

Course Specification

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Produced By:	Laura Clode
Status:	Validated

Core Information

Awarding Body / Institution:	University of Wolverhampton		
School / Institute:	School of Engineering		
Course Code(s):	MA014P01UV	Full-time	12 Months
	MA014P31UV	Part-time	2 Years
Course Title:	MSc Advanced Technology Management (Manufacturing)		
Hierarchy of Awards:	Master of Science Advanced Technology Management (Manufacturing) Postgraduate Diploma Advanced Technology Management (Manufacturing) Postgraduate Certificate Advanced Technology Management (Manufacturing) Postgraduate Certificate Advanced Technology Management (Manufacturing) University Statement of Credit University Statement of Credit		
Language of Study:	English		
Date of DAG approval:	01/Jun/2017		
Last Review:	2014/5		
Course Specification valid from:	2014/5		
Course Specification valid to:	2020/1		

Academic Staff

Course Leader:	Dr Peter Wardle
Head of Department:	Dr Syed Hasan

Course Information

Location of Delivery:	University of Wolverhampton
Category of Partnership:	Not delivered in partnership
Teaching Institution:	University of Wolverhampton
Open / Closed Course:	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)

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 Postgraduate Certificate 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 degree level.

Students are selected using application form and references in the first instance and 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.

Minimum English competency is the standard MSc entry: IELTS 6.0 or equivalent.

Distinctive Features of the Course:

This course will allow you to evaluate and interact with current and emerging machining processes used to compete with rapid manufacturing and prototyping technologies. It will offer you critical understanding as to how these processes are employed and exploited. It will develop your ability to analyse manufacturing techniques related to Rapid Manufacture (RM) and Direct Metal Laser Sintering (DMLS) through your own research or advanced scholarship. Also, you will be able to analyse and critically evaluate current issues and insights associated with new and innovative metal cutting and machining technologies.

Educational Aims of the Course:

The educational aims of the course are: 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 adopting a more socially- conscious approach, such as sustainability, across all their strategies and operations. 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 their introduction across all of the major industrial sectors including automotive, aerospace and general manufacture.

Intakes:

September

Major Source of Funding:

Office for Students (OFS)

Tuition Fees:

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
2020/1	H	Full Time	£6400.00
2020/1	Overseas	Full Time	£13350.00
2020/1	H	Part Time	£3200.00

PSRB:

None

Course Structure:

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.

Year 1

Module	Title	Credits	Period	Type
7ET022	Research Methods and Professional Skills	20	IN YR	Core
7CM002	Project Management Tools and Techniques	20	IN YR	Core
7ET019	Rapid Manufacturing Applications	20	IN YR	Core
7CM003	CAD and Product Definition	20	IN YR	Core
7AT004	Emerging Design Tools	20	IN YR	Core
7ET020	Computer Aided and High Speed Machining Application	20	IN YR	Core
7ET023	Dissertation	60	CRYRA	Core

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:

Faculty of Science and Engineering E&D policy, 2010

Equality Act 2010

Institute of Engineering Designers. Product Design Specific Learning Outcomes (2009)

QAA subject benchmark – Masters Level - Engineering (2010)

FHEQ England, Wales and Northern Ireland (August 2008)

Descriptor for a higher education qualification at level 7: Master's degree.

Learning Outcomes:

Postgraduate Certificate Learning Outcome 1 (PGCCL01)

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: a) to evaluate critically current research and advanced scholarship in the discipline b) to evaluate methodologies and develop critiques of them and, where appropriate, to propose new hypotheses.

Postgraduate Certificate Learning Outcome 2 (PGCCL02)

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.

Postgraduate Certificate Learning Outcome 3 (PGCCL03)

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.

Postgraduate Certificate Learning Outcome 4 (PGCCL04)

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.

Postgraduate Certificate Learning Outcome 5 (PGCCL05)

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

Postgraduate Certificate Learning Outcome 6 (PGCCL06)

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

Postgraduate Diploma Learning Outcome 1 (PGDCL01)

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: a) to evaluate critically current research and advanced scholarship in the discipline b) to evaluate methodologies and develop critiques of them and, where appropriate, to propose new hypotheses.

Postgraduate Diploma Learning Outcome 2 (PGDCL02)

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.

Postgraduate Diploma Learning Outcome 3 (PGDCL03)

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.

Postgraduate Diploma Learning Outcome 4 (PGDCL04)

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.

Postgraduate Diploma Learning Outcome 5 (PGDCL05)

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

Postgraduate Diploma Learning Outcome 6 (PGDCL06)

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

Postgraduate Masters Learning Outcome 1 (MACLO1)

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

Postgraduate Masters Learning Outcome 2 (MACLO2)

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

Postgraduate Masters Learning Outcome 3 (MACLO3)

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

Postgraduate Masters Learning Outcome 4 (MACLO4)

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.

Postgraduate Masters Learning Outcome 5 (MACLO5)

Evaluate current research and scholarship within a broad area, such as Emerging Design Tools, New Product Development and the Introduction of Project Management Techniques and critique current research methodologies and apply this knowledge to propose original solutions.

Postgraduate Masters Learning Outcome 6 (MACLO6)

Gain a high understanding of the nature of Computer Aided High Speed Manufacturing and how this may be applied to a range of manufacturing scenarios.

Overview of Assessment:

Module	Title	Course Learning Outcomes
7AT004	Emerging Design Tools	MACLO1, MACLO2, PGCCLO1, PGCCLO2, PGDCLO1, PGDCLO2
7CM002	Project Management Tools and Techniques	MACLO1, MACLO2, PGCCLO1, PGCCLO2, PGDCLO1, PGDCLO2
7CM003	CAD and Product Definition	MACLO3, MACLO4, PGCCLO3, PGCCLO4, PGDCLO3, PGDCLO4
7ET019	Rapid Manufacturing Applications	MACLO1, MACLO4, PGCCLO1, PGCCLO4, PGDCLO1, PGDCLO4
7ET020	Computer Aided and High Speed Machining Application	MACLO1, MACLO3, MACLO6, PGCCLO1, PGCCLO3, PGCCLO6, PGDCLO1, PGDCLO3, PGDCLO6
7ET022	Research Methods and Professional Skills	MACLO5, PGDCLO5
7ET023	Dissertation	MACLO3, MACLO4, MACLO5

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:

University provided support:

As well as providing general counselling support the University Counselling Service provides short courses on topics such as "Self Confidence", "Stress Management and Relaxation" and "Life Skills". They also provide study skills and academic support, providing short courses such as provide help in areas such as "Writing and Assignment Skills", "Exam Techniques", "Enhancing Professional Skills", "Personal Development Planning" and "Making Choices for the Future.

University Learning Centres provide general academic skills support to all students. You can make an appointment with a study skills advisor for advice on areas such as academic writing, assignment planning, exam preparation, and time management. In addition, there is a regular timetable of drop-in and bookable workshops covering information and digital literacy skills, including academic referencing. School of Technology 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 (SSA) provides 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 SSA 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. Online 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 International Centre 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 International Centre will also promote the integration of international students into the whole of the University's learning community. English language support is also available through the international language centre in the University.

Employability in the Curriculum:

The course is aimed at Science and Technology graduates who aspire to Engineering and Manufacturing management roles, in leading industrial organisations.

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



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