

# FACULTY OF ENGINEERING

## DEPARTMENT OF MECHANICAL AND AEROSPACE ENGINEERING

### MECHANICAL ENGINEERING

Master of Engineering in Aero-Mechanical Engineering  
Master of Engineering in Mechanical Engineering  
Master of Engineering in Mechanical Engineering with Aeronautics  
Master of Engineering in Mechanical Engineering with Financial Management  
Master of Engineering in Mechanical Engineering with Materials Engineering  
Master of Engineering in Mechanical Engineering with International Study  
Bachelor of Engineering with Honours in Aero-Mechanical Engineering  
Bachelor of Engineering with Honours in Mechanical Engineering  
Bachelor of Engineering with Honours in Mechanical Engineering with International Study  
Bachelor of Engineering in Mechanical Engineering  
Diploma of Higher Education in Mechanical Engineering  
Certificate of Higher Education in Mechanical Engineering

*These regulations are to be read in conjunction with [General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.](#)*

#### Mode of Study

1. The programmes are available by full-time study only.

#### Place of Study

2. The MEng and BEng with Honours in Mechanical Engineering with International Study requires study at an approved institution abroad. Such study will normally extend over a minimum period of 30 weeks.

#### Curriculum

3. **First Year** - All students shall undertake modules amounting to 120 credits as follows:

#### Compulsory Modules

Module Code	Module Title	Level	Credits
16132	Engineering Mechanics 1	1	20
ME108	Engineering Analysis and Numerical Methods	1	10
EE108	Electrical Circuits	1	10
ME101	Heat and Flow 1	1	10
ME107	Experimental and Laboratory Skills	1	10
ME105	Mechanical Engineering Design	1	20
MM117	Mathematics 1M	1	20
	Elective Module(s)		20

4. **Second Year** - All students shall undertake modules amounting to 120 credits as follows:

**Compulsory Modules**

Module Code	Module Title	Level	Credits
16232	Engineering Mechanics 2	2	20
19222	Electrical Machines and Control	2	10
ME203	Heat and Flow 2	2	20
ME209	Mathematical Modelling and Analysis	2	20
ME212	Materials Engineering and Design	2	10
ME214	Mechanical Engineering Design 2	2	10
MM217	Mathematics 2M	2	10

Together with modules appropriate to the chosen programme:

**Mechanical Engineering**

**Mechanical Engineering with International Study**

**Mechanical Engineering with Materials Engineering**

Module Code	Module Title	Level	Credits
16294	Energy Systems 1	2	10
	Elective Module		10

**Aero-Mechanical Engineering**

Module Code	Module Title	Level	Credits
16231	Flight and Spaceflight 1	2	10
ME201	Aero Design and Flight Test	2	10

**Mechanical Engineering with Aeronautics**

Module Code	Module Title	Level	Credits
16231	Flight and Spaceflight 1	2	10
16259	Aero-Design 1	2	10

**Mechanical Engineering with Financial Management**

Module Code	Module Title	Level	Credits
BF116	Introduction to Finance and Accounting	1	20

5. **Third Year** - All students shall undertake modules amounting to 120 credits as follows:

**Compulsory Modules**

Module Code	Module Title	Level	Credits
16361	Dynamics and Control	3	20
16363	Engineering Analysis 3	3	20
ME301	Heat and Flow 3	3	20
16327	Structural Mechanics	3	10
ME311	Business Analysis in Engineering	3	10
ME310	Professional Responsibilities	3	10

Together with modules appropriate to the chosen programme.

**Aero-Mechanical Engineering**  
**Mechanical Engineering with Aeronautics**

Module Code	Module Title	Level	Credits
16351	Flight and Spaceflight 2	3	10
16309	Aero-Design 2	3	20

**Mechanical Engineering**  
**Mechanical Engineering with Financial Management**  
**Mechanical Engineering with Materials Engineering**  
**Mechanical Engineering with International Study**

Module Code	Module Title	Level	Credits
ME312	Mechanical Design 3A	3	10
ME313	Mechanical Design 3B	3	20

**Mechanical Engineering with International Study**

Students who elect to undertake study abroad in their third year must do so at an approved institution and shall follow an approved curriculum reflecting that undertaken by students taking the Mechanical Engineering programme. Such study will normally extend over a minimum period of 30 weeks.

6. **Fourth Year** - All students will undertake modules amounting to 120 credits as follows:

### **Compulsory Modules**

<b>Module Code</b>	<b>Module Title</b>	<b>Level</b>	<b>Credits</b>
16402	Case Studies in Engineering	4	10
16429	Computer Aided Engineering Design	4	20
ME403	Engineering Materials Selection	4	10
ME405	Heat and Flow 4	4	10
ME414	Advanced Mechanics and Dynamics	4	20

Together with modules appropriate to the chosen programme:

### **Aero-Mechanical Engineering**

<b>Module Code</b>	<b>Module Title</b>	<b>Level</b>	<b>Credits</b>
ME420	Individual Project - Aerospace	4	40
ME425	Aerospace Propulsion	4	10

ME420 Individual Project - Aerospace can be used to contribute towards a Vertically Integrated Project.

### **Mechanical Engineering with Aeronautics**

<b>Module Code</b>	<b>Module Title</b>	<b>Level</b>	<b>Credits</b>
ME409	Individual Project	4	40
ME425	Aerospace Propulsion	4	10

ME409 Individual Project can be used to contribute towards a Vertically Integrated Project.

### **Mechanical Engineering**

**Mechanical Engineering with Financial Management**

**Mechanical Engineering with Material Engineering**

**Mechanical Engineering with International Study**

<b>Module Code</b>	<b>Module Title</b>	<b>Level</b>	<b>Credits</b>
ME404	Energy Systems Modelling	4	10
ME409	Individual Project	4	40

ME409 Individual Project can be used to contribute towards a Vertically Integrated Project.

7. **Fifth Year** - All students, with the exception of those who elect to spend fifth year of studies abroad, shall undertake 120 level 5 credits as follows:

## **Aero-Mechanical Engineering**

### **Compulsory Modules**

<b>Module Code</b>	<b>Module Title</b>	<b>Level</b>	<b>Credits</b>
ME525	MEng Group Project – Aerospace	5	40

Together with 80 credits of level 5 Optional Modules chosen from the list below.

## **Mechanical Engineering**

### **Mechanical Engineering with Aeronautics**

### **Mechanical Engineering with International Study**

### **Compulsory Modules**

<b>Module Code</b>	<b>Module Title</b>	<b>Level</b>	<b>Credits</b>
ME519	Group Project	5	40

Together with 80 credits of level 5 Optional Modules chosen from the list below.

## **Mechanical Engineering with Financial Management**

### **Compulsory Modules**

<b>Module Code</b>	<b>Module Title</b>	<b>Level</b>	<b>Credits</b>
ME519	Group Project	5	40
ME515	Finance for Mechanical Engineers*	5	60

\* Finance modules at an appropriate level as may be approved by the ME515 Registrar.

Together with 20 credits of level 5 Optional Modules chosen from the list below.

## **Mechanical Engineering with Materials Engineering**

### **Compulsory Modules**

<b>Module Code</b>	<b>Module Title</b>	<b>Level</b>	<b>Credits</b>
ME519	Group Project	5	40
16565	Engineering Composites	5	10
ME978	Advanced Materials Processing and Manufacturing	5	10

Together with 60 credits of level 5 Optional Modules chosen from the list below.

ME519 Group Project or ME525 MEng Group Project - can be used to contribute towards a Vertically Integrated Project.

Students who elect to undertake their period of study abroad in fifth year must do so at an institution acceptable to the Head of Department and shall be registered for ME524 MEng Group Project Abroad.

### **Optional Modules**

Not all optional modules on this list will be available in each academic year.

**The number of optional modules to be taken for each programme is specified above. Optional modules can be taken from List A, together with a maximum of 40 credits from List B.**

#### **List A**

<b>Module Code</b>	<b>Module Title</b>	<b>Level</b>	<b>Credits</b>
16565	Engineering Composites	5	10
16587	Pressurised Systems	5	10
ME507	Machinery Diagnosis and Condition Monitoring	5	10
ME512	Spaceflight Mechanics	5	10
ME514	Advanced Topics in Fluid Systems Engineering	5	10
ME517	Spaceflight Systems	5	10
ME520	Advanced Research Project A	5	10
ME521	Advanced Research Project B	5	20
ME526	Engineering Plasticity	5	10
ME527	Introduction to Engineering Optimisation	5	10
ME528	Control Systems Design	5	10
ME529**	Aerodynamics in C	5	10
ME923**	Gas and Steam Turbines	5	10
ME926**	Nuclear Power Systems	5	10
ME927	Energy Resources and Policy	5	10
ME929	Electrical Power Systems	5	10
ME953	Engineering Artificial Environments	5	10
ME975	Satellite Data Assimilation and Analysis	5	10
ME978	Advanced Materials Processing and Manufacturing	5	10

#### **List B**

<b>Module Code</b>	<b>Module Title</b>	<b>Level</b>	<b>Credits</b>
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EF500	STEM Engagement and Support (Only available to Strathclyde Engineering Scholars)	5	10
EF927	Design Management	5	10
EF929	Financial Engineering	5	10
EF932	Risk Management	5	10
EV939	Environmental Impact Assessment	5	10
CL994	Circular Economy and Transformations towards Sustainability	5	10
NM522	Renewable Marine Energy Systems	5	10

**And available to students not enrolled on MEng Aero-Mechanical Engineering or MEng Mechanical Engineering with Aeronautics**

16599	Aerodynamic Propulsion Systems	5	10
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\*\*denotes those modules delivered by online learning. A maximum of 30 credits spread over two semesters by online learning may be selected.

Exceptionally, such other level 5 modules totalling no more than 20 credits as approved by the Programme Leader.

### Progress

8. In order to progress to the second year of the programme, see [General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.](#)
9. In order to progress to the third year of the programme, see [General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.](#)
10. In order to progress to the fourth year of the programme, see [General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.](#)
11. In order to progress to the fifth year of the programme, see [General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.](#)
12. Progress to a period of study abroad is dependent on passing all compulsory modules. A student registered for the Mechanical Engineering with International Study programme who does not meet this requirement at this stage will be required to transfer to another programme.

### Final Assessment and Classification

13. The final classification for the chosen degree will normally be based on the first assessed attempt at compulsory and specified optional modules in the third, fourth and fifth years.

### Award

14. **MEng:** In order to qualify for the award of the degree of MEng in Aero-Mechanical Engineering or the MEng in Mechanical Engineering or the MEng in Mechanical Engineering with International Study, or the MEng in Mechanical Engineering in the

chosen specialisation, see [General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.](#)

15. **MEng in Mechanical Engineering with International Study:** A candidate for the award of MEng in Mechanical Engineering with International Study in addition must have undertaken no fewer than 30 weeks of approved study abroad.
16. **BEng with Honours:** In order to qualify for the award of the degree of BEng with Honours in the chosen programme, see [General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.](#)
17. **BEng with Honours in Mechanical Engineering with International Study:** In order to qualify for the award of BEng with Honours in Mechanical Engineering with International Study, in addition to satisfying the provisions of the [General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.](#), a student must have spent 30 weeks of approved study abroad.
18. **BEng:** In order to qualify for the award of the degree of BEng in Mechanical Engineering, see [General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.](#)
19. **Diploma of Higher Education:** In order to qualify for the award of a Diploma of Higher Education in Mechanical Engineering, see [General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.](#)
20. **Certificate of Higher Education:** In order to qualify for the award of a Certificate of Higher Education in Mechanical Engineering, see [General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.](#)