

FACULTY OF ENGINEERING

DEPARTMENT OF MECHANICAL AND AEROSPACE ENGINEERING

ADVANCED MECHANICAL ENGINEERING

Master of Science in Advanced Mechanical Engineering with Industrial Placement

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

Compulsory Modules

| Module Code | Module Title | Level | Credits |
|-------------|----------------------|-------|---------|
| EF900 | Project | 5 | 60 |
| ME944 | Industrial Placement | 5 | 30 |

Optional Modules

Students must choose 120 credits of optional modules from List A or List B (including no fewer than 30 credits from list A and no fewer than 80 credits from List B)

List A

| Module Code | Module Title | Level | Credits |
|-------------|--------------|-------|---------|
|-------------|--------------|-------|---------|

| | | | |
|-------|---------------------------------|---|----|
| EF927 | Design 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 |

No fewer than 80 credits from List B.

List B

| Module Code | Module Title | Level | Credits |
|-------------|--|-------|---------|
| 16598 | Aerodynamic Performance | 5 | 10 |
| ME923** | Gas and Steam Turbines | 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 |
| ME950** | Boiler Thermal 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 distance learning. A maximum of 30 credits spread over two semesters by distance learning 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 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 EF900 project.

Transfer

9. Students who fail to accumulate 210 credits over the programme duration will be transferred and considered for an award of MSc/Postgraduate Diploma or Certificate in an appropriate Mechanical Engineering programme described in the Regulations for Advanced Mechanical Engineering.