

Course Specification

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Produced By:	Oliver Jones
Status:	Validated

Core Information

Awarding Body / Institution:	University of Wolverhampton		
School / Institute:	School of Engineering		
Course Code(s):	MA002P01UV MA002P31UV	Full-time Part-time	12 Months 2 Years
Course Title:	MSc Manufacturing Engineering		
Hierarchy of Awards:	Master of Science Manufacturing Engineering Postgraduate Diploma Manufacturing Engineering Postgraduate Certificate Manufacturing Engineering 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:	2012/3		
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)

Applicants will normally be required to have an 2ii (or better) honours degree in a subject broadly related to the science and engineering disciplines.

APL will be permitted only under the terms of the University procedure.

English competence for international applicants should be in-line with University requirements for Masters-level taught degrees (IELTS currently 6.5 in all aspects)

International Students will require approval from the Academic Technology Approval Scheme (ATAS). This will help to stop the spread of knowledge and skills that could be used in the proliferation of weapons of mass destruction (WMD) and their means of delivery. The ATAS is specifically designed to ensure that those applying for postgraduate study in certain sensitive subjects do not acquire knowledge that could potentially be used in WMD programmes

Distinctive Features of the Course:

The MSc programme in Manufacturing Engineering at Wolverhampton is a comprehensive, specialist postgraduate programme focusing on high value manufacturing especially for the aerospace and automotive industry. It adopts a systems / life cycle engineering approach during course delivery and applies specialist tools and techniques such as material utilisation principle, life cycle assessment, life cycle costing, value analysis/engineering, sustainable design and manufacture, resource efficiency management and value stream mapping to illustrate and demonstrate manufacturing engineering practice in the 21st century. Case study materials and recent / current academic journal research papers would be used in all cases to support and enhance course delivery.

Educational Aims of the Course:

The aim of this course is to provide an overview of what the advanced manufacturing sector involves, especially in high value manufacturing applicable in the automotive and aerospace sectors, and its significance in the national economy, while also reviewing the impact of manufacturing engineering in a global setting.

Students will be trained on the use of effective, relevant tools and techniques necessary in a typical advanced manufacturing environment and the management of resources necessary to promote manufacturing engineering practice sustainably and from a life cycle approach.

Intakes:

September
January

Major Source of Funding:

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
2021/2	H	Full Time	£6550.00
2021/2	Overseas	Full Time	£13950.00
2021/2	Overseas	Full Time	£13950.00
2021/2	H	31	£3275.00

PSRB:

None

Course Structure:

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.

Year 1

Module	Title	Credits	Period	Type
7ET023	Dissertation	60	CRYRA	Core
7CM003	CAD and Product Definition	20	SEM2	Core
7AT004	Emerging Design Tools	20	SEM2	Core
7MA001	Lean and Agile Manufacturing	20	SEM2	Core
7CM004	Sustainability and Life Cycle Engineering	20	SEM1	Core
7ET019	Rapid Manufacturing Applications	20	SEM1	Core
7ET022	Research Methods and Professional Skills	20	SEM1	Core

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	SEM1	Core
7CM004	Sustainability and Life Cycle Engineering	20	SEM1	Core
7ET019	Rapid Manufacturing Applications	20	SEM1	Core
7MA001	Lean and Agile Manufacturing	20	SEM2	Core
7AT004	Emerging Design Tools	20	SEM2	Core
7CM003	CAD and Product Definition	20	SEM2	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 (formerly School of Technology) E&D policy, 2010

QAA descriptor for a Higher Education qualification and level 7L Master's Degree

The framework for higher education qualifications in England, Wales and Northern Ireland (August 2008)
Descriptor for a higher education qualification at level 7: Master's degree

Subject Benchmark Statement – Manufacturing Engineering

Institution of Engineering and Technology (IET) policy and guidelines

Institution of Mechanical, Electrical, Civil and Chemical Engineering policy and guidelines.

Learning Outcomes:

PGCert Course Learning Outcome 1 (PGCCLO1)

Understand the significance of the manufacturing sector and the impact on national and international business environment.

PGCert Course Learning Outcome 2 (PGCCLO2)

Acquire evidence of relevant personal and interpersonal skills, and thinking critically and creatively during problem solving in a manufacturing environment.

PGCert Course Learning Outcome 3 (PGCCLO3)

Solve complex problems and make decisions either individually or as part of a team.

PGCert Course Learning Outcome 4 (PGCCLO4)

Understand how successful manufacturing enterprises achieve and sustain total quality in their supply chain management.

Masters Course Learning Outcome 1 (MACLO1)

Understand the significance of the manufacturing sector and the impact on national and international business environment.

Masters Course Learning Outcome 2 (MACLO2)

Show a deep knowledge and understanding of the core principles of manufacturing engineering especially within the contextual framework.

Masters Course Learning Outcome 3 (MACLO3)

Acquire the relevant personal and interpersonal skills, and thinking critically and creatively during problem solving in a manufacturing environment.

Masters Course Learning Outcome 4 (MACLO4)

Solve complex productivity and performance related problems in a manufacturing environment and make decisions either individually or as part of a team.

Masters Course Learning Outcome 5 (MACLO5)

Show a practical understanding of how research method is used to create and interpret knowledge in manufacturing engineering.

Masters Course Learning Outcome 6 (MACLO6)

Understand how successful manufacturing enterprises achieve and sustain total quality in their supply chain management.

Overview of Assessment:

Module	Title	Course Learning Outcomes
7AT004	Emerging Design Tools	MACLO1, MACLO2
7CM003	CAD and Product Definition	MACLO3, MACLO4
7CM004	Sustainability and Life Cycle Engineering	MACLO1, MACLO3, MACLO4, MACLO6, PGCCLO1, PGCCLO3, PGCCLO4
7ET019	Rapid Manufacturing Applications	MACLO1, MACLO4, PGCCLO1, PGCCLO4
7ET022	Research Methods and Professional Skills	MACLO2, MACLO4, MACLO5
7ET023	Dissertation	MACLO1, MACLO2, MACLO3, MACLO5, MACLO6
7MA001	Lean and Agile Manufacturing	MACLO1, MACLO2, MACLO3, MACLO6, PGCCLO1, PGCCLO2, PGCCLO3

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 to provide access to the equipment and software packages need to design solutions for manufacturing problems. 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. The assessment methods used will allow you do develop a portfolio of your professional level practice, which you can help to show prospective employers that you have the abilities required to deliver real-world solutions.

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:

This course is a multi- and inter-disciplinary course, bringing together expertise from a range of disciplines. As such there will be a wide variety of subject specific advice and assistance from across the University. This will be underpinned by the skills development throughout the Learning Centre.

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:

On-line Tutorials, workshops, seminars and meetings - provide the primary opportunities for students to interact with staff on topics relating to modules

Formative feedback - tutors provide personalised written or verbal 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.

Employability in the Curriculum:

The MSc in Manufacturing Engineering which is targeted at middle level management will qualify graduates to apply for a variety of careers in the manufacturing and construction sectors both nationally and globally.

It will also prepare them for postgraduate research (MPhil/PhD) at academic institutions worldwide. Typical employment opportunities are in high value manufacturing environments and especially in automotive and aerospace sectors.



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