Course Specification

Published Date:	04-Oct-2022
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Core Information

Awarding Body / Institution:	University of Wolverhampton		
School / Institute:	School of Engineering		
Course Code(s):	MA001U01UV	Full-time	2 Years
UCAS Code:	H410		
Course Title:	BEng (Hons) Manufacturing Engineering (Accelerated)		
Hierarchy of Awards:	Bachelor of Engineering with Honours Manufacturing Engineering Bachelor of Engineering Manufacturing Engineering Diploma of Higher Education Manufacturing Engineering Certificate of Higher Education Manufacturing Engineering University Statement of Credit University Statement of Credit		
Language of Study:	English		
Date of DAG approval:	24/May/2017		
Last Review:	2014/5		
Course Specification valid from:	2012/3		
Course Specification valid to:	2024/5		

Academic Staff

Course Leader:	Klaudio Bari
Head of Department:	Dr Aman Dhir

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

Entry requirements for this course are:

- Employment in a relevant sponsoring company committed to the ethos of the course and able to support the many work based learning elements.
- GCSE English and Maths at Grade C or above or Key Skills Communication and Application of Number at Level 2
- A minimum of 200 points with at least 140 points from two full 6-unit awards or one full 12-unit award
- Successful 'Merit Pass' on a HNC in a relevant subject discipline.
- Successful completion of the 'Bridging Course' completed at the Black Country UTC
- A mature person (over 24 years of age) who has significant experience of working in a relevant industry but without gaining any formal qualifications (or recent qualifications, or qualifications at A level standard or equivalent) may also apply for entry to the course. They will be interviewed and, if appropriate, asked to complete a piece of work, to assess their suitability to be admitted and undertake the necessary work. We welcome enquiries and/or applications from such candidates who will be required to attend an interview. And/ or may be required to succeed with the bridging course.
- International students must also have an IELTS score of 6.0 or a TOEFL score of 550 (or 213 for the computer based test) or equivalent in English.

Please note that students on this course cannot access SLC Loans or University bursaries and scholarships.

Distinctive Features of the Course:

This course is developed in direct response to the needs of the local and national industry. It provides the opportunity to complete a specialist degree within a 2 year period (the maximum period for completion is 4 years) whilst continuing employment and allowing you to put theory into practice.

Throughout the course you will study in the University environment but you will also work closely with an industrial mentor to contextualise your learning in an industrial setting. Whilst at the University you will have access to state of the art laboratories containing the latest design and manufacturing technologies.

Educational Aims of the Course:

The aim of this modern manufacturing course is to develop graduates with a sound knowledge of manufacturing and the underlying engineering principles that shape current approaches.

On completion of this course you will be able to demonstrate a wide range of skills applicable to all aspects of design and manufacture including systems analysis, product development and manufacture, costing, life cycle management and sustainability/environmental concerns.

You will already be working in the manufacturing sector with sponsors who are able to support you in the many work related elements integral to this programme.

You will experience analytical and researched methods of working in a manufacturing environment, learning how to assess and make efficiency improvements and how to work in a sustainable environment within current legislation. Your dissertation will enable a level of specialisation to suit your industrial sponsor and could lead to further studies at postgraduate level.

Intakes:

September
January
May

Major Source of Funding:

OTHER 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
2017/8	H	Full Time	£9250.00
2017/8	Overseas	Full Time	£11475.00
2017/8	EU	Full Time	£9250.00
2018/9	H	Full Time / Sandwich	£9250.00
2018/9	Overseas	Full Time / Sandwich	£11700.00
2018/9	EU	Full Time / Sandwich	£9250.00
2019/0	H	Full Time / Sandwich	£9250.00
2019/0	Overseas	Full Time / Sandwich	£12000.00
2019/0	EU	Full Time / Sandwich	£9250.00
2020/1	H	Full Time / Sandwich	£9250.00
2020/1	Overseas	Full Time / Sandwich	£12250.00
2021/2	H	Full Time / Sandwich	£11100.00
2021/2	Overseas	Full Time / Sandwich	£20175.00
2022/3	H	Full Time / Sandwich	£11100.00
2022/3	Overseas	Full Time / Sandwich	£20675.00

PSRB:

MA001U01UV (Full-time)

Professional Accreditation Body:
Institution of Engineering and Technology (IET)

Accrediting Body:
Institution of Engineering and Technology (IET)

Accreditation Statement:
Accredited by the Institution of Engineering and Technology (IET) on behalf of the Engineering Council for the purposes of fully meeting the academic requirement for registration as an Incorporated Engineer and partially meeting the academic requirement for registration as a Chartered Engineer.

Approved	Start	Expected End	Renewal
26/Apr/2019	01/Sep/2015	31/Aug/2022	31/Aug/2022

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.

Module	Title	Credits	Period	Type
4MA004	Engineering Mechanics	20	SEM3	Core
4MA009	Computer Aided Design	20	SEM2	Core
4MM029	Engineering Mathematics I	20	SEM2	Core
4MA002	Engineering Materials	20	SEM2	Core
4MA003	Engineering Practice	20	SEM3	Core
4MA005	Electrical and Electronic Engineering	20	SEM3	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
5MA001	Automation and Robotics	20	SEM1	Core
5MA033	Manufacturing Systems Design	20	SEM1	Core
5MA032	Process Improvement	20	SEM1	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
5MA037	Materials Science and Manufacturing	20	SEM2	Core
5MA003	Product Analysis	20	SEM2	Core
6MA018	Product Realisation and Materials	20	SEM3	Core
6MA002	CAD and Product Development	20	SEM3	Core
6MA038	Individual Innovation Project	40	CRYRA	Core
5MA004	Engineering Management and Quality	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
6MA004	Engineering Innovation and Enterprise	20	SEM1	Core
6MA006	Emerging Manufacturing Technologies	20	SEM1	Core

May (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
5MA001	Automation and Robotics	20	SEM3	Core
5MA033	Manufacturing Systems Design	20	SEM3	Core
5MA032	Process Improvement	20	SEM3	Core

May (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
5MA037	Materials Science and Manufacturing	20	SEM1	Core
5MA003	Product Analysis	20	SEM1	Core
6MA018	Product Realisation and Materials	20	SEM2	Core
6MA002	CAD and Product Development	20	SEM2	Core
6MA038	Individual Innovation Project	40	CRYRA	Core
5MA004	Engineering Management and Quality	20	SEM1	Core

May (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
6MA004	Engineering Innovation and Enterprise	20	SEM3	Core
6MA006	Emerging Manufacturing Technologies	20	SEM3	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.

Module	Title	Credits	Period	Type
4MA004	Engineering Mechanics	20	SEM2	Core
4MA009	Computer Aided Design	20	SEM1	Core
4MM029	Engineering Mathematics I	20	SEM1	Core
4MA002	Engineering Materials	20	SEM1	Core
5MA001	Automation and Robotics	20	SEM3	Core
5MA033	Manufacturing Systems Design	20	SEM3	Core
4MA003	Engineering Practice	20	SEM2	Core
4MA005	Electrical and Electronic Engineering	20	SEM2	Core
5MA032	Process Improvement	20	SEM3	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.

Module	Title	Credits	Period	Type
5MA037	Materials Science and Manufacturing	20	SEM1	Core
5MA003	Product Analysis	20	SEM1	Core
6MA018	Product Realisation and Materials	20	SEM2	Core
6MA002	CAD and Product Development	20	SEM2	Core
6MA038	Individual Innovation Project	40	CRYRA	Core
6MA004	Engineering Innovation and Enterprise	20	SEM3	Core
5MA004	Engineering Management and Quality	20	SEM1	Core
6MA006	Emerging Manufacturing Technologies	20	SEM3	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:

In situations where Professional Body and University regulations differ, the respective Professional Body (IET) regulation will have precedent over the exempted University regulation;

Section 1.2.5 - Exemption to permit less than 33% differentiation (mainly at Level 4 and Level 5) between the majority of named undergraduate Engineering degree programmes.

Section 4.4.1 - Exemption in accordance with Institution of Engineering and Technology (IET) requirements. Compensation will be limited to no more than 20 credits at each level of study and maximum of 40 credits overall. There is no compensation permitted for independent study or postgraduate modules. Deferment of a project submission date at Level 6 or Level 7 is allowed only for exceptional reasons and for a maximum of three months.

APPROVED (by Chair's Action on 11/7/2019).

Section 5.2.2 - Exemption to use all Level 5 and Level 6 module grades excluding placement modules (assessed using a Pass/Fail marking scheme) to contribute towards overall BEng classifications with aggregated weightings at each level of study as follows;

Level	Weighting
4	-
5	25%
6	75%

These above weightings also apply to any students studying less than 120 credits at Level 5.

For students being admitted directly at Level 6, on degrees which do not have professional accreditation, student degree classifications are based upon the average of their highest module grades achieved over 100 credits at Level 6 according to weightings listed below as follows;

Level	Weighting
4	-
5	-
6	100%

For accredited programmes, the PSRB will assess the educational qualifications of an applicant for either IEng or CEng status based upon the receipt of a certified transcript from the University Registry (and with the applicant's authorisation).

APPROVED on 17/5/2018.

Reference Points:

- QAA subject benchmark - Engineering (2010)
- Engineering Council: The UK Standard for Professional Engineering Competence (UK-SPEC) (2011)
- Framework for Higher Education Qualifications (FHEQ) - descriptors for a qualification at Honours (H) level
- University of Wolverhampton Equality and Diversity Policy (2008)
- STech undergraduate Assessment Tariff
- STech ethics guidelines (2011)

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
BHONS01 Demonstrate systematic understanding of key scientific and mathematical principles and apply these to the manufacturing discipline, including the analysis and provision of solutions to engineering problems	
BHONS02 Critically analyse and evaluate the performance of a range of manufacturing systems through application of modelling techniques, computer software and quantitative methods and make informed decisions about how to implement these	
BHONS03 Apply developed knowledge in the creative design of engineering products, systems, and processes and apply an innovative approach to their physical realisation	
BHONS04 Solve manufacturing problems, addressing the prominent engineering, social, environmental, and commercial issues with reference to global strategic management and legal considerations	
BHONS05 Analyse current theory and apply developed practical skills to solve manufacturing problems whilst complying with quality standards and codes of practice	
BHONS06 Demonstrate a range of core skills required in practice including the ability to undertake critical research, effectively communicate information, manage your own learning and making decisions to solve complex problems	
BHONSN01 Demonstrate systematic understanding of key scientific and mathematical principles and apply these to the manufacturing discipline, including the analysis and provision of solutions to engineering problems	
BHONSN02 Critically analyse and evaluate the performance of a range of manufacturing systems through application of modelling techniques, computer software and quantitative methods and make informed decisions about how best to implement these	
BHONSN03 Apply developed knowledge in the creative design of engineering products, systems, and processes and apply an innovative approach to their physical realisation	
BHONSN04 Solve manufacturing problems, addressing the prominent engineering, social, environmental, and commercial issues with reference to global strategic management and legal considerations	
BHONSN05 Analyse current theory and apply developed practical skills to solve manufacturing problems whilst complying with quality standards and codes of practice	
BHONSN06 Demonstrate a range of core skills required in practice including the ability to undertake critical research, effectively communicate information, manage your own learning and making decisions to solve complex problems	

Teaching, Learning and Assessment:

Whilst studying this course you will engage with a range of learning activities which best support your learning on each of the modules.

An indicative list of these activities includes:

1. Lectures and laboratory sessions
2. Group and individual tutorials
3. Reading – core and supplementary texts, journals and electronic sources
4. Engaging in informed discussion with fellow students and academic staff in tutorials and seminars
5. Group activities aimed at developing team-working skills in a multi-disciplinary environment
6. Written and oral student led presentations, both individually and as part of a group
7. Researching articles, journals and books to retrieve information for assessments
8. Coursework reports (technical and discursive)
9. Unseen phase tests and examinations
10. Problem-based learning such as completing design projects and case studies
11. Using computer software and hardware to model and simulate products and engineering systems
12. Work based learning projects whereby classroom learning can be directly applied to solving real world problems/requirements.

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:

Your learning will be supported through engaging with the following activities;

- Face-to-face tutorial sessions
- Report writing and oral/presentation communications skills
- Learning centre – literature searches and information searches
- Practical/lab/experimental activities and reporting
- Research for project work
- Promotion of independent learning during tutorials, face-to-face sessions
- Formative assessment opportunities in all modules

The University complements this by supporting your learning through the provision of generic study skills including communication and how to write academic assignments. In addition, there will be opportunities to develop your information seeking and information management skills. These may be in the form of seminars or workshops delivered by LIS staff and embedded into the curriculum or by following the programme of "InfoBite" workshops available in the Learning Centres. Students on the course will also have access to the 'Maths Support Centre' that exists in the University (http://www.wlv.ac.uk/default.aspx?page=30285) This is a free service open to students to help with any level of mathematics and supported by staff from the School of Engineering. As part of the course you will be assigned to an industrial mentor within your host organisation. They will provide guidance and support during your studies and will assist in putting the academic theory into the industrial context.

Employability in the Curriculum:

This course is developed in response to direct industrial needs of a variety of industry collaborators from the aerospace and automotive industries. Focused on delivering to employees in these companies, it is envisaged that graduates will continue to work in the collaborating companies, but the knowledge, skills and

qualifications gained will prepare them for positions of significant responsibility that will require advanced levels of technical and/or management skills. Notwithstanding the above, graduates from this course will be well equipped to undertake a wide range of roles in the wider modern industry and will be fully conversant with the needs and methodologies adopted by leading manufacturing companies.