ Networking, Infrastructure Communication and Interoperability of Systems
- ▶ Productionising Designs
- ▶ Project Management and Leadership
- ▶ Sector specific modules as agreed
- ▶ Stress Analysis
- ▶ Supply Chain Management
- ▶ Sustainable Energy Systems

## Delivery and assessment

For the first two years you'll study the core range of engineering and technical subjects, taking six mixed-subject blocks per year. Examinations and work-based assignments are integrated throughout the year, allowing for continuous assessment rather than final exams.

Across years three and four you will take a total of ten single subject blocks (enabling you to specialise and tailor the programme in line with your specific interests), and complete a substantial work-based project. The emphasis here is on post-block assignments and worked-based projects rather than formal written exams.

Each block will run over five days, Monday to Friday, at the University of Warwick. In addition to the normal lectures, practical laboratories, seminars and tutorials, you will have access to an online 'Virtual Learning Environment' for further support between blocks.

## Programme structure



# Part-time Master's programmes

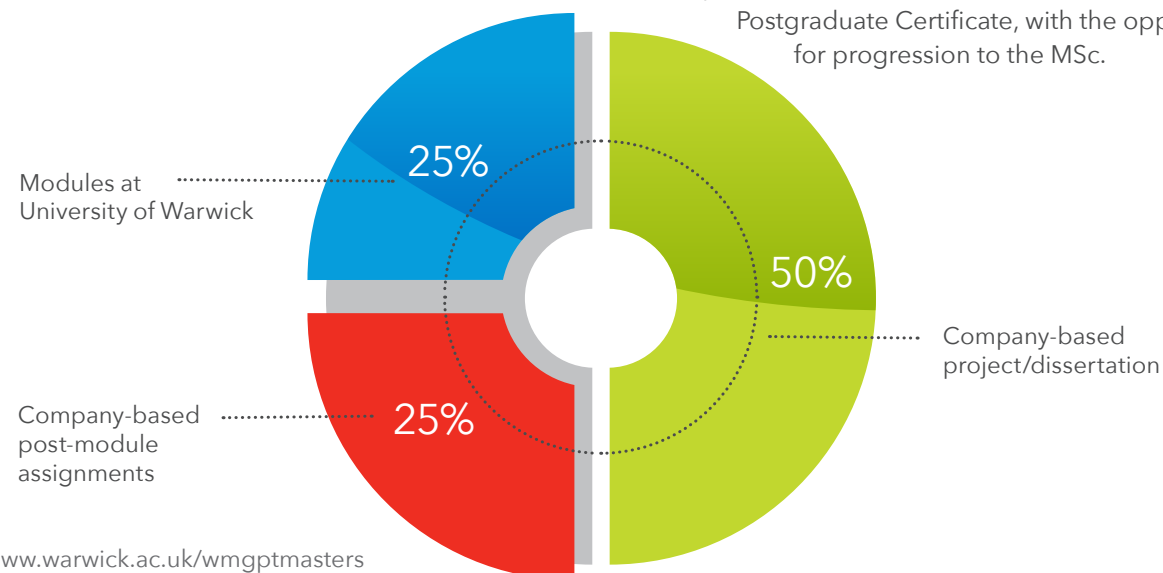
We can help you consolidate your work experience with a business-relevant Master's qualification from a leading UK university to add to your career portfolio.

We offer eleven Master's degree programmes which are customisable, with 30 individual modules to choose from. To be awarded your Master's degree, you will need to complete nine modules and your company-based project/dissertation. However, because we understand that you may not be able to commit to a period of long-term study, you can build up to your MSc in stages (see programme structure opposite). The eligible credits gained and fees paid at each stage can be carried over to the next level as long as this is done within five years.

## Delivery and assessment

Each module runs over four and a half intensive days, starting on a Monday morning and finishing Friday lunchtime. You will attend lectures and seminars, and undertake group tasks based on real scenarios. To allow you to immerse yourself in the programme, modules can be fully residential (with the exception of MSc Healthcare Operational Management). Accommodation and meals are provided at one of the University's award-winning conference centres.

We believe that the best way to embed the ideas, tools, and processes you have studied is by applying them back to your work environment. This is why each module is followed by a post-module work-based assignment, rather than written examinations. You will be supervised by a WMG tutor and an industrial mentor from your company to help guide your dissertation.



## Specialist programmes

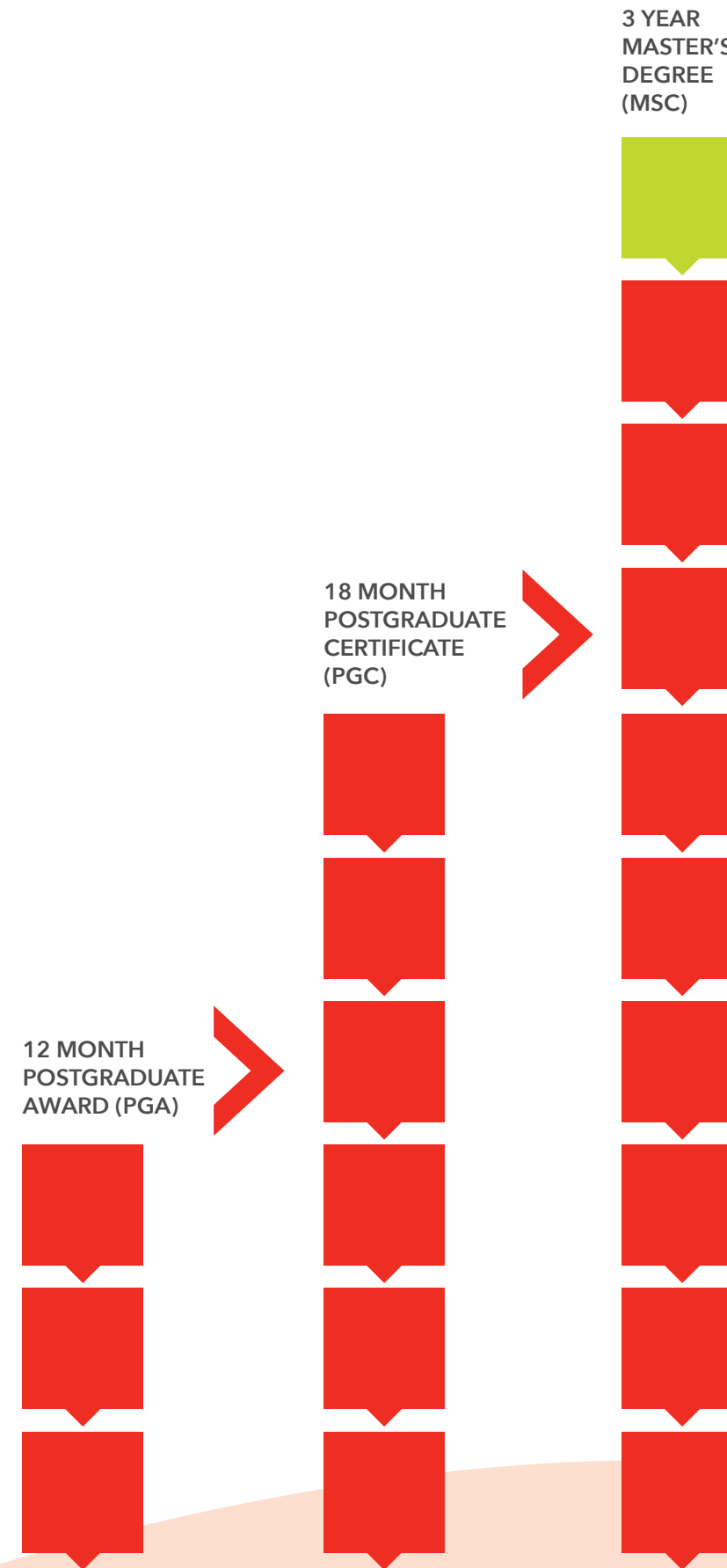
Our specialist Master's degree programmes are specifically for those seeking formal recognition in their specialist field and have been developed by experts within WMG's many research groups.

The assignments and project provide an opportunity to apply the learning from the programme within your business and you will have the chance to discuss topics with the industrial and academic experts. The modules and their sequencing will be more closely defined and the module structure will be different depending on the stream you follow (please see the following pages). Modules tend to cater for a mixture of full-time and part-time students.

## Entry requirements

- ▶ You should be currently employed and able to prove company support because you'll need to apply your studies directly to your work environment
- ▶ We recommend that you have at least two to three years of appropriate professional experience and that you possess at least a second class honours degree
- ▶ If you have an HND/HNC and professional qualifications with significant experience, you may be considered to start on an intermediate qualification such as the Postgraduate Award or Postgraduate Certificate, with the opportunity for progression to the MSc.

## Programme structure



"My MSc provided me with a focused learning opportunity that helped me bridge a gap in skills that would normally take several years to acquire. The programme taught me the process of identifying information security risks and how they can be managed, which is a key requirement for any information security role. In terms of career progression my MSc helped me apply for and secure a job that I normally would not have been competitive for."

**Hassan Raza**  
Information Security Architect  
CM Financial Services

If you are not sure if postgraduate study is for you, please do call us on +44 (0)24 765 23976 to discuss your options.



## MSc Engineering Business Management (EBM)

Our most flexible programme can be tailored to your own needs and allows you to develop your knowledge and skills in the key 'value adding' activities for businesses.

### What will the course provide?

This course delivers a broad education in management and business, and will equip you with the analytical tools and techniques to improve internal and external operations.

During the course of the year, you will develop skills in the research, analysis, and evaluation of complex business problems, and gain a methodical approach to problem solving and decision making. You will learn about the processes and technologies used by engineering businesses, and will develop an understanding of the functional relations between business divisions that can optimise efficiency and competitiveness.

The course focuses on the key value adding activities of: market, product and process development; operations, logistics and supply chain management; and core and emerging technology.

This course is suitable for graduates from a wide range of engineering, business, IT and science backgrounds plus anyone who is looking to develop management expertise.

### Core modules

#### Financial Analysis and Control Systems

Understand the basic accounting principles, terminology and techniques required to enable you to interpret financial reports and management accounting practices.

### Elective modules

With just one core module, you have the opportunity to select five operations and technology modules, one further business module, and two others from any module category to make a total of nine. See the full list on pages 18-19.

"My experience of the MSc EBM at WMG was wholly positive, not only in the content and topics covered within each module, but the opportunities for networking with people from a range of industries. Another great trait of the course is the real life industry experience that the lecturers bring to the course."

**Paul Milward**  
UK Mid Range Sales Manager - South  
JCB

## MSc International Trade, Strategy, and Operations (ITSO)

Our MSc covers all of the management and operational requirements you will need to trade successfully in international markets, with an emphasis on practical application.

### What will the course provide?

The programme provides a clear overview of all the elements of international trade, and you also have the freedom through your dissertation and elective modules to specialise in particular aspects such as transportation and logistics, and business development. The skills you develop will encompass initial engagement with a new market right through to the delivery of a product or service.

### Core modules

- ▶ Financial Analysis and Control Systems
- ▶ International Joint Ventures
- ▶ International Trade
- ▶ Legal Aspects of Global Business
- ▶ Strategic Marketing
- ▶ Transportation Techniques and Management

### Elective modules

You may select any three other modules from the list on pages 18-19 to make a total of nine.

This course is accredited by the Institute of Export and International Trade.



## MSc Manufacturing Systems Engineering and Management (MSEM)

As products become increasingly complex, so do the manufacturing systems required to produce them. Our MSc will provide you with knowledge of the latest techniques and processes.

### What will the course provide?

As an engineer wanting to move into management, you will develop an understanding of the concepts of manufacturing engineering systems, and the skills to analyse, design and implement them in practice. You will also gain a broad understanding of the strategic and operational management of organisations.

### Core modules

You will need to take the following eight modules:

- ▶ Advanced Materials and Processes
- ▶ Industrial Engineering
- ▶ Logistics and Operations Management
- ▶ Manufacturing Process Technology
- ▶ Operations Strategy for Industry
- ▶ Problem Solving with Statistics
- ▶ Project Planning, Management and Control
- ▶ Quality, Reliability and Maintenance

### Elective modules

You will need to select one further module to make a total of nine. Please see the complete list on pages 18-19.

Accredited by the Institution of Engineering and Technology (IET) (subject to renewal) on behalf of the Engineering Council as meeting the requirements for Further Learning for registration as a Chartered Engineer. Candidates must hold a CEng accredited BEng/BSc (Hons) undergraduate first degree to comply with full CEng registration requirements.





## MSc Programme and Project Management (PPM)

Our MSc reflects real world practices and experiences and will teach you how to operate more effectively in a multi-project business environment.

### What will the course provide?

You will learn the methodologies, tools and principles for successful and profitable project management, and be able to apply them in order to optimise business performance. As a graduate of PPM, you will be able to effectively develop and manage both small and large scale projects in a multi-project or programme business environment.

You'll benefit from strong links with our research groups and from guest lectures from some of the leading voices in the profession.

PPM is suitable for people from a wide range of academic and professional backgrounds.

### Core modules

- ▶ Financial Analysis and Control Systems
- ▶ International Joint Ventures
- ▶ Management of Change
- ▶ Managing the Multi-project/ Programme Environment
- ▶ Organisations, People and Performance
- ▶ Programme and Project Strategy
- ▶ Project Planning, Management and Control

### Elective modules

You may select any two further modules. See full list on pages 18-19.

This course is accredited by the Association for Project Management.



## MSc Service Management and Design (SMD)

In today's complex business environment, where so much of global GDP is now service-related, service science is both an exciting and crucial area in which to stay ahead.

### What will the course provide?

As many companies are being driven to change their business models to include services to retain commercial advantage, there is a need for strong leadership and a deep understanding of customer requirements.

The Service Systems research group at WMG has been working alongside leading companies and organisations such as MOOG, IBM, Rolls-Royce, British Airways, and the NHS, to actively shape this course. You will learn techniques to design service experience, lead change and drive business transformation. You will also use simulated virtual experiences to aid learning using social media and other online platforms.

### Core modules

- ▶ Financial Analysis and Control Systems
- ▶ Service Design and Delivery
- ▶ Service Support Technologies

### Elective modules

You will need to select a further six modules from the list on pages 18-19 to make a total of nine.

"The content helped me cement and enhance my existing knowledge of the subject, whilst the opportunity to meet and exchange ideas with other professionals gave me invaluable insights. Receiving my Master's gave me a great sense of achievement and helped me progress my career to the next level."

**Edward Brettell**  
Head of SIOP & Capacity - Actuation Systems  
UTC Aerospace Systems

## MSc Supply Chain and Logistics Management (SCLM)

Supply chain management is pervasive and touches every aspect of our lives. Become a change agent and leader in creating effective supply chains in your industry.

### What will the course provide?

The impact of buy-one-get-one-free deals on food waste, automotive industry product recalls, and queues in accident and emergency departments are all supply chain issues. As someone working in logistics, purchasing or planning, this course will help you to better understand the challenges facing your particular industry.

You'll develop the skills to evaluate, manage, and improve service, supply chain processes, and conduct market analysis. The course will also help you understand the implications of new technologies such as the Internet of Things on supply chains and the latest research and trends in the area.

### Core modules

- ▶ Financial Analysis and Control Systems
- ▶ Legal Aspects of Global Business
- ▶ Logistics and Operations Management
- ▶ Operations Strategy for Industry
- ▶ Organisations, People and Performance
- ▶ Procurement and Inventory Management
- ▶ Supply Chain Management

### Elective modules

You will need to select a further two modules to make a total of nine. See full list on pages 18-19.

This course is accredited by the Chartered Institute of Purchasing and Supply and the Chartered Institute of Logistics and Transport.



Accredited Degree



# Postgraduate module list

All MSc programmes (with the exception of HOM, CSM, CAE and SCAV), require completion of nine modules, plus an Induction and the Research Methodologies short course. This page shows our range of Master's modules.

For more information about the elective options for each Master's degree, please refer to the particular programme page. Please contact us to discuss requirements for industry body accreditation.

Streams	EBM*			ITSO			MSEM**			PPM			SCLM			SMD		
Qualifications	PgA	PgC	MSc	PgA	PgC	MSc	PgA	PgC	MSc	PgA	PgC	MSc	PgA	PgC	MSc	PgA	PgC	MSc
Requirements	3 modules	6 Modules	9 Modules	3 modules	6 Modules	9 Modules	3 modules	6 Modules	9 Modules	3 modules	6 Modules	9 Modules	3 modules	6 Modules	9 Modules	3 modules	6 Modules	9 Modules
<b>Business modules</b>																		
Business Model Generation																		
Business Strategy and Strategic Management																		
Collaborative Working																		
Financial Analysis and Control Systems	■	■	■	■	■	■				■	■	■		■	■	■	■	■
International Joint Ventures				■	■	■						■						
Legal Aspects of Global Business					■	■									■			
Management of Change											■	■						
Organisations, People and Performance											■	■			■			
Strategic Marketing					■	■												
<b>Operations / Technology modules</b>																		
Advanced Materials and Processes									■									
Business and Operations Design																		
Industrial Engineering							■	■	■									
Innovation																		
International Trade				■	■	■												
Leadership																		
Lean Principles and Application																		
Logistics and Operations Management							■	■	■				■	■	■			
Managing the Multi-Project/Programme Environment										■	■	■						
Manufacturing Process Technology							■	■	■									
Operations Strategy for Industry							■	■	■							■		
Problem Solving with Statistics									■									
Procurement and Inventory Management																■		
Product Design and Development Management																		
Programme and Project Strategy												■						
Project Planning, Management and Control							■	■	■	■	■	■						
Quality, Reliability and Maintenance							■	■	■									
Reputation and Relationship Management																		
Service Design and Delivery																■	■	■
Service Support Technologies																■	■	■
Supply Chain Management													■	■	■			
Technology Management																		
Transport Techniques and Management					■	■												
<b>Supporting events</b>																		
Induction (2.5 days)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Research Methodologies (2 days)			■			■			■			■			■			■
Company-Based Project Dissertation			■			■			■			■			■			■

\*EBM: delegates for the PgA, PgC or MSc must take at least one, two or five Operations / Technology Modules respectively, in addition to the indicated modules, while delegates for the MSc must also take at least one further Business Module.

\*\*MSEM: delegates for the PgA or PgC must take at least two or three modules indicated respectively.



## MSc in Cyber Security Engineering (CSE)

The UK is in need of cyber security skills to manage both increasing numbers of security breaches and to adapt to our connected society, which encompasses everything from vehicle control systems and building management systems, to smart city infrastructure and medical devices.

### What will the course provide?

Our Cyber Security Engineering MSc develops cyber security professionals who can function at various strata within an organisation - server room, operations room, board room - you choose. Your task is simple: enable the good and prevent the bad.

To improve your technical skills there are eight core modules, each worth 15 credits, and a 60 credit project.

### Core modules

- ▶ Cryptosystems and Data Protection
- ▶ Cyber Intelligence and Operations
- ▶ Cyber-physical Systems
- ▶ Digital Forensics
- ▶ Enterprise Cyber Security
- ▶ Industrial Espionage and Counterfeiting
- ▶ Information Risk Management and Governance
- ▶ Security Architectures and Network Defence

Accredited by the Institution of Engineering and Technology (IET) (subject to renewal) on behalf of the Engineering Council as meeting the requirements for Further Learning for registration as a Chartered Engineer. Candidates must hold a CEng accredited BEng/BSc (Hons) undergraduate first degree to comply with full CEng registration requirements.



## MSc in Cyber Security and Management (CSM)

Our MSc is ideal for those looking to apply cyber security in a consultancy, strategic, business or management context.

### What will the course provide?

By developing your strategic thinking and understanding of the cyber threats to an organisation and its resources, you will be able to build and manage secure systems that support the strategic growth of a business.

To complete the MSc you will need to take nine modules, each worth 10 credits, plus a 90 credit project.

### Core modules

- ▶ Cryptosystems and Data Protection
- ▶ Digital Forensics
- ▶ Industrial Espionage and Counterfeiting
- ▶ Information Risk Management and Governance
- ▶ Security Architectures and Network Defence

### Elective modules

You may choose a further four modules from the list below or from the list on pages 18-19.

- ▶ Cyber Intelligence and Operations
- ▶ Cyber-physical Systems
- ▶ Enterprise Cyber Security

To follow a GCHQ certified pathway, you'll need to take all three elective modules listed above together with one further module from the list on pages 18-19.

Accredited by the Institution of Engineering and Technology (IET) (subject to renewal) on behalf of the Engineering Council as meeting the requirements for Further Learning for registration as a Chartered Engineer. Candidates must hold a CEng accredited BEng/BSc (Hons) undergraduate first degree to comply with full CEng registration requirements.



## MSc Healthcare Operational Management (HOM)

Learn how to deliver efficient and innovative digital technologies and services in the healthcare sector or related industries. This MSc is delivered by the Institute of Digital Healthcare at WMG, in collaboration with Warwick Medical School and the NHS.

### What will the course provide?

This course is for leaders and managers linked to, or in the health service sector - whether as a practitioner or as a supplier.

You will explore the principles, approaches, strategies and techniques for designing, analysing and managing complex healthcare systems. You will also learn to measure efficiency and improve effectiveness and productivity without compromising quality or safety. You will understand the workings of health systems and the processes that have impact on the industry today, such as the transformative abilities of technology and data.

The structure and weighting of this course differs to our other postgraduate programmes. You will complete eight modules and a dissertation over a three-year period.

### Core modules

- ▶ Electronic Healthcare Records
- ▶ Epidemiological and Statistical Methods for Quality Improvement
- ▶ Introduction to Health Economics
- ▶ Introduction to Health Informatics
- ▶ Leading Change in the Healthcare Environment
- ▶ Operational Management and Clinical Systems Improvement
- ▶ Quality and Productivity in Health Service Systems
- ▶ Resource Management in Healthcare Service Delivery

We also deliver a custom version of this course for NHS employees.

In partnership with



## MSc Sustainable Automotive Engineering (SAE)

If you want to become a research manager and technology leader, driving the market introduction of new energy efficient vehicles, this course is for you.

### What will the course provide?

You will gain a holistic understanding of the different technology options, and methods for design, systems integration, and verification that will drive the market introduction of new energy efficient vehicles.

We will help you develop the skills to design and evaluate the next generation of automotive products with lower environmental impact than conventional vehicles. You will learn the latest innovations in research, technology management, and leadership that will help your career progression in the automotive industry.

### Core modules

- ▶ Automotive Hybridisation and Electrification
- ▶ Energy Storage and High Voltage Automotive Systems
- ▶ Fundamentals of Computing and Programming\*
- ▶ Lightweight Materials and Structures
- ▶ Next-generation Automotive Propulsion Technology
- ▶ Systems Modelling and Simulation

### Elective modules

You may choose four from the list on pages 18-19.

Accredited by the Institution of Engineering and Technology (IET) (subject to renewal) on behalf of the Engineering Council as meeting the requirements for Further Learning for registration as a Chartered Engineer. Candidates must hold a CEng accredited BEng/BSc (Hons) undergraduate first degree to comply with full CEng registration requirements.



\* Fundamentals of Computing and Programming is timetabled for all SAE students in order to prepare you for the module in 'Systems Modelling and Simulation'. Students with a background in Computing and Programming, or those with sufficient understanding of the topic, will be able to select an alternative elective module.



## MSc Smart, Connected and Autonomous Vehicles (SCAV)

Progressive, technology-led companies are looking for people with both the practical engineering skills and the management skills to drive productivity and profitability.

### What will the course provide?

With the advent of intelligent vehicles on the horizon of technical advancements, the automotive industry is facing a developmental challenge. How do we develop a robust technical infrastructure to support the anticipated explosive growth in smart vehicular functions, communications systems and driverless cars? This demands a comprehensive understanding of the technology and a bottom-up approach ensuring robustness and dependability of Electronics, Communications (e.g. V-2-V, V-2-I) and Control Systems.

Through this brand new MSc, we aim to address the knowledge-gap in the areas of machine learning, automated control strategies, connectivity, and communication infrastructure, cyber-security protocols, emerging automotive networks and robust automotive embedded systems within the context of smart, connected and autonomous vehicles.

### Core modules

- ▶ Automotive Sensors and Sensor Fusion
- ▶ Machine Intelligence and Data Science
- ▶ Robust Automotive Embedded Systems
- ▶ Human-Technology Interaction
- ▶ Networks and Communications for the Connected Car

You will need to select a further two modules from the list on pages 18-19.

Please note some the core modules run over 2 weeks (15 CATS credit modules) and some run over one week (10 CATS credit modules).

# Project Professionals Programme

Become a recognised project professional with our P3M programme.

Over a period of around nine months, this prestigious Project, Programme and Portfolio Management (P3M) course offers project management professionals the opportunity to develop their knowledge and competence in this competitive field.

### What will you gain?

We're offering a unique opportunity to undertake a blended programme of business relevant, applied learning in Project, Programme and Portfolio Management (P3M) that provides successful delegates with both professional and academic qualifications.

- ▶ Gain the Association for Project Management's highly regarded Project Professional Qualification (PPQ)
- ▶ Achieve a Postgraduate Award (PgA) qualification from the University of Warwick

After successfully completing the programme you have two further options to continue your development:

- ▶ To carry forward those postgraduate credits from the PgA towards a full Master's degree with us
- ▶ To step forward for recognition as an APM Registered Project Professional (RPP)

### Course structure

Our P3M education team have a deep knowledge and passion for delivering the methodologies, tools and principles for successful and profitable project management. The content we deliver is aligned with the Association for Project Management's body of knowledge. You will have two 5-day modules delivered at the University of Warwick.

Modules are assessed through work-based post-module assignments. This enables you to apply what you've learned to your role and your organisation, and helps to embed everything that you've learned.

# Fees

All fees shown are for delegates enrolling in 2019.

### Undergraduate

Qualification	Cost	Completion within	Modules
Applied Engineering Programme (Bachelor of Engineering)	£29,800 (non-residential)	4 years	Years 1 and 2: six separate five day blocks per year. Years 3 and 4: total of ten separate five day blocks, plus a substantial work-based project

### Postgraduate

Qualification	Cost	Completion within	Modules
Short Course	£2,125 (residential)	4.5 days	One 4.5 day module, plus a work-based assignment
Postgraduate Award	£6,280 (residential)	12 months	Three separate 4.5 day modules, plus three work-based assignments
Postgraduate Certificate	£12,280 (residential)	18 months	Six separate 4.5 day modules, plus six work-based assignments
Master's Degree*	£25,200 (residential)	3 years	Nine separate 4.5 day modules, plus nine work-based assignments, and a dissertation
Project Professionals Programme Postgraduate Award	£5,950 (non-residential)**	12 months	Two 5-day modules, plus four 3 hour APM exams

\*Please contact us for fees for MSc Healthcare Operational Management. \*\* Residential fee available on request.

All students will need to be employed to take the above courses. Typically most students are sponsored by their employer but self-funding is an option.

### Essential information

Every care has been taken to ensure the accuracy of the information provided in this brochure at the time of printing. Our courses, module content and schedule are reviewed to reflect development in the subject area, it is therefore very important that you check the website for the latest information before you apply and when you accept an offer. Successful applicants will receive an offer letter including key information on the specific course to which they have applied. Any offer of a place to study is subject to terms and conditions. You can read these at: [warwick.ac.uk/study/postgraduate/terms](http://warwick.ac.uk/study/postgraduate/terms) and [warwick.ac.uk/study/undergraduate/terms](http://warwick.ac.uk/study/undergraduate/terms)







### Excellent transport and road links

- ▶ 1 hour to London by train
- ▶ Nearest airport - Birmingham International - 20 minutes
- ▶ Nearest train station - Coventry 10 minutes

### Getting in touch

- ▶ [go.warwick.ac.uk/wmgptmasters](http://go.warwick.ac.uk/wmgptmasters)
- ▶ [wmgptmasters@warwick.ac.uk](mailto:wmgptmasters@warwick.ac.uk)
- ▶ +44 (0)24 765 23976

WMG Part-time Programmes  
Engineering Management Building  
Westwood Campus  
University of Warwick  
Coventry  
CV4 7AL  
United Kingdom