

Addendum to the Programme Specification

3882 MSc Advanced Mechanical Engineering Science

This Addendum has been produced to highlight the key changes made to the existing Programme Specification as a result of the University's response to the Covid-19 Pandemic. You should read it in conjunction with the relevant Programme Specification from the year you started your programme.

[Programme Specification for entry in 2020-21](#)

[Programme Specification for entry in 2019-20](#)

[Programme Specification for entry in 2018-19](#)

University level information

In view of COVID-19, the University has had to make changes to some elements of programme delivery for 2020-21. These changes have included the method of delivery, such as face-to-face and online, and the number of modules available.

The University aims to provide as much of a face-to-face component to your education as prevailing conditions at the time allow, combined with its new blended approach that will develop active independent and group online learning.

As the COVID-19 pandemic develops, the University's response to this and other issues may likewise need to evolve. The University will consult with student representatives as necessary and appropriate and will communicate changes to you as soon as practicable so that you have the information you need to understand how a change may impact you and what steps you need to take next. The University remains committed to supporting you as you learn.

Programme Information

In light of Covid-19, closed book final module examinations will be replaced by an alternative form of final assessment in 2020-21.

Programme Structure

Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note that, in some instances, modules have limited spaces available.

5455 - MSc in Mechatronics / Advanced Mechanical Engineering Science

Programme:	MSc Adv Mech Eng Sci - 3882
Term:	2020-2021 Academic Session (202021)
Area title:	5455-1 - MSc in Mechatronics / AMES P1

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
FEEG 6012	MSc Research Project	60	Yes	Non-Standard
FEEG 6200	Induction for Engineers	0	No	Semester 1
ISVR 6139	Active Ctrl of Sound & Vibratn	15	No	Semester 2
SESM 3030	Control and Instrumentation	15	No	Semester 1
SESM 6034	Advanced Electrical Systems	15	No	Semester 1
SESM 6039	Intro to AMES	15	No	Semester 1

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule PT1 R1	<p>Optional Modules</p> <p>Select 60 credits from the following list of optional modules.</p> <p>Please ensure that you select an even split of credits overall by Semester including your compulsory modules. If you do not, you will be contacted by your Student Office and asked to amend your choices.</p>		
Rule PT1 R1 G1	<p>Optional Modules - Level 6</p> <p>You may select up to 15 credits from the following list of level 6 modules:</p>		
ELEC 3201	Robotic Systems	15	Semester 1
FEEG 3001	Finite Element Analysis in Solid Mechanics	15	Semester 1
SESM 3029	Engineering Design with Management	15	Semester 2
Rule PT1 R1 G2	<p>Optional Modules - Level 7</p> <p>Please select 45-60 credits from the</p>		

	following list of level 7 modules: Please select 60 credits if you have not selected 15 credits at level 6.		
CENV 6016	Transport Economics	15	Semester 2
FEEG 6002	Advanced Computational Methods I	15	Semester 1
FEEG 6007	Principles of Photovoltaics, Fuel Cells and Batteries	15	Semester 1
FEEG 6008	Advanced Photovoltaics, Fuel Cells and Batteries	15	Semester 2
MATH 6141	Numerical Methods	15	Semester 1
SESG 6035	Advanced Sensors and Condition Monitoring	15	Semester 1
SESM 6037	Automotive Propulsion	15	Semester 2

Programme:	MSc Adv Mech Eng Sci - 3882
Term:	2020-2021 Academic Session (202021)
Area title:	3882-2 - MSc Adv Mech Eng Sci Part 2

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
FEEG 6012	MSc Research Project	60	Yes	Non-Standard

Optional Modules

You must choose from the following modules:

Module	Credit	Semester/Term
No optional modules in this Part		

MSc in Engineering Materials / Advanced Mechanical Engineering Science

Programme:	MSc Adv Mech Eng Sci - 3882
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Term:	2020-2021 Academic Session (202021)
Area title:	5457-1 - MSc Eng Materials / AMES P1

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
FEEG 6012	MSc Research Project	60	Yes	Non-Standard
FEEG 6200	Induction for Engineers	0	No	Semester 1
SESG 6034	Surface Engineering	15	No	Semester 1
SESG 6040	Failure of Mtrls and Comps	15	No	Semester 2
SESG 6042	Materials for Transport Appl	15	No	Semester 1
SESG 6044	Microstructl & Surface Charact	15	No	Full Academic Year
SESM 6039	Intro to AMES	15	No	Semester 1

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule PT1 R1	<p>Optional Modules</p> <p>Select 45 credits from the following lists of optional modules.</p> <p>Please ensure that you select an even split of credits overall by Semester including your compulsory modules. If you do not, you will be contacted by your Student Office and asked to amend your choices.</p>		
Rule PT1 R1 G1	<p>Group 1 - Level 6 Modules</p> <p>Select up to 30 credits from these Level 6 modules:</p>		
FEEG 3001	Finite Element Analysis in Solid Mechanics	15	Semester 1

SESA 3026	Aircraft Structural Design	15	Semester 2
SESG 3024	Manufacturing and Materials	15	Semester 1
SESM 3028	Biomaterials	15	Semester 2
Rule PT1 R1 G2	Group 2 - Level 7 Modules Select up to 45 credits from these Level 7 modules:		
FEEG 6007	Principles of Photovoltaics, Fuel Cells and Batteries	15	Semester 1
FEEG 6008	Advanced Photovoltaics, Fuel Cells and Batteries	15	Semester 2
SESA 6075	Aircraft Propulsion	15	Semester 1
SESG 6039	Composites Engineering Design and Mechanics	15	Semester 1
SESM 6034	Advanced Electrical Systems	15	Semester 1

Programme:	MSc Adv Mech Eng Sci - 3882
Term:	2020-2021 Academic Session (202021)
Area title:	3882-2 - MSc Adv Mech Eng Sci Part 2

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
FEEG 6012	MSc Research Project	60	Yes	Non-Standard

Optional Modules

You must choose from the following modules:

Module	Credit	Semester/Term
No optional modules in this Part		

Programme:	MSc Adv Mech Eng Sci - 3882
Term:	2020-2021 Academic Session (202021)
Area title:	5458-1 - MSc Comp Eng & Des / AMES P1

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
FEEG 6002	Avd Computational Methods	15	No	Semester 1
FEEG 6009	Design Search & Optimisation	15	No	Semester 2
FEEG 6012	MSc Research Project	60	Yes	Non-Standard
FEEG 6200	Induction for Engineers	0	No	Semester 1
MATH 6141	Numerical Methods	15	No	Semester 1
SESM 6039	Intro to AMES	15	No	Semester 1

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule 1	Select 4 modules One module in Semester 1 and three modules in Semester 2		
Rule LEVEL 6	Select 0 to 2 Level 6 modules		
FEEG 3001	Finite Element Analysis in Solid Mechanics	15	Semester 1
MATH 3083	Advanced Partial Differential Equations	15	Semester 1
SESA 3026	Aircraft Structural Design	15	Semester 2
SESM 3029	Engineering Design with Management	15	Semester 2
Rule LEVEL 7	Select 2 to 4 modules		

FEEG 6005	Applications of CFD	15	Semester 1
FEEG 6010	Advanced Finite Element Analysis	15	Semester 2
SESM 6038	Computational methods in biomedical engineering design	15	Semester 2

Programme:	MSc Adv Mech Eng Sci - 3882
Term:	2020-2021 Academic Session (202021)
Area title:	3882-2 - MSc Adv Mech Eng Sci Part 2

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
FEEG 6012	MSc Research Project	60	Yes	Non-Standard

Optional Modules

You must choose from the following modules:

Module	Credit	Semester/Term
No optional modules in this Part		

5460 - MSc in Propulsion and Engine Systems Engineering / Advanced Mechanical Engineering Science

Programme:	MSc Adv Mech Eng Sci - 3882
Term:	2020-2021 Academic Session (202021)
Area title:	5460-1 - MSc Prop & Eng Sys Eng/AMES P1

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
FEEG 6012	MSc Research Project	60	Yes	Non-Standard
FEEG 6200	Induction for Engineers	0	No	Semester 1

SESA 6075 Aircraft Propulsion	15	No	Semester 1
SESM 6034 Advanced Electrical Systems	15	No	Semester 1
SESM 6037 Automotive Propulsion	15	No	Semester 2
SESM 6039 Intro to AMES	15	No	Semester 1

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule PT1 R1	<p>Optional Modules</p> <p>Select 60 credits from the following list of optional modules.</p> <p>Please ensure that you select an even split of credits overall by Semester including your compulsory modules. If you do not, you will be contacted by your Student Office and asked to amend your choices.</p>		
CENV 6016	Transport Economics	15	Semester 2
FEEG 6005	Applications of CFD	15	Semester 1
FEEG 6007	Principles of Photovoltaics, Fuel Cells and Batteries	15	Semester 1
ISVR 6136	Fundamentals of Acoustics	15	Semester 1
SESA 6071	Spacecraft Propulsion	15	Semester 1
SESG 6035	Advanced Sensors and Condition Monitoring	15	Semester 1
SESG 6040	Failure of Materials and Components	15	Semester 2
SESG 6042	Materials for Transport Applications	15	Semester 1
SESG 6044	Microstructural and Surface Characterisation	15	Full Academic Year
SESM 3029	Engineering Design with Management	15	Semester 2
SESM 6050	Tribology for Future Mobility	15	Semester 2

Programme:	MSc Adv Mech Eng Sci - 3882
Term:	2020-2021 Academic Session (202021)
Area title:	3882-2 - MSc Adv Mech Eng Sci Part 2

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
FEEG 6012	MSc Research Project	60	Yes	Non-Standard

Optional Modules

You must choose from the following modules:

Module	Credit	Semester/Term
No optional modules in this Part		

6037 - MSc Surface Eng & Coat / AMES

Programme:	MSc Adv Mech Eng Sci - 3882
Term:	2020-2021 Academic Session (202021)
Area title:	6037-1 - MSc Surface Eng & Coat/AMES P1

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
FEEG 6012	MSc Research Project	60	Yes	Non-Standard
FEEG 6200	Induction for Engineers	0	No	Semester 1
SESG 6034	Surface Engineering	15	No	Semester 1
SESG 6044	Microstructl & Surface Charact	15	No	Full Academic Year
SESM 6039	Intro to AMES	15	No	Semester 1
SESM 6050	Tribology for Future Mobility	15	No	Semester 2

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule PT1 R1	<p>Optional Modules</p> <p>Select 60 credits from the following lists of optional modules.</p> <p>Please ensure that you select an even split of credits overall by Semester including your compulsory modules. If you do not, you will be contacted by your Student Office and asked to amend your choices.</p>		
Rule PT1 R1 G1	<p>Group 1 - Level 6 Modules</p> <p>Select up to 30 credits from these Level 6 modules:</p>		
FEEG 3001	Finite Element Analysis in Solid Mechanics	15	Semester 1
SESG 3024	Manufacturing and Materials	15	Semester 1
SESM 3028	Biomaterials	15	Semester 2
Rule PT1 R1 G2	<p>Group 2 - Level 7 Modules</p> <p>Select up to 60 credits from these Level 7 modules:</p>		
SESG 6035	Advanced Sensors and Condition Monitoring	15	Semester 1
SESG 6040	Failure of Materials and Components	15	Semester 2
SESG 6042	Materials for Transport Applications	15	Semester 1

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Term:	2020-2021 Academic Session (202021)
Area title:	3882-2 - MSc Adv Mech Eng Sci Part 2

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
FEEG 6012	MSc Research Project	60	Yes	Non-Standard

Optional Modules

You must choose from the following modules:

Module	Credit	Semester/Term
No optional modules in this Part		