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 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

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

Aero-Mechanical Engineering

Module Code	Module Title	Level	Credits
ME224	Introduction to Aerospace	2	10
ME221	Flight Mechanics and Flight Test	2	10

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
ME316	Design 3A	3	10

ME317	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

Module Code	Module Title	Level	Credits
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

Module Code	Module Title	Level	Credits
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
Mechanical Engineering with International Study

Module Code	Module Title	Level	Credits
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

Module Code	Module Title	Level	Credits
ME525	MEng Group Project – Aerospace	5	40
ME538**	Professional Skills for Senior Engineers	5	10
ME537	Atmospheric Flight Dynamics and Control	5	10
ME533	Lightweight Structures	5	10
ME532	Aerodynamics of Supersonic Aircraft	5	10

Together with 40 credits of level 5 Optional Modules chosen from the lists below.

Mechanical Engineering
Mechanical Engineering with International Study

Compulsory Modules

Module Code	Module Title	Level	Credits
ME519	MEng Group Project	5	40
ME538**	Professional Skills for Senior Engineers	5	10
ME927	Energy Resources and Policy	5	10
ME514	Advanced Topics in Fluid Systems Engineering	5	10
ME534	Advanced Topics in Mechanics and Dynamics	5	10

Together with 40 credits of level 5 Optional Modules chosen from the lists below.

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

Students who elect to undertake their Group Project abroad in fifth year must do so at an institution acceptable to the Head of Department and shall be registered for the following:

Aero-Mechanical Engineering

Compulsory Modules

Module Code	Module Title	Level	Credits
ME535	Group Project Abroad	5	50
ME538**	Professional Skills for Senior Engineers	5	10
ME537	Atmospheric Flight Dynamics and Control	5	10
ME533	Lightweight Structures	5	10

ME532	Aerodynamics of Supersonic Aircraft	5	10

Together with 30 credits of level 5 Optional Modules chosen from the lists below.

Mechanical Engineering
Mechanical Engineering with International Study

Compulsory Modules

Module Code	Module Title	Level	Credits
ME535	Group Project Abroad	5	50
ME538**	Professional Skills for Senior Engineers	5	10
ME514	Advanced Topics in Fluid Systems Engineering	5	10
ME534	Advanced Topics in Mechanics and Dynamics	5	10

Together with 40 credits of level 5 Optional Modules chosen from the lists below.

Optional Modules

Not all optional modules on these lists will be available in each academic year.

The number of optional modules to be taken for each programme is specified above.

List A

Module Code	Module Title	Level	Credits
16565	Engineering Composites	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
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
ME534	Advanced Topics in Mechanics and Dynamics	5	10
ME537	Atmospheric Flight Dynamics and Control	5	10

ME533	Lightweight Structures	5	10
ME532	Aerodynamics of Supersonic Aircraft	5	10

List B

Module Code	Module Title	Level	Credits
EF500	STEM Engagement and Support (Only available to Strathclyde Engineering Scholars)	5	10
EF950	Design Methods and 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
CH935	Polymers: Structures and Properties	5	10

**denotes those modules delivered by online learning. A maximum of 20 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 Adviser.

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, 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.