FACULTY OF ENGINEERING

DEPARTMENT OF MECHANICAL AND AEROSPACE ENGINEERING

ADVANCED MECHANICAL ENGINEERING

Master of Science in Advanced Mechanical Engineering with Industrial Placement
Master of Science in Advanced Mechanical Engineering
Postgraduate Diploma in Advanced Mechanical Engineering
Postgraduate Certificate in Advanced Mechanical Engineering

These regulations are to be read in conjunction with General Academic Regulations - Postgraduate Taught Degree Programme Level.

Admission

1. Notwithstanding the General Academic Regulations - Postgraduate Taught Degree Programme Level applicants shall possess:

    i. a degree (or in the case of direct entry to the degree of MSc, a first or second class Honours degree) from a United Kingdom university in Science or Engineering; or
    ii. a qualification deemed by the Postgraduate (taught) Course Director acting on behalf of Senate to be equivalent to i. above

2. In all cases, applicants whose first language is not English, shall be required to demonstrate an appropriate level of competence.

Duration of Study

3. The minimum period of study shall be 18 months.

Mode of Study

4. This programme is available by full-time study only.

Curriculum

5. All students shall undertake an approved curriculum as follows:

    i. Postgraduate Certificate no fewer than 60 credits
    ii. Postgraduate Diploma no fewer than 120 credits
    iii. degree of MSc no fewer than 210 credits including the project and Industrial Placement

Compulsory Modules

Module Code	Module Title	Level	Credits
ME538	Professional Skills for Senior Engineers	5	10
ME927	Energy Resources and Policy	5	10
ME987	Advanced Materials Processing and Manufacture	5	10
ME981	Research Methodology	5	10
ME514	Advanced Topics in Fluid Systems Engineering	5	10

ME534	Advanced Topics in Mechanics and Dynamics	5	10
ME900	Project	5	60
ME944	Industrial Placement	5	30

Optional Modules

Students must choose 60 credits of optional modules from List A and List B.

List A

Module Code	Module Title	Level	Credits
EFXXX	Design Methods and Management	5	10
EF931	Project Management	5	10
EF932	Risk Management	5	10
EF929	Financial Engineering	5	10
AB975	Sustainability	5	10
EV939	Environmental Impact Assessment	5	10
SU902	Concepts and Theories of Sustainability	5	10
SU904	Knowledge systems for sustainability	5	10

List B

Module Code	Module Title	Level	Credits
16598	Aerodynamic Performance	5	10
ME926**	Nuclear Power Systems	5	10
ME927	Energy Resources and Policy	5	10
ME928	Energy Systems Analysis	5	10
ME929	Electrical Power Systems	5	10
ME930	Energy Modelling and Monitoring	5	10
ME931	Industrial Metallurgy	5	10
ME945**	Introduction to Open Source Computational Fluid Dynamics	5	10
ME948**	Hydraulics	5	10
ME953	Engineering Artificial Environments	5	10
ME962**	Degradation of Metals and Alloys	5	10

ME963**	Structural Integrity	5	10
ME965**	FEA in Mechanical Engineering Design	5	10
ME966**	Fundamentals of Materials Science	5	10

Additional Level 5 modules offered by the Department of Mechanical and Aerospace Engineering, as listed in the Mechanical Engineering Undergraduate regulations.

**denotes those modules delivered by online learning. A maximum of 20 credits of online modules, spread over two semesters, may be selected.

Not all optional modules on this list will be available in each academic year. Please check your programme handbook for confirmation of which optional modules will run.

Exceptionally, such other Level 5 modules as may be approved by the Programme Adviser.

Examination, Progress and Final Assessment

6. See General Academic Regulations - Postgraduate Taught Degree Programme Level.

7. The final award will be based on performance in the examinations, coursework and the project and Industrial Placement.

Award

8. **Degree of MSc in Advanced Mechanical Engineering with Industrial Placement:** In order to qualify for the award of the degree of MSc in Advanced Mechanical Engineering with Industrial Placement, a candidate must have performed to the satisfaction of the Board of Examiners and must have accumulated no fewer than 210 credits, of which 90 must have been awarded in respect of the ME944 Industrial Placement and ME900 project.

Students who fail to accumulate 210 credits over the programme duration may be considered for one of the following alternative exit awards:

9. **MSc in Advanced Mechanical Engineering:** In order to qualify for the award of the degree of MSc in Advanced Mechanical Engineering, a candidate must have performed to the satisfaction of the Board of Examiners and must have accumulated no fewer than 180 credits from the course curriculum. The 180 credits must include ME900 and 120-taught credits from List A and List B.

10. **Postgraduate Diploma in Advanced Mechanical Engineering:** In order to qualify for the award of Postgraduate Diploma in Advanced Mechanical Engineering, a candidate must have accumulated no fewer than 120 credits from List A or List B.

11. **Postgraduate Certificate in Advanced Mechanical Engineering:** In order to qualify for the award of Postgraduate Certificate in Advanced Mechanical Engineering, a candidate must have accumulated no fewer than 60 credits from List A or List B.