

Programme Regulations 2009/10

Degree of Master of Engineering with Honours in Electrical and Electronic Engineering or Electronic Engineering or Electronic Communications

UCAS Codes: Electrical and Electronic Engineering H605; Electronic Engineering H602; Electronic Communications H621; with Foundation Year: H606

Notes

- (i) *These programme regulations should be read in conjunction with the University's Undergraduate Progress Regulations and Examination Conventions.*
- (ii) *All optional modules are offered subject to the constraints of the timetable and to any restrictions on the number of students who may be taught on a particular module. Not all modules may be offered in all years and they are listed subject to availability.*
- (iii) *A compulsory module is a module which a student is required to study.*
- (iv) *A Core module is a module which a student must pass, and in which a fail mark may neither be carried nor compensated; such modules are designated by the board of studies as essential for progression to a further stage of the programme or for study in a further module.*

See also:

Stage 0 (Foundation Year) for all Degrees of Bachelor of Engineering with Honours and Master of Engineering with Honours

1. Stage 0

Candidates who do not meet the requirements for entry into Stage 1 may with approval of the Degree Programme Director commence this degree programme at Stage 0 and shall proceed under the regulations relating to Stage 0.

2. Stage 1

- (a) Unless otherwise stated modules are not core.
- (b) All candidates shall take the following compulsory modules:

Code	Descriptive title	Total Credits	Credits Sem 1	Credits Sem 2	Level	Type
EEE1001	Fields, Materials and Devices I	20		20	4	
EEE1002	Electronics I	20	20		4	
EEE1003	Circuit Theory	20	20		4	
EEE1004	Project	20	10	10	4	
EEE1005	Signals and Communications I	20		20	4	
ENG1001	Engineering Mathematics 1	20	10	10	4	

3. Stage 2

(a) All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
EEE2005	Fields, Materials and Devices II	20		20	5	
EEE2006	Electronics II	20	20		5	
EEE2007	Computer Systems and Microprocessors	20		20	5	
EEE2008	Project and Professional Issues	20		20	5	
EEE2009	Signals and Communications II	20	20		5	

(b) Candidates for the degree in **Electrical and Electronic Engineering H605** shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
EEE2002	Dynamic Systems and Control	10		10	5	
EEE2003	Electrical Systems and Machines	10	10		5	

(c) Candidates for the degree in **Electronic Communications H621** shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
EEE2011	Discrete Mathematics for Computing Science	10	10		5	
EEE2004	Information Theory and Coding	10		10	5	

(d) Candidates for the degree in **Electronic Engineering H602** shall take **one** of the following optional modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
EEE2003	Electrical Systems and Machines	10	10		5	
EEE2011	Discrete Mathematics for Computing Science	10	10		5	

And **one** of the following optional modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
EEE2002	Dynamic Systems and Control	10		10	5	
EEE2004	Information Theory and Coding	10		10	5	

In order to progress to Stage 3 of the programme, candidates must pass Stage 2 at their first attempt with an overall average of 55%.

4. Stage 3

(a) All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
ENG2001	Introduction to Business Management	10	5	5	6	

(b) All candidates shall take **one** of the following optional modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
EEE8108	Individual Project and Dissertation (MEng)	40	20	20	7	
EEE8109	Individual Project and Dissertation (MEng)	40	10	30	7	
EEE8110	Individual Project and Dissertation (MEng)	40	30	10	7	

(c) All candidates shall take **one** of the following optional modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
EEE8111	Study Project	10	10		7	
EEE8112	Study Project	10		10	7	

(d) Candidates for **Electronic Communications** H621 shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
EEE3004	Digital Signal Processing	10	10		6	
EEE3005	Analogue Systems	10	10		6	
EEE3006	RF Engineering	10		10	6	
EEE3015	Telecommunication Networks	10		10	6	

(e) Candidates for the degree in **Electronic Communications** H621 shall, with the approval of the Degree Programme Director, select modules to the total of 20 credits from LIST I in 4(i) below.

(f) All candidates for **Electrical and Electronic Engineering** H605 and **Electronic Engineering** H602 must pre-select two of the specialist stage 4 modules identified in list III of stage 4 regulations. Candidates for the degree in **Electronic Communications** H621 shall take the specialist Stage 4 modules EEE8101 and EEE8104 as identified in Stage 4 regulations. All candidates must ensure that in their module selection for stage 3, the pre-requisites for their selected Stage 4 modules have been selected. When selecting Stage 4 modules, students must be aware that Industrial Placements take place during Semester 1.

(g) Candidates for the degree in **Electrical and Electronic Engineering** H605 shall, with the approval of the Degree Programme Director, select modules to the total of 60 credits from LISTS I and II, in 4(i) below.

(h) Candidates for the degree in **Electronic Engineering** H602 shall, with the approval of the Degree Programme Director, select modules to the total of 60 credits from LISTS I and II, in 4(i) below.

(i) Optional module lists:

LIST I

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
EEE3001	Design of Linear Control Systems	10	10		6	
EEE3007	Design and Test of Digital Systems	10	10		6	
EEE3008	Industrial Automation and Robotics	10	10		6	
EEE3009	Real Time and Embedded Systems	10	10		6	
EEE3012	Integrated Circuit Design	10		10	6	
EEE3013	Image Processing and Machine Vision	10		10	6	
EEE3016	Optoelectronics	10		10	6	
EEE3018	Advanced Control Systems	10		10	6	
EEE3020	Semiconductor Electronic Devices	10	10		6	

LIST II

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
EEE3002	Electrical Machines	10	10		6	
EEE3003	Power Electronics	10	10		6	
EEE3004	Digital Signal Processing	10	10		6	
EEE3005	Analogue Systems	10	10		6	
EEE3006	RF Engineering	10		10	6	
EEE3011	Electric Drives	10		10	6	
EEE3014	Power System Operation	10		10	6	
EEE3015	Telecommunication Networks	10		10	6	

With the permission of the Degree Programme Director, modules up to a value of 20 credits may be selected from options offered in engineering mathematics, or a 20 credit foreign language module may be taken - students may not, as part of their degree programme, study language modules based on their mother tongue. With the permission of the Degree Programme Director, other module combinations may be selected.

5. Stage 4

(a) All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
EEE8113	Group Design Project	30		30	7	
EEE8114	Industrial Project	40	40		7	

(b) All candidates shall take **one** of the following optional modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
EEE8106	Extended Course Work on Applications and Design	10	10		7	
EEE8107	Extended Course Work on Applications and Design	10		10	7	

- (c) Candidates for the degrees in **Electrical and Electronic Engineering H605** and **Electronic Engineering H602** must pursue the 20 credits of specialist modules pre-selected in Stage 3, as shown in List III.
- (d) Candidates for the degree in **Electronic Communications H621** shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
EEE8101	Mobile and Cellular Communications (MEng)	10		10	7	
EEE8104	Advanced Modulation and Coding Techniques (MEng)	10	10		7	

- e) All candidates shall, with the approval of the Degree Programme Director, select modules to the total of 20 credits from LISTS I, II, III and IV of regulations 4(i) and 5(f).
- f) Optional module lists:

LIST III

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
EEE8100	Software Tools for Digital System Design	10		10	7	
EEE8101	Mobile and Cellular Communications (MEng)	10		10	7	
EEE8102	Design of Machines and Drives (MEng)	10		10	7	
EEE8103	Semiconductor Device Fabrication (MEng)	10		10	7	
EEE8104	Advanced Modulation and Coding Techniques (MEng)	10	10		7	
EEE8105	Distributed Control Systems (MEng)	10	10		7	

List IV

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Level</i>	<i>Type</i>
ENG8017	Management of New Product Introduction	10	5	5	7	

With the permission of the Degree Programme Director, a 20 credit foreign language module may be taken – students may not, as part of their degree programme, study language modules based on their mother tongue.

6. Assessment methods

Details of the assessment pattern in each module are explained in the module outline.

7. Degree classification

Candidates will be assessed for the degree classification on the basis of all the modules taken at Stages 2, 3 and 4 with the weightings of the stages being 1:3:3 for Stage 2, Stage 3 and Stage 4 respectively.

8. Transfer to BEng Honours in Electrical and Electronic Engineering H607 or Electronic Engineering H610 or Electronic Communications H640

Candidates who qualify under the degree programme regulations for the BEng Honours in Electrical and Electronic Engineering H607 or Electronic Engineering H610 or Electronic Communications H640 may transfer to that degree at the end of stages 0, 1 or 2.

9. Award of BEng Honours Degree

Candidates who, at the end of stage 3 fail to qualify for progression to stage 4 of the MEng degree, may, at the discretion of the Board of examiners, be considered for the award of the equivalent BEng Honours degree. Candidates who, at the end of stage 4 fail to qualify for the award of a MEng degree, may, at the discretion of the Board of examiners, be considered for the award of the equivalent BEng Honours degree.