FACULTY OF ENGINEERING

DEPARTMENT OF MECHANICAL AND AEROSPACE ENGINEERING

ADVANCED MATERIALS ENGINEERING

Master of Science in Advanced Materials Engineering
Postgraduate Diploma in Advanced Materials Engineering
Postgraduate Certificate in Advanced Materials 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) Programme 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. See General Academic Regulations - Postgraduate Taught Degree Programme Level.

Mode of Study

4. The programme is available by full-time and part-time study.

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 180 credits including the project

Compulsory Modules

Module Code	Module Title	Level	Credits
ME538	Professional Skills for Senior Engineers	5	10
ME962	Degradation of Metals and Alloys	5	10
ME966	Fundamentals of Materials Science	5	10
ME978	Advanced Materials Processing & Manufacturing	5	10
ME981	Research Methodology	5	10

16565	Engineering Composites	5	10
ME931	Industrial Metallurgy	5	10
Students for the degree of MSc only:			
ME900	Project	5	60

Optional Modules
Student must choose 50 credits 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

List B

Module Code	Module Title	Level	Credits
BE900	Tissue Mechanics	5	10
BE906	Biomaterials and Biocompatibility	5	10
CL966	Materials and Microstructures	5	10
CL976	Pre-stressed concrete, composite materials and structural stability	5	10
CP970	Molecular and Interfacial Science (online)	5	10
DM946	Micro and Nano Manufacturing	5	10
DM947	Advanced Forming Technology and Systems	5	10
DM948	Advanced Materials and Production Technology	5	10
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
ME945**	Introduction to Open Source Computational Fluid Dynamics	5	10
ME948**	Hydraulics	5	10
ME953	Engineering Artificial Environments	5	10
ME963**	Structural Integrity	5	10
ME965**	FEA in Mechanical Engineering Design	5	10
Additional Level 5 modules offered by the Department of Mechanical and Aerospace Engineering, 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.
Exceptionally, such other Level 5 modules as may be approved by the Programme Adviser.

Students for the Postgraduate Diploma only will have the additional optional module:

Module Code	Module Title	Level	Credits
ME973	Mechanical and Aerospace Engineering PGDip Dissertation	5	20

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 where undertaken.

Award

8. **Degree of MSc:** In order to qualify for the award of the degree of MSc in Advanced Materials Engineering, a candidate must have performed to the satisfaction of the Board of Examiners and must have accumulated no fewer than 180 credits, of which 60 must have been awarded in respect of the project ME900.

9. **Postgraduate Diploma:** In order to qualify for the award of the Postgraduate Diploma in Advanced Materials Engineering, a candidate must have accumulated no fewer than 120 credits from the taught modules of the programme.

10. **Postgraduate Certificate:** In order to qualify for the award of the Postgraduate Certificate in Advanced Materials Engineering, a candidate must have accumulated no fewer than 60 credits from the taught modules of the programme.