

## Course Specification

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## Core Information

Awarding Body / Institution:	University of Wolverhampton		
School / Institute:	School of Engineering		
Course Code(s):	AT004P01UV AT004P31UV	Full-time Part-time	12 Months 2 Years
UCAS Code:			
Course Title:	MSc Advanced Technology Management		
Hierarchy of Awards:	Master of Science Advanced Technology Management Postgraduate Diploma Advanced Technology Management Postgraduate Certificate Advanced Technology Management University Statement of Credit University Statement of Credit		
Language of Study:	English		
Date of DAG approval:			
Last Review:	2021/2		
Course Specification valid from:			
Course Specification valid to:	2024/5		

## Academic Staff

Course Leader:	Mr Iain Lyall
Head of Department:	Dr Aman Dhir

# Course Information

<b>Location of Delivery:</b>	University of Wolverhampton
<b>Category of Partnership:</b>	Not delivered in partnership
<b>Teaching Institution:</b>	University of Wolverhampton
<b>Open / Closed Course:</b>	This course is open to all suitably qualified candidates.

## Entry Requirements:

Entry requirements are subject to regular review. The entry requirements applicable to a particular academic year will be published on the University website (and externally as appropriate e.g. UCAS

For direct entry onto the MSc programme:

A lower second honours degree or equivalent in related subject is required for direct entry onto this Master's programme.

or

A Postgraduate Certificate in a related subject or equivalent with a minimum of grade C in all modules.

For entry onto the PgC programme (completion of which, with a minimum of grade C in all modules, will allow a student to progress to the Master's programme):

A pass at honours degree level.

Applicants may be invited for interview. Students applying for individual modules will be required to demonstrate the ability to absorb technical concepts and detail, possibly by way of their previous industrial or commercial experience.

The minimum English competency for entry is IELTS 6.0 or equivalent.

## Distinctive Features of the Course:

To help you meet the challenges presented by this fascinating and key area, the School of Engineering not only supports you with a wealth of experience and unique expertise, it also gives you access to state of the art Computing and Product Development facilities including the Virtual Design Enterprise Centre equipped with high specification PC's and immersive 7 metre wide stereoscopic visualisation screen.

## Educational Aims of the Course:

Modern industry operates within a highly competitive global market, the adoption, exploration, and management of technology across both design and manufacture is at the forefront of providing successful business with the competitive edge needed to survive and grow. In addition, society is demanding that such business enterprises become evermore proactive in terms of sustainability and to adopt a social conscience across their business strategies.

This course aims to develop your knowledge and understanding of modern sustainable technologies in terms of product development, optimisation, and manufacture. You will gain a comprehensive understanding of how various IT based tools and systems function while also gaining insights into how these are implemented effectively within the manufacturing and industrial sectors. You will be equipped to undertake cross-functional management roles and to evaluate how modern organisations can strategically exploit existing and emerging technologies. This reflects the growing demand for specialists with advanced skills and knowledge to drive forward effective new product development and introduction across all of the major industrial sectors

including automotive, aerospace and general manufacture.

#### Intakes:

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September  
January

#### Major Source of Funding:

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Office for Students (OFS)

#### Tuition Fees:

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Tuition fees are reviewed on an annual basis. The fees applicable to a particular academic year will be published on the University website.

Year	Status	Mode	Amount
2021/2	H	Full Time	£6550.00
2021/2	Overseas	Full Time	£13950.00
2021/2	H	31	£3275.00
2022/3	H	Full Time	£7995.00
2022/3	Overseas	Full Time	£14450.00
2022/3	H	31	£3998.00

#### PSRB:

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None

#### Course Structure:

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## January (Full-time)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

Module	Title	Credits	Period	Type
7CM002	Project Management Tools and Techniques	20	SEM2	Core
7MA019	Quality Control and Part Validation	20	SEM2	Core
7ET023	Dissertation	60	CRYRA	Core
7CM003	CAD and Product Definition	20	SEM2	Core

## January (Full-time)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

Module	Title	Credits	Period	Type
7ET022	Research Methods and Professional Skills	20	SEM1	Core
7ET019	Rapid Manufacturing Applications	20	SEM1	Core

**Linked Option Group Rule:** Select a minimum of 20 credits and a maximum of 20 credits from the linked (\*) groups.

\* Group 01 | Min Value: 0 | Max Value: 20

7CM004	Sustainability and Life Cycle Engineering	20	SEM1
7MA020	Design Optimization and Simulation	20	SEM1

\* Group 01 | Min Value: 0 | Max Value: 20

7ET020	Computer Aided and High Speed Machining Application	20	SEM1
7ET026	Renewable Energy and Smart Grids	20	SEM1
7ET032	Applied Stress Analysis	20	SEM1

## September (Full-time)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

Module	Title	Credits	Period	Type
7ET022	Research Methods and Professional Skills	20	SEM1	Core
7CM002	Project Management Tools and Techniques	20	SEM2	Core
7ET019	Rapid Manufacturing Applications	20	SEM1	Core
7CM003	CAD and Product Definition	20	SEM2	Core
7MA019	Quality Control and Part Validation	20	SEM2	Core
7ET023	Dissertation	60	CRYRA	Core

**Linked Option Group Rule:** Select a minimum of 20 credits and a maximum of 20 credits from the linked (\*) groups.

\* Group 01 | Min Value: 0 | Max Value: 20

7CM004	Sustainability and Life Cycle Engineering	20	SEM1
7MA020	Design Optimization and Simulation	20	SEM1

\* Group 02 | Min Value: 0 | Max Value: 20

7ET020	Computer Aided and High Speed Machining Application	20	SEM1
7ET026	Renewable Energy and Smart Grids	20	SEM1
7ET032	Applied Stress Analysis	20	SEM1

Please note: Optional modules might not run every year, the course team will decide on an annual basis which options will be running, based on student demand and academic factors, to create the best learning experience.

## Learning, Teaching and Assessment

### Academic Regulations Exemption:

None.

### Reference Points:

UK Quality Code for Higher Education  
Qualifications and Credit Frameworks  
Subject Benchmark Statements  
University Policies and Regulations  
Equality Act (2010).

### Overview of Assessment:

As part of the course approval process, the course learning outcomes were mapped to each of the modules forming the diet of the programme of study. This process confirmed that all course learning outcomes can be met through successful completion of the modules. This mapping applies to the final award as well as to all of the intermediate awards.

Learning Outcomes	Modules
<b>PGCERT01</b> Demonstrate a systematic understanding of knowledge, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of your academic discipline, field of study or area of professional practice with a conceptual understanding that enables the student: - to evaluate critically current research and advanced scholarship in the discipline. - to evaluate methodologies and develop critiques of them and, where appropriate, to propose new hypotheses.	
<b>PGCERT02</b> Demonstrate a comprehensive understanding of techniques applicable to your own research or advanced scholarship and ability to continue to advance your knowledge and understanding, and to develop new skills to a high level.	
<b>PGCERT03</b> Demonstrate originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline.	
<b>PGCERT04</b> Ability to deal with complex issues both systematically and creatively, make sound judgements in the absence of complete data, and communicate your conclusions clearly to specialist and non-specialist audiences.	
<b>PGCERT05</b> Demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level.	
<b>PGCERT06</b> Demonstrate the qualities and transferable skills necessary for employment requiring: - the exercise of initiative and personal responsibility decision-making in complex and unpredictable situations. - the independent learning ability required for continuing professional development.	
<b>PGDIP01</b> Demonstrate a systematic understanding of knowledge, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of your academic discipline, field of study or area of professional practice with a conceptual understanding that enables the student: - to evaluate critically current research and advanced scholarship in the discipline. - to evaluate methodologies and develop critiques of them and, where appropriate, to propose new hypotheses.	
<b>PGDIP02</b> Demonstrate a comprehensive understanding of techniques applicable to your own research or advanced scholarship and ability to continue to advance your knowledge and understanding, and to develop new skills to a high level.	
<b>PGDIP03</b> Demonstrate originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline.	
<b>PGDIP04</b> Ability to deal with complex issues both systematically and creatively, make sound judgements in the absence of complete data, and communicate your conclusions clearly to specialist and non-specialist audiences.	

**Learning Outcomes**

**PGDIP03** Demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level.

**PGDIP06** Demonstrate the qualities and transferable skills necessary for employment requiring: - the exercise of initiative and personal responsibility decision-making in complex and unpredictable situations. - the independent learning ability required for continuing professional development.

**MA01** Develop novel strategies for the management and deployment of advanced and emerging technologies, tools and techniques.

**MA02** Select and apply appropriate industry standard computer aided engineering tools and analysis methods to model, analyse and evaluate engineering systems.

**MA03** Apply knowledge to create original concepts for products, engineering systems or processes.

**MA04** Make use of high level skills and abilities to exploit generic and bespoke software tools, solve complex design, configuration or process problems and thereby develop industrially appropriate solutions for delivery to a range of audiences.

**MA05** Evaluate current research and scholarship within the general areas such as New Product Development and Introduction, Project Management and Sustainability, critique current research methodologies and apply this knowledge to propose original solutions.

**MA06** Implement a range of transferable skills including the ability to learn independently, make informed decisions in complex situations and take responsibility for personal development.

### Teaching, Learning and Assessment:

You will have the opportunity to engage with a range of learning approaches during the course of your study.

You will take part in lectures and seminars. Some of these will be more traditional whereas others will require you to undertake research before coming together to discuss technical issues with a range of students and academic staff. You will have seminars from industry practitioners and have the opportunity to discuss your projects with them to gain real world insight into the problems you are trying to solve.

You will have the opportunity to work in a range of dedicated facilities such as the Prototyping and Visualisation Laboratories to develop practical skills and understand the link between the theory and practical implementation of integrated CAD, Simulation and Rapid Prototype Manufacture. Throughout the weekly class sessions and through use of the on-line support material, you will obtain skills required to successfully implement and manage a range of modern manufacturing systems, processes and methodologies.

Often working on assessment and project briefs specified by industry practitioners, you will develop solutions to meet real world problems/requirements and be able to present these to your peers, practitioners and third parties in order to obtain balanced and current feedback.

### Assessment Methods:

At the University of Wolverhampton, a variety of modes of assessment will be used to support and test your learning and progress and to help you develop capabilities that are valued beyond your University studies and into your working life. Your course may include a variety of assessment activities:

Written examinations (including online examinations, open and closed book examinations and quizzes)  
Coursework (for example, essays, reports, portfolios, project proposals and briefs, CVs, poster presentation)  
Practical (for example, oral and video presentations, laboratory work, performances, practical skills assessment)

In the final year of your undergraduate degree, and at the end of your postgraduate degree, you are likely to be expected to write an extended piece of work or research, such as a dissertation or a practice-based piece of research.

### Student Support:

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#### General University Support:

The [University Library](#) is the key source of academic information for students. The Library provides access to wide range of online information sources, including eBooks, eJournals and subject databases. The Libraries also provide physical library resources (books, journals, DVDs, etc.) and offer a range of study areas to allow students to study in the environment that suit them best: Social areas, quiet and silent areas. Students can access a range of on-line skills material at: [www.wlv.ac.uk/lib/skills](http://www.wlv.ac.uk/lib/skills).

The Libraries also provide students with academic skills support via on-line appointments and workshops through the [Skills for Learning programme](#). Students can ask for one-to-one help on a range of skills such as academic writing and referencing.

The [University Student Support website](#) offers advice on a variety of matters (careers, counselling, Student Union advice, etc.) Students can also access these services by booking appointment with the SU, careers, counselling services, etc.

In addition, there is a regular timetable of drop-in and bookable workshops covering information and digital literacy skills, including academic referencing. School of Engineering students are supported by a designated subject librarian who is available to support research and project work.

#### Course Support:

At the start of your course you will be assigned a Personal Tutor who will guide you through the induction process and provide support and academic counselling throughout your course on an appointment basis. They should be able to offer you advice and guidance to help you liaise with other staff and support facilities in the School and University.

The Student Support Advisers (SSAs) provide academic counselling and will be accessible throughout the week on a drop-in or appointment basis to discuss timetables, requests for extensions, requests for extenuating circumstances, general concerns about study and student life and general programme planning. The SSAs will act as a first point of contact in relation to leave of absence (including returning after leave), withdrawal, transferring to another course (internal and external) and changes to mode of attendance.

Your Course Leader will be available thereafter for meetings by appointment to discuss leave of absence, withdrawal, transferring to another course (internal and external), changes to mode of attendance, returning after leave of absence and direct entrants.

#### Subject Support:

Tutorials, workshops, seminars and meetings - provide the primary opportunities for students to interact with staff on topics relating to modules. All modules provide at least one of these forms of face-to-face support.

Formative feedback - tutors provide personalised written feedback on most summative assessments. The mechanism for feedback from purely formative tasks varies between assessments, but will always be provided in some form. On-line formative tasks often provide feedback straight away. On occasions tutors may provide generalised verbal feedback to the whole class on points relating to an assessment

Assessment and subject-based surgeries provide additional student support for subjects that students often need extra help with. They are often concentrated around the times when assessments take place. Revision sessions are provided for many modules that have exam-like tests and enable you to interact with tutors to

review parts of the course. Mock exams and tests may provide opportunities to experience an examination environment before the final summative test and give you feedback on your understanding.

#### International Students:

The University's International Partnerships Office will provide pre and post entry visa and immigration support and advice on and arrange for the necessary paperwork to be submitted to UKBA. They will also provide appropriate University Induction support on arrival and be a point of contact for international students throughout their stay here. A range of social and cultural activities arranged by the University will also promote the integration of international students into the whole of the University's learning community. English language support is available from the University's International Academy.

#### Employability in the Curriculum:

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The course is aimed at science and technology graduates who aspire to management roles in leading industrial organisations.

On completion of the programme, you can expect to develop your career towards senior management where strategic thinking skills, project management experience and deeper technological knowledge would be beneficial.



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