

Programme Regulations: 2024/25

Programme Titles:

Degree of Master of Engineering with Honours in Mechanical Engineering – UCAS Code: H301

Degree of Master of Engineering with Honours Mechanical Engineering with Placement Year – Code: 1171U

With Specialisms in:

- **Sustainable Transport Engineering** - Code: 1629U
- **Sustainable Transport Engineering with Placement Year** – Code 1442U
- ***Mechanical Engineering Science with Sustainable Transport Engineering Science*** – Code: 1647U*
- **Design and Manufacturing** – Code: 1630U
- **Design and Manufacturing with Placement Year** - Code: 1175U
- ***Mechanical Engineering Science with Design and Manufacturing Science*** – Code: 1648U*
- **Mechatronics**– Code: 1627U
- **Mechatronics with Placement Year** – Code: 1173U
- **Mechatronics with Placement Year** – Code: 1911U*
- ***Mechanical Engineering Science with Mechatronics*** – Code: 1644U*
- **Biomedical Engineering** – Code: 1628U
- **Biomedical Engineering with Placement Year** – Code: 1174U
- ***Mechanical Engineering Science with Biomedical Engineering*** – Code: 1645U*
- **Energy** – Code: 1626U
- **Energy with Placement Year** – Code: 1315U
- ***Mechanical Engineering Science with Energy*** – Code: 1646U*

Programme Titles that are withdrawn from Entry effective from September 2022:

- **Degree of Master of Engineering with Honours in Mechanical Engineering with Sustainable Transport Engineering** - UCAS Code: H392
- **Degree of Master of Engineering with Honours in Mechanical Engineering with Design and Manufacturing** – UCAS Code: HH37
- **Degree of Master of Engineering with Honours in Mechanical Engineering with Mechatronics** – UCAS Code: H3H6
- **Degree of Master of Engineering with Honours in Mechanical Engineering with Biomedical Engineering** – UCAS Code: H3H8
- **Degree of Master of Engineering with Honours in Mechanical Engineering with Energy** – UCAS Code: H3H2
- **Degree of Master of Engineering with Honours Mechanical Engineering with Placement Year (Year 3)** – Code 1566U (Withdrawn prior to 2020).

Notes

- (i) *These programme regulations should be read in conjunction with the University's Taught Programme Regulations and Examination Conventions.*
- (ii) *Unless otherwise stated under 'Type', modules are not core.*
- (iii) *A compulsory module is a module which a student is required to study.*
- (iv) *A core module is a module which a student must pass, and in which a fail mark may neither be carried nor compensated; such modules are designated by the board of studies as essential for professional body accreditation of the degree programme.*
- (v) *Programme transfers for Tier 4 students may be restricted by current Tier 4 rules. Please refer to the Visa Team for advice.*
- (vi) *All modules are delivered in Linear mode unless stated otherwise as Block, eLearning or distance learning.*
- (vii) **Programmes coded 1644U, 1645U, 1646U, 1647U, 1648U and 1911U are non-accredited honours degree titles and are only awarded where a candidate only meets the requirements of the University's Taught Programme Regulations and Examination Conventions.*

1. Stage 1

- (a) All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
ENG1001	Engineering Mathematics I	20	10	10	4	Core
ENG1003	Electrical and Magnetic Systems	15	10	5	4	
ENG1004	Electronics & Sensors	10		10	4	
ENG1005	Thermofluid Mechanics	15	5	10	4	
ENG1006	Properties and Behaviour of Engineering Materials	15	15		4	
ENG1007	Mechanics I	15	5	10	4	
ENG1008	Introduction to Programming Languages (C, Matlab and Python)	15	7	8	4	
ENG1009	Sustainable Design, Creativity and Professionalism	15	7	8	4	

2. Stage 2

- (a) All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
ENG2011	Engineering Mathematics II	10	10		5	
ENG2022	Materials Science II	10	10		5	
ENG2023	Thermal Engineering	10		10	5	
ENG2027	Applications of Engineering Fluid Mechanics II	10	10		5	
ENG2029	AC Electrical Power and Conversion	10		10	5	
ENG2031	Mathematical Modelling & Statistical Methods for Engineering	10		10	5	
ENG2032	Business and Law for Engineers	10	5	5	5	
ENG2033	Engineering Mechanics: Statics	10	10		5	
ENG2034	Engineering Mechanics: Dynamics	10		10	5	
MEC2007	Design and Manufacturing II	20	10	10	5	

MEC2008	Mechanical Engineering Professional Skills II	10	5	5	5	
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- (b) Progression and transfer to other programmes:
Candidates wishing to progress on a Master of Engineering programme are normally required to pass Stage 2 with an average mark of at least 60%. Candidates who fail to satisfy this criterion are normally required to transfer to the degree of Bachelor of Engineering with Honours in Mechanical Engineering

3. Year 3 – (Intercalating) Careers Placement for 1566U only (withdrawn)

On completion of Stage 3 and before entering Stage 4, candidates spend a year in a placement with an approved organisation. Students who were required to re-sit their Stage 3 assessment delay the start of their placement until they have done completed their resits. Students failing Stage 3 were not permitted to complete a placement year.

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
NCL3000	Career Service Placement Year Module	120	60	60	6	

4. Stage 3

- (a) All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
MEC3028	Computational Heat and Fluid Flow	10	10		6	
MEC3029	Advanced Mechanics & Structural Optimisation	20	10	10	6	
MEC3030	Digital Manufacturing Processes and Systems	20		20	6	
MEC3031	Introduction to Biomedical Engineering	10	10		6	
MEC3032	Advanced Thermofluid Dynamics	10	10		6	
MEC3033	Introduction to Mechatronics Design	20	20		6	
MEC3098	Mechanical Engineering Project	30	5	25	6	Core

- (b) Subject to the approval of the Degree Programme Director, candidates may exceptionally spend all or part of Stage 3 at another university abroad as part of an approved exchange programme. Such candidates who fail to satisfy the Examiners in the assessment for Stage 3 may not be reassessed but may be permitted to transfer to Stage 3 of the degree of Bachelor of Engineering with Honours in Mechanical Engineering.

- (c) Progression or Transfer to Other Programmes

Candidates wishing to progress on to a Master of Engineering programme are normally required to pass Stage 3 with an average mark of at least 60%. Students who fail to satisfy this criterion may be considered for the award of BEng. The following students are exempt from this criterion:

- (i) Candidates allowed Direct Entry to MEng Stage 3, or
- (ii) Candidates who have taken all or part of Stage 3 at an overseas Higher Education institution under (b) above who are deemed eligible to progress to the MEng without carrying any modules.

A Master of Engineering student who has completed Stage 3 and is eligible to progress to Stage 4 without carrying any modules may choose to graduate with a BEng degree instead of progressing to Stage 4.

6. Year 4 (Intercalating Year)

(a) Careers Placement

On completion of Stage 3 and before entering Stage 4, candidates may as part of their studies for the degree spend a year in a placement with an approved organisation. Permission to undertake a placement is subject to the approval of the Degree Programme Director. Students who are required to re-sit their Stage 3 assessment must delay the start of their placement until they have done so. Students who fail Stage 3 may not complete a placement year.

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
NCL3000	Career Service Placement Year Module	120	60	60	6	

(b) International Study Year

On completion of Stage 3 and before entering Stage 4, candidates may spend the equivalent of one academic year abroad at an appropriate exchange partner institution. Permission to undertake a year abroad is subject to the approval of the Degree Programme Director. Students who are required to re-sit their Stage 3 assessment must delay the start of their year abroad until they have done so. Students who fail Stage 3 may not complete a year abroad.

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Mode</i>
ISY3000	International Study Year Module	120	60	60	6	

6. Stage 4

(a) All candidates shall take the following compulsory module:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
MEC8099	Mechanical Engineering Team Project	40	30	10	7	

(b) All candidates shall follow one of the specialisms (i) to (vi).

(i) **Mechanical Engineering (H301 &1171U)**

All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
CME8060	Lifetime Prediction & Design for Reliability	20		20	7	Block
MEC8024	Vehicle Dynamics	20		20	7	Block
MEC8029	Design of Mechanical Power Transmissions	20	20		7	Block

MEC8062	Turbulent Fluid Flow and Modelling	20		20	7	Block
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(ii) Sustainable Transport Engineering (1629U & 1442U & H392)

All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
CME8055	Energy Sources and Storage	20		20	7	Block
MEC8024	Vehicle Dynamics	20		20	7	Block
MEC8029	Design of Mechanical Power Transmissions	20	20		7	Block
MEC8028	Human Centered Design and Engineering	20		20	7	Block

(iii) Mechanical Design and Manufacturing Engineering (1630U & 1175U & HH37)

All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
CME8060	Lifetime Prediction and Design for Reliability	20		20	7	Block
CME8061	Advanced Materials for Energy Applications	20		20	7	Block
CME8062	Joining Technology	20		20	7	Block
MEC8029	Design of Mechanical Power Transmissions	20	20		7	Block

(iv) Mechanical Engineering with Mechatronics (1627U & 1173U & H3H6)

All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
EEE8153	Linear Controller Design & State Space with Matlab Applications	20		20	7	Block
MEC8024	Vehicle Dynamics	20		20	7	Block
MEC8029	Design of Mechanical Power Transmissions	20	20		7	Block
MEC8057	Mechatronics and Mobile Robotics	20		20	7	Block

(v) Mechanical Engineering with Biomedical Engineering (1628U & 1174U & H3H8)

All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
MEC8049	Orthopaedic Engineering	20		20	7	Block

MEC8056	Medical Devices Regulatory Requirements	20		20	7	Block
MEC8059	Biomaterials	20	20		7	Block
MEC8060	Tissue Engineering	20		20	7	Block

(vi) Mechanical Engineering with Energy (1626U & 1315U & H3H2)

All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
CME8055	Energy Sources and Storage	20		20	7	Block
CME8061	Advanced Materials for Energy Applications	20		20	7	Block
EEE8157	Renewable Energy Systems and Smart Grids	20		20	7	Block
MEC8029	Design of Mechanical Power Transmissions	20	20		7	Block

7. Assessment methods

Details of the assessment pattern for each module are explained in the module outline.

8. Compensation and Condonement

For students entering the programme in 2021/22 onwards, the Engineering Council's policy on compensation and condonement will apply to marks awarded for modules at all stages, to satisfy accreditation requirements. To be awarded an accredited honours degree, only a maximum of 30 credits can be compensated over the duration of the degree programme, where the final mark is up to 5 percentage points below the pass mark. Core modules cannot be compensated. Individual projects and group projects worth more than 20 credits cannot be compensated. There is no condonement of modules delivering Accreditation of Higher Education Programmes (AHEP) learning outcomes.

Any student not satisfying the accreditation requirements, but satisfying University's Degree and Assessment regulations, will have the opportunity to be awarded a non-accredited honours degree with its classification based on the overall final stage averages beyond stage one.

9. Degree classification

Candidates will be assessed for degree classification on the basis of all the modules taken at Stages 2, 3 and 4 with the weighting of the stages being 1:2:2 for Stage 2, Stage 3 and Stage 4 respectively.

Candidates spending Stage 3 at an overseas HE Institution will be assessed with a weighting of 1:1:2 for Stage 2, Stage 3 and Stage 4 respectively.

Candidates admitted to Stage 3 MEng directly on the basis of study at another institution will be assessed with a weighting of 1:1 for Stage 3 and Stage 4 respectively.