School of Engineering and Technology

Title of Programme: MSc Engineering and Technology

Programme Code: ENWET

Programme Specification

This programme specification is relevant to students entering:
01 September 2018

Associate Dean of School (Academic Quality Assurance):
George Haritos

Signature pp

A programme specification is a collection of key information about a programme of study (or course). It identifies the aims and learning outcomes of the programme, lists the modules that make up each stage (or year) of the programme, and the teaching, learning and assessment methods used by teaching staff. It also describes the structure of the programme, its progression requirements and any programme-specific regulations. This information is therefore useful to potential students to help them choose the right programme of study, to current students on the programme, and to staff teaching and administering the programme.

<table>
<thead>
<tr>
<th>Date</th>
<th>Section</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If you have any queries regarding the changes please email AQA@herts.ac.uk
Programme Specification
MSc Manufacturing Management
MSc Operations and Supply Chain Management

This programme specification (PS) is designed for prospective students, enrolled students, academic staff and potential employers. It provides a concise summary of the main features of the programme and the intended learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the teaching, learning and assessment methods, learning outcomes and content for each module can be found in Definitive Module Documents (DMDs) and Module Guides.

Section 1

A. Programme Rationale

This programme consists of specialist Masters awards delivered in an online environment by the University of Hertfordshire. There is an expectation that students will have studied a related engineering/technology discipline to a Bachelor’s level or equivalent, as opposed to a conversion masters philosophy aimed at students from a non-engineering background.

The MSc has two starting points. This has been adopted to meet the demand from international students whose previous studies may have been conducted with a different academic year to the normal September to September year operated in the UK. The consequence of this is that the modules that make up the MSc curriculum need to be independent of each other as the two intake groups of students will not necessarily take modules in the same order. The MSc Programme is offered in 3-year part-time mode with the final semester being a 60 credit point individual project. It is intended that a full-time option will be available starting September 2019 with two full-time study patterns (i.e. September and January intakes). In the full-time mode, students starting in Semester A will complete in 12 months while those starting in Semester B will complete their studies in 18 months. The independency of the modules allows access to the taught campus-based modules for those that can attend the University and the ability to combine them with the online delivery of others in a part-time mode hence spreading the studies for those who have other commitments.

The campus-based programmes and the online delivery programmes will be synonymous with the use of online and taught resources. There will be more directed learning for use of the online resources and the online programme will have continuous assessment in contrast to the unseen exam and in course assessment for the taught programmes. The use of the viva and discussion forums with online students, individual and group, will assist in the authentication of the students themselves.

Successful postgraduates of the programme will acquire the knowledge and understanding, intellectual, practical and transferable skills necessary for the analysis and synthesis of problems in engineering and manufacturing through a combination of experimental, simulation, research methods and case studies. They can expect to gain
work in a range of disciplines within a variety of industries from specialist technical roles to positions of management responsibility.

On the MSc Manufacturing Management, the development of skills and advancement of knowledge focuses on:

- the broad areas of business, operations management, information systems, product development and quality systems;
- design orientated tasks, including analysis and synthesis, to develop relevant and applicable procedures and processes to resolve technical and ultimately business problems;
- critical review of the present knowledge base, its applicability, usage and relevance to enhance product and enterprise performance.

On the MSc Operations and Supply Chain Management, the development of skills and advancement of knowledge focuses on:

- the broad areas of business, operations management, operations research, procurement and supply chain management, financial control, manufacturing information systems, manufacturing strategy; legal aspects of supply chain; and human resources management;
- case studies, including analysis and synthesis, contribution to profitability, understanding of purchasing, procurement and logistics;
- critical review of strategic value, procurement and supply chain management.

B. Educational Aims of the Programme

The programme has been devised in accordance with the University's graduate attributes of programmes of study as set out in UPR TL03.

Additionally this programme aims to:

- provide a quality education at postgraduate level in the disciplines of manufacturing management/technology and operations and supply chain management;
- provide an educational opportunity and experience to graduates and/or those with appropriate previous experience which enhances their prospects of professional employment with industry;
- provide a variety of awards of study through which the postgraduate may demonstrate competence, knowledge, skills and understanding, in and of, selected disciplines in the field of engineering, management and technology;
- provide the students with the knowledge and understanding to equip them for a career in technical and engineering management;
- provide and equip the students with theory and the practice of process and technology management, system design and implementation.

C. Intended Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills and other attributes in the following areas. The programme outcomes are referenced the Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies (2014), and relate to the typical student. Additionally, the SEEC Credit Level Descriptors for Further and Higher Education (2016) have been used as a guiding framework for curriculum design.

Programme Learning Outcomes will be contextualised for each award title in accordance with the subject area being studied

<table>
<thead>
<tr>
<th>Knowledge and Understanding :</th>
<th>Teaching/learning methods &amp; strategies</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1- The techniques relevant to the analysis of business strategy and planning.</td>
<td>Acquisition of knowledge and understanding is through a combination of online units with material presented in a structured</td>
<td>Knowledge and understanding are assessed through a series of case</td>
</tr>
<tr>
<td>A2- The product definition and systems design process.</td>
<td>study pattern, online lectures, seminars, reports group and individual, group discussions and assignments.</td>
<td>studies, assignments and project reports.</td>
</tr>
<tr>
<td>A3- Relevant techniques for commercial and professional engineering practice</td>
<td>Throughout, the learner is encouraged to undertake independent study both to supplement and consolidate what is being taught/learnt and to broaden their individual knowledge and understanding of the subject.</td>
<td></td>
</tr>
<tr>
<td>A4- Operations management techniques and processes in manufacturing and service sectors.</td>
<td>A number of resources will be available to assist in the independent learning and a number of directed tasks to complete with both individual and group reflection hence formative assessment and low stakes assessment.</td>
<td></td>
</tr>
<tr>
<td>A5- Resource management planning and systems implications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A6. The analytical techniques employed in management and process control.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Intellectual skills:**

<table>
<thead>
<tr>
<th>Teaching/learning methods &amp; strategies</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1. Analyse and solve engineering problems using appropriate techniques.</td>
<td>Intellectual skills are developed throughout the programme by the methods and strategies outlined in section A, above.</td>
</tr>
<tr>
<td>B2. Design/model/analyse relevant engineering systems/subsystems.</td>
<td>Analysis, problem solving and modelling skills are further developed through case studies, online group discussion, in-course exercises and submitting of assignments low, medium and high stakes.</td>
</tr>
<tr>
<td>B3. Critically review and select appropriate research methods to solve engineering and commercial problems.</td>
<td>Throughout, the learner is encouraged to develop intellectual skills further by independent study.</td>
</tr>
<tr>
<td>B4. Evaluate external influences on the design process.</td>
<td></td>
</tr>
<tr>
<td>B5. Identify the influence of resource related issues on operations and business.</td>
<td></td>
</tr>
<tr>
<td>B6. Design appropriate management systems and processes.</td>
<td></td>
</tr>
</tbody>
</table>

**Practical skills:**

<table>
<thead>
<tr>
<th>Teaching/learning methods &amp; strategies</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1. Apply appropriate experimental, analytical and modelling techniques to a range of aerospace/automotive/mechanical engineering</td>
<td>Practical skills are developed throughout the programme through a series of case studies, experimental and simulation exercises, project reports and viva.</td>
</tr>
<tr>
<td></td>
<td>Practical skills C1-C7 are formally assessed through assignment work on case studies and the individual project.</td>
</tr>
</tbody>
</table>
and business problems/applications and draw conclusions.

**C2. Plan and manage project, taking into account commercial, industrial and resource constraints.**

**C3. Appropriate evaluation of the resource constraint implications on management decision making.**

**C4. Plan the effective implementation of appropriate management systems and processes.**

Skills C1 – C4, C6 and C7 are developed through the programme of study and associated written reports and submissions.

C5 is developed throughout the programme of the study, with one-to-one online supervision during the individual project.

<table>
<thead>
<tr>
<th>Transferable skills:</th>
<th>Teaching/learning methods &amp; strategies</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1. Communicate information effectively, orally and/or in writing.</td>
<td>Transferable skills are developed throughout the programme by using group discussions and report writing and require students to manage their own time for achieving targets.</td>
<td>Transferable skills D1-D6 are assessed through assignment work and the project.</td>
</tr>
<tr>
<td>D2. Manage time and resources effectively.</td>
<td>Skill D1 is developed through coursework reports, oral (online) presentations, research methods and the project report.</td>
<td></td>
</tr>
<tr>
<td>D3. Work effectively individually and/or within a team.</td>
<td>Skill D2 is developed through meeting deadlines for scheduled assignments and the individual project.</td>
<td></td>
</tr>
<tr>
<td>D4. Solve problems in a logical and coherent manner.</td>
<td>Skills D3, D4 and D5 are developed throughout most modules; through lectures, group work, assessments and the individual project.</td>
<td></td>
</tr>
<tr>
<td>D5. Learn effectively and independently, in preparation for lifelong learning.</td>
<td>Skill D6 is encouraged and developed by the nature of the programme of study and the acquisition of transferable skills.</td>
<td></td>
</tr>
</tbody>
</table>

Throughout, the learner is encouraged to develop transferable skills by maintaining a record of evidence and completing a personal development plan.
D. Programme Structures, Features, Levels, Modules, and Credits

The programme is offered in part-time mode, and leads to the award of:
- MSc Manufacturing Management
- MSc Operations and Supply Chain Management

Entry is normally at Masters (Level 7) with a suitable Undergraduate Bachelor’s degree within the Engineering and Technology disciplines. Intake is normally semester A (September) and/or Semester B (January/February).

In a part-time mode, the programme is normally offered in 3 years.

Accreditation of prior learning (APEL/APCL) is available for this programme. Students wishing to claim APL must document their relevant prior learning in detail and must provide full evidence for their prior achievement of the learning outcomes of this programme. The Programme Learning Outcomes detailed in Section 16 are developed and assessed through the constituent modules. Table 2 (at the end of this document) identifies where each learning outcome is developed and assessed.

Professional and Statutory Regulatory Bodies
The programme is accredited by the Institute of Manufacturing (IManf). Graduates of this programme will be entitled to Fellow membership of The Institute of Manufacturing and once they can demonstrate 2 years’ work experience in Manufacturing Management they will be entitled to apply for the award of Certified Manufacturing Practitioner.

Work-Based Learning, including Sandwich Programmes
Not applicable

Programme Structure
The programme structure and progression information below (Table 1a and 1b) is provided for the award. Any interim awards are identified in Table 1b. The Programme Learning Outcomes detailed above are developed and assessed through the constituent modules. Table 2 identifies where each learning outcome is assessed.

Table 1a Outline Programme Structure

<table>
<thead>
<tr>
<th>Compulsory Modules</th>
<th>Module Title</th>
<th>Module Code</th>
<th>Manufacturing Management</th>
<th>Operations and Supply Chain Management</th>
<th>Credit Points</th>
<th>Language of Delivery</th>
<th>% Coursework</th>
<th>% Practical</th>
<th>Semesters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Control</td>
<td>Financial Control</td>
<td>7WEN0011</td>
<td>C</td>
<td>C</td>
<td>15</td>
<td>English</td>
<td>100</td>
<td>0</td>
<td>A</td>
</tr>
<tr>
<td>Manufacturing Strategy</td>
<td>Manufacturing Strategy</td>
<td>7WEN0006</td>
<td>C</td>
<td>C</td>
<td>15</td>
<td>English</td>
<td>100</td>
<td>0</td>
<td>A</td>
</tr>
<tr>
<td>Operations Management</td>
<td>Operations Management</td>
<td>7WEN0014</td>
<td>C</td>
<td>C</td>
<td>15</td>
<td>English</td>
<td>100</td>
<td>0</td>
<td>A</td>
</tr>
<tr>
<td>Integrated Product Engineering</td>
<td>Integrated Product Engineering</td>
<td>7WEN0013</td>
<td>C</td>
<td>-</td>
<td>15</td>
<td>English</td>
<td>100</td>
<td>0</td>
<td>A</td>
</tr>
<tr>
<td>Human Resource Management</td>
<td>Human Resource Management</td>
<td>7WEN0012</td>
<td>-</td>
<td>C</td>
<td>15</td>
<td>English</td>
<td>100</td>
<td>0</td>
<td>A</td>
</tr>
<tr>
<td>Operations Research</td>
<td>Operations Research</td>
<td>7WEN0016</td>
<td>C</td>
<td>C</td>
<td>15</td>
<td>English</td>
<td>100</td>
<td>0</td>
<td>B</td>
</tr>
<tr>
<td>Quality, Reliability &amp; Maintenance</td>
<td>Quality, Reliability &amp; Maintenance</td>
<td>7WEN0018</td>
<td>C</td>
<td>-</td>
<td>15</td>
<td>English</td>
<td>100</td>
<td>0</td>
<td>B</td>
</tr>
<tr>
<td>Management Information Systems</td>
<td>Management Information Systems</td>
<td>7WEN0015</td>
<td>C</td>
<td>C</td>
<td>15</td>
<td>English</td>
<td>100</td>
<td>0</td>
<td>B</td>
</tr>
<tr>
<td>Procurement and Supply Chain Management</td>
<td>Procurement and Supply Chain Management</td>
<td>7WEN0017</td>
<td>C</td>
<td>C</td>
<td>15</td>
<td>English</td>
<td>100</td>
<td>0</td>
<td>B</td>
</tr>
<tr>
<td>Legal Aspects of Supply Chain</td>
<td>Legal Aspects of Supply Chain</td>
<td>7WLA0022</td>
<td>-</td>
<td>C</td>
<td>15</td>
<td>English</td>
<td>100</td>
<td>0</td>
<td>B</td>
</tr>
<tr>
<td>Individual Project</td>
<td>Individual Project</td>
<td>7WEN0003</td>
<td>C</td>
<td>C</td>
<td>60</td>
<td>English</td>
<td>100</td>
<td>0</td>
<td>AB, BC</td>
</tr>
</tbody>
</table>
MSc Operations & Supply Chain Management (Semester A Entrant) Part Time - ENWETPME

<table>
<thead>
<tr>
<th>Semester A</th>
<th>Semester B</th>
<th>Semester C</th>
<th>Semester A</th>
<th>Semester B</th>
<th>Semester C</th>
<th>Semester A</th>
<th>Semester B</th>
<th>Semester C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing Strategy</td>
<td>Operations Research</td>
<td>Human Resource Management</td>
<td>Financial Control</td>
<td>Manufacturing Information Systems</td>
<td>Legal Aspects of Supply Chain</td>
<td>Individual Project</td>
<td>60 Credits</td>
<td></td>
</tr>
<tr>
<td>15 Credits</td>
<td>15 Credits</td>
<td>15 Credits</td>
<td>15 Credits</td>
<td>15 Credits</td>
<td>15 Credits</td>
<td>60 Credits</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCMSEP1DP</th>
<th>OCMSEP2DP</th>
<th>OCMSEP3DP</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 Credits</td>
<td>60 Credits</td>
<td>60 Credits</td>
</tr>
</tbody>
</table>

MSc Operations & Supply Chain Management (Semester B Entrant) Part Time - ENWETPME

<table>
<thead>
<tr>
<th>Semester A</th>
<th>Semester B</th>
<th>Semester C</th>
<th>Semester A</th>
<th>Semester B</th>
<th>Semester C</th>
<th>Semester A</th>
<th>Semester B</th>
<th>Semester C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations Research</td>
<td>Financial Control</td>
<td>Manufacturing Strategy</td>
<td>Operations Management</td>
<td>Legal Aspects of Supply Chain</td>
<td>Human Resource Management</td>
<td>Individual Project</td>
<td>60 Credits</td>
<td></td>
</tr>
<tr>
<td>15 Credits</td>
<td>15 Credits</td>
<td>15 Credits</td>
<td>15 Credits</td>
<td>15 Credits</td>
<td>15 Credits</td>
<td>60 Credits</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCMJAN1DP-1</th>
<th>OCMJAN2DP-1</th>
<th>OCMJAN1DP-2</th>
<th>OCMJAN2DP-2</th>
<th>OCMJAN3DP-1</th>
<th>OCMJAN3DP-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 Credits</td>
<td>30 Credits</td>
<td>30 Credits</td>
<td>30 Credits</td>
<td>60 Credits</td>
<td>0 Credits</td>
</tr>
</tbody>
</table>
MSc Manufacturing Management (Semester A Entrant) Part Time - ENWETPME

Semester A
- Manufacturing Strategy
  15 Credits
- Integrated Product Engineering
  15 Credits

Semester B
- Operations Research
  15 Credits
- Procurement & Supply Chain Management
  15 Credits

Semester C
- Financial Control
  15 Credits
- Operations Management
  15 Credits

MSc Manufacturing Management (Semester B Entrant) Part Time - ENWETPME

Semester A
- Operations Research
  15 Credits
- Procurement & Supply Chain Management
  15 Credits

Semester B
- Financial Control
  15 Credits
- Operations Management
  15 Credits

Semester C
- Manufacturing Information Systems
  15 Credits
- Quality, Reliability and Maintenance
  15 Credits

Individual Project
  60 Credits

MMWSEP1D
  60 Credits

MMWSEP2DP
  60 Credits

MMWSEP3DP
  60 Credits

MMWJAN1DP-1
  30 Credits

MMWJAN1DP-2
  30 Credits

MMWJAN2DP-1
  30 Credits

MMWJAN2DP-2
  30 Credits

MMWJAN3DP-1
  60 Credits

MMWJAN3DP-2
  0 Credits
The award of an MSc award requires 180 credit points passed at level 7, including the Masters project.

Table 1b Final and interim awards available
The programme provides the following final and interim awards:

<table>
<thead>
<tr>
<th>Final Award</th>
<th>Award Title</th>
<th>Minimum requirements</th>
<th>Available at end of (normally):</th>
<th>Programme Learning Outcomes developed (see above)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masters</td>
<td>Manufacturing Management; Operations and Supply Chain Management</td>
<td>180 credit points including at least 150 at level 7</td>
<td>3 or 6 Semesters depending on mode of study</td>
<td>All programme learning outcomes (see Table 2)</td>
</tr>
<tr>
<td>Postgraduate Diploma</td>
<td>Manufacturing Management; Operations and Supply Chain Management</td>
<td>120 credit points, including at least 90 at level 7</td>
<td>2 or 4 Semesters depending on mode of study</td>
<td>A2, A3, A5, A6, B1 – B6, C1 – C4, D1 – D5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interim Award</th>
<th>Award Title</th>
<th>Minimum requirements</th>
<th>Available at end of Level</th>
<th>Programme Learning Outcomes developed (see above)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postgraduate Certificate</td>
<td></td>
<td>60 credit points, including at least 45 at level 7, plus the requirements specified in Section 2 (Programme-specific assessment regulations.)</td>
<td>1-2 Semesters depending on mode of study</td>
<td>See UPR AS11, section 13: <a href="http://sitem.herts.ac.uk/secreg/upr/AS11.htm">http://sitem.herts.ac.uk/secreg/upr/AS11.htm</a></td>
</tr>
</tbody>
</table>

Masters and Diploma awards can be made "with Distinction" or "with Commendation" where criteria as described in UPR AS14, Section D and the students' handbook are met.

Programme-specific assessment regulations

The programme is compliant with the University's academic regulations (in particular, UPR AS11, UPR AS12/UPR AS13 (delete as applicable) and UPR AS14) with the exception of those listed below, which have been specifically approved by the University:

- Candidates are expected to have successfully completed a minimum of 90 credits of study prior to commencement of their individual project - for further details see section D.

Further points of clarification and interpretation relevant to this specific programme are given below:

- the programme operates a Faculty-wide policy for the treatment of extenuating circumstances relevant to assessments;
- the programme includes individual and group working, as a consequence specific regulations governing cheating and plagiarism are applied in-line with the University's Regulations.
- the maximum period within which a student may gain an award on the programme is 5 years from their date of registration on it
E. Management of Programme & Support for student learning

Management

The programme is managed and administered through:

- Dean of School;
- Associate Dean of School (AQA) who has overall responsibility for Quality Assurance;
- Associate Dean of School (L&T) who has overall responsibility for Learning & Teaching;
- the Programme Leader who is responsible for chairing the programme committee and advising students on the programme as a whole;
- the Student Administrator responsible for the administration associated with the programme;
- Programme Leaders who are responsible for the day to day management;
- an Admissions Tutor, with specific responsibility for selection;
- a programme committee that includes the above plus student representation;
- module leaders who are responsible for individual modules.

Support

Students are supported by:

- an induction week at the beginning of each new academic session;
- an extensive Learning Resources Centre, incorporating a library and computer centre;
- guided student-centred learning through the use of StudyNet;
- a student handbook that is specific to the programme;
- a Programme Leader who can advise on programme issues;
- a Student Administrator and admin assistants in the school office;
- Module teaching teams who provide academic support;
- Computer and technical laboratories facilities and technical support staff;
- a project supervisor;
- student representatives on the programme committee;
- the Mathematics Drop-in Centre;
- the Careers, Employment and Enterprise Service that support students looking for either graduate employment or an industrial placement.
- a substantial Student Centre that provides advice on issues such as finance, University regulations, legal matters etc;
- the Medical Centre;
- the Accommodation Office;
- the International Students Centre who organise an Overseas Student Orientation induction programme;
- printing, photocopying, laminating and document binding facilities;
- Nightline – a confidential student listening and information service in the evening when other services are not available;
- a confidential counselling service;
- University Disability Advisors;
- an Equal Opportunities Officer;
- the Students’ Union.
UH Online (UHO) providing:

- Online induction material to assist in starting the programme and settling into it
- Module materials
- First line support
- Technical support
- A designated UHO programme administrator

UH providing:

- StudyNet, a versatile online interactive learning environment, with many built in features to support accessibility for both able and disabled students.
- Access to extensive digital collections of information resources
- A substantial Student Centre that provides advice on issues such as finance, University regulations, legal matters, international student support available on-line etc.
- Office of the Dean of Students, incorporating Chaplaincy, Counselling etc.
- A University-based Disabled Student Co-ordinator
- An Equal Opportunities Officer
- The Students’ Union
- Guided student-centred learning through the use of StudyNet
- An on-line Careers Service for all current students and graduates
- Extensive guidance for overseas students about studying in the English language, provided online at http://www.uefap.co.uk

F. Other sources of information

In addition to this Programme Specification, the University publishes guidance to registered students on the programme and its constituent modules:

- Definitive Module Documents
- Module Guides
- Student Handbook
- University of Hertfordshire Course website: http://www.herts.ac.uk/courses/
- QAA Benchmark Statement website: http://www.qaa.ac.uk/AssuringStandardsAndQuality/subject-guidance/Pages/Subject-benchmark-statements.aspx
- Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies (2014) The Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies
- External Quality Review report website: http://www.qaa.ac.uk/reviews/reports/instReports.asp?ukprn=10007147
- Professional or Statutory Regulatory Body information: http://www.imeche.org/Home and http://www.theiet.org/
- UNISTATS website: http://www.unistats.com/
- University of Hertfordshire Academic Quality Office website: (StudyNet → Staff → Department Lists → Academic Quality Office)
- Learning and Teaching Policy and Graduate Attributes, UPR TL03: http://sitem.herts.ac.uk/secreg/upr/TL03.htm
- Admissions - Undergraduate & Taught Postgraduate Students, UPR SA03: http://sitem.herts.ac.uk/secreg/upr/SA03.htm
- Academic Quality, UPR AS17: http://sitem.herts.ac.uk/secreg/upr/AS17.htm
The Herts Handbook is an introduction to the academic, social, cultural and sporting services and opportunities available at the University of Hertfordshire, and includes the Student Charter and Student Code of Conduct.

As a condition of registration, all students of the University of Hertfordshire are required to comply with the University’s rules, regulations and procedures. These are published in a series of documents called ‘University Policies and Regulations’ (UPRs). The University requires that all students consult these documents which are available on-line, on the UPR web site, at: http://www.herts.ac.uk/secreg/upr/. In particular, UPR SA07 ‘Regulations and Advice for Students’ Particular Attention - Index’ provides information on the UPRs that contain the academic regulations of particular relevance for undergraduate and taught postgraduate students.

The UK Quality Assurance Agency for Higher Education (QAA) has confirmed the quality and standards of provision at the University of Hertfordshire. A key part of QAA’s role is to review and report on how universities maintain their academic standards and quality, to inform students and the wider public. The team of QAA reviewers visited the University of Hertfordshire in 2015/16 and judged that its academic standards, the quality and enhancement of its students’ learning experience, and the quality of information about this learning experience all meet UK expectations. In other words, the University meets national requirements for standards and quality. The QAA’s report can be accessed at: http://www.qaa.ac.uk/reviews-and-reports/provider?UKPRN=10007147#.V-KHajXy0nE.

G. Entry requirements

The normal entry requirements for the programme are:

i. typically a minimum of 2:i honours degree in and Engineering or Technology (with a relevant analytical content) based discipline; or

ii. any other contiguous discipline the subject content of which does not overlap with that of the programme to any substantial extent; or

iii. a qualification from any other recognised International academic institution which is of comparable academic standard to those identified above; or

iv. exceptionally, a number of applicants with other relevant professional qualifications who have the necessary academic achievements and experience will be considered under APCL; and

v. a minimum IELTS of 6.0 or equivalent for overseas students prior to the commencement of their MSc. Students without IELTS of 6.0 or equivalent, depending on the Country of Origin, would normally be expected to complete a suitable programme of study prior to the commencement of their MSc programme, such as Pre-Sessional English Classes, Foundation Certificate in English for Academic Studies, International Pre-Masters Programme (IPM), or any other suitable programme deemed appropriate by the University.

In certain cases, a student may be advised or required to undertake preliminary studies or bridging course before starting the course.

Additional Notes for International Students

1. International students are eligible to enrol on this programme of study however they must study in their own country of residence, as the University will not sponsor International Students to obtain a Tier 4 student visa for this programme.
2. International Students transferring from a full-time campus based programme to the full-time on-line programme will not meet the requirements for the University to provide sponsorship for the Tier 4 Student visa.

The programme is subject to the University's Principles, Policies and Regulations for the Admission of Students to Undergraduate and Taught Postgraduate Programmes (in UPR SA03), along with associated procedures. These will take account of University policy and guidelines for assessing accredited prior certificated learning (APCL) and accredited prior experiential learning (APEL).

If you would like this information in an alternative format please contact: the School Administration Manager

If you wish to receive a copy of the latest Programme Annual Monitoring and Evaluation Report (AMER) and/or the External Examiner’s Report for the programme, please email a request to aqo@herts.ac.uk
MSc Manufacturing Management

Table 2: Development of Intended Programme Learning Outcomes in the Constituent Modules

This map identifies where the programme learning outcomes are assessed in the constituent modules. It provides (i) an aid to academic staff in understanding how individual modules contribute to the programme aims (ii) a checklist for quality control purposes and (iii) a means to help students monitor their own learning, personal and professional development as the programme progresses.

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Knowledge &amp; Understanding</th>
<th>Intellectual Skills</th>
<th>Practical Skills</th>
<th>Transferable Skills</th>
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Key to Programme Learning Outcomes

Knowledge and Understanding
A1. The techniques relevant to the analysis of business strategy and planning.
A2. The product definition and systems design process.
A3. Relevant techniques for commercial and professional engineering practice.
A5. Resource management planning and systems implications.
A6. The analytical techniques employed in management and process control.

Intellectual Skills
B1. Analyse and solve engineering problems using appropriate techniques.
B3. Critically review and select appropriate research methods to solve engineering and commercial problems.
B4. Evaluate external influences on the design process.
B5. Identify the influence of resource related issues on operations and business.
B6. Design appropriate management systems and processes.

Practical Skills
C1. Apply appropriate experimental, analytical and modelling techniques to a range of business applications and draw conclusions.
C2. Plan and manage a project, taking into account commercial, industrial and resource constraints.
C3. Appropriate evaluation of the resource constraint implications on management decision making.
C4. Plan the effective implementation of appropriate management systems and processes.

Transferable Skills
D1. Communicate information effectively, orally and/or in writing.
D2. Manage time and resources effectively.
D3. Work effectively individually and/or within a team.
D4. Solve problems in a logical and coherent manner.
D5. Learn effectively and independently, in preparation for lifelong learning.
## MSc Operations and Supply Chain Management

| Module Title                              | Module Code | A1 | A2 | A3 | A4 | A5 | A6 | B1 | B2 | B3 | B4 | B5 | B6 | C1 | C2 | C3 | C4 | D1 | D2 | D3 | D4 | D5 |
|-------------------------------------------|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Financial Control                         | 7WEN0011    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Management Information Systems            | 7WEN0015    | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Operations Management                     | 7WEN0014    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Procurement & Supply Chain Management     | 7WEN0017    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Manufacturing Strategy                    | 7WEN0006    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Operations Research                       | 7WEN0016    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Legal Aspects of Supply Chain             | 7WLA0022    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Human Resource Management                 | 7WEN0012    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| MSc Individual Project (MSc Projects)     | 7WEN0003    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

### Programme Learning Outcomes (as identified in section 1 and the following page)

#### Knowledge & Understanding
- A1. The techniques relevant to the analysis of business strategy and planning.
- A2. The product definition and systems design process.
- A3. Relevant techniques for commercial and professional engineering practice.
- A5. Resource management planning and systems implications.
- A6. The analytical techniques employed in management and process control.

#### Intellectual Skills
- B1. Analyse and solve engineering problems using appropriate techniques.
- B3. Critically review and select appropriate research methods to solve engineering and commercial problems.
- B4. Evaluate external influences on the design process.
- B5. Identify the influence of resource related issues on operations and business.
- B6. Design appropriate management systems and processes.

#### Practical Skills
- C1. Apply appropriate experimental, analytical and modelling techniques to a range of business applications and draw conclusions.
- C2. Plan and manage a project, taking into account commercial, industrial and resource constraints.
- C3. Appropriate evaluation of the resource constraint implications on management decision making.
- C4. Plan the effective implementation of appropriate management systems and processes.

#### Transferable Skills
- D1. Communicate information effectively, orally and/or in writing.
- D2. Manage time and resources effectively.
- D3. Work effectively individually and/or within a team.
- D4. Solve problems in a logical and coherent manner.
- D5. Learn effectively and independently, in preparation for lifelong learning.
## Section 2

### Programme management

**Relevant QAA subject benchmarking statements**
None

**Type of programme**
Taught Postgraduate

**Date of validation/last periodic review**
January 18

**Date of production/ last revision of PS**
June 2017

**Relevant to level/cohort**
Level 7 entering January 2018

**Administrative School**
School of Engineering and Technology

### Table 3 Course structure

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### Course Instances

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