FACULTY OF ENGINEERING

DEPARTMENT OF ELECTRONIC AND ELECTRICAL ENGINEERING

COMPUTER AND ELECTRONIC SYSTEMS

Master of Engineering in Computer and Electronic Systems
Master of Engineering in Computer and Electronic Systems with International Study
Bachelor of Engineering with Honours in Computer and Electronic Systems
Bachelor of Engineering in Computer and Electronic Systems
Diploma of Higher Education in Computer and Electronic Systems
Certificate of Higher Education in Computer and Electronic Systems

These regulations are to be read in conjunction with General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.

Mode of Study

1. The programmes are available by full-time study only.

Place of Study

2. The MEng in Computer and Electronic Systems with International Study requires study at an approved institution abroad. Such study will normally extend over a minimum period of 30 weeks. Subject to availability of an approved curriculum (including any project), study abroad normally will be undertaken during the fourth year of the programme. Study abroad may exceptionally comprise two exchanges with different institutions of one semester each

Curriculum

3. **First Year** - All students shall undertake modules amounting to 130 credits as follows:

Compulsory Modules

Module Code	Module Title	Level	Credits
CS103	Machines, Languages and Computation	1	20
CS105	Programming Foundations	1	20
CS107	Fundamentals of Computer Systems	1	10
EE105	Electronic and Electrical Techniques and Design 1	1	20
EE107	Electronic and Electrical Principles 1	1	20
MM113	Engineering Mathematics 1E	1	20
MM114	Engineering Mathematics 2E	1	20

4. **Second Year** - All students shall undertake modules amounting to 130 credits as follows:

Compulsory Modules

Module Code	Module Title	Level	Credits

CS207	Advanced Programming	2	20
CS210	Computer Systems and Architecture	2	20
CS211	Professional Issues in Computing	2	10
EE269	Electronic and Electrical Principles 2	2	20
EE270	Digital Electronic Systems	2	20
MM213	Engineering Mathematics 3E	2	20

Optional Modules

20 credits chosen from:

Module Code	Module Title	Level	Credits
CS208	Logic and Algorithms	2	20
PH260	Physical Electronics	2	10
19207	Electromagnetism	2	10

Exceptionally, such other modules totalling no more than 20 credits as approved by the Programme Leader.
Not all optional modules on these lists will be available in each academic year. Please check your programme handbook for confirmation of which optional modules will run.

5. **Third Year** - All students shall undertake modules amounting to 120 credits as follows:

Compulsory Modules

Module Code	Module Title	Level	Credits
CS308	Building Software Systems	3	20
CS313	Computer Systems and Concurrency	3	20
EE320	Signals and Communication Systems	3	20
56324	Engineering Innovation and Management	3	10
CX318	Computer and Electronic Systems Project	3	10
	Elective Module(s)		20

Optional Modules
20 credits chosen from:

Module Code	Module Title	Level	Credits
CS310	Foundations of Artificial Intelligence	3	20

EE312	Instrumentation and Microcontrollers	3	20
EE315	Analogue and Digital System Design	3	20
EE313	Engineering Analysis	3	20

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

6. **Fourth Year** - All students shall undertake modules amounting to 120 credits as follows:

Compulsory Modules

Module Code	Module Title	Level	Credits
EE475	CES Individual Project	4	40
And one of the following			
CS407	Computer Security	4	20
CS426	Human Centred Security	4	20
EE470	Information Transmission & Security	4	20

Optional Modules

60 credits chosen from the list of optional modules:

Module Code	Module Title	Level	Credits
CS407	Computer Security	4	20
CS409	Software Architecture and Design	4	20
CS414	Digital Forensics	4	20
CS426	Human Centred Security	4	20
EE468	Analogue Systems	4	20
EE469	DSP Principles	4	20
EE470	Information Transmission & Security	4	20
EE471	Communications Networks	4	20
EE472	Control Principles	4	20
EE473	Photonic Systems	4	20
EE474	Robotic Systems	4	20

Such other modules offered by the Department of Computer and Information Sciences, the Department of Electronic and Electrical Engineering, or both, and totalling no more than 20 credits as may be approved by the Programme Leader.

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.

MEng in Computer and Electronic Systems with International Study

Students who undertake study abroad during fourth year shall follow an approved curriculum which is equivalent to that specified in these regulations. Where students are not able to undertake individual project module(s) equivalent to individual project EE475, they will, subject to the approval of Programme Director, be allowed to undertake an equivalent group project module equivalent to 19520. In such cases, students will be required to undertake an equivalent individual project module (EE5XX) in Year 5.

7. **Fifth Year** - All students shall undertake modules amounting to 120 credits as follows:

Compulsory Modules

Module Code	Module Title	Level	Credits
19520	Group Project	5	40
	OR		
EE5XX*	Individual Project	5	40

*Students taking the MEng in Computer and Electronic Systems with International Study who undertook a group project equivalent to 19520 during their 4th year abroad will be required to take an Individual Project module EE5XX.

Optional Modules

80 credits chosen from the list of optional modules:

Module Code	Module Title	Level	Credits
CS547	Advanced Topics in Software Engineering	5	20
CS548	Designing Usable Systems	5	20
CS549	Distributed Information Systems	5	20
CS551	Mobile Software and Applications	5	20
EE578	Advanced DSP	5	20
EE579	Advanced Microcontroller Applications	5	20
EE580	DSP and FPGA-based Embedded Systems Design	5	20
EE581	Image and Video Processing	5	20

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.

Such other modules offered by the Department of Computer and Information Sciences, the Department of Electronic and Electrical Engineering, or both, and totalling no more than 20 credits as may be approved by the Programme Leader.

For the degree of MEng in Computer and Electronic Systems with International Study, section 8 of these regulations shall apply, with students permitted to incorporate up to 40 credits of modules in foreign language or otherwise relevant to international study, approved by the Programme Leader.

Students who undertake study abroad during all or part of fifth years shall follow an approved curriculum which is equivalent to that specified in these regulations.

Progress

8. In order to progress to the second year of the programme, see General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.

9. In order to progress to the third year of the programme, see General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.

10. In order to progress to the fourth year, see General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.

11. In order to progress to the fifth year, see General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.

Final Honours Classification

12. The final Honours classification will normally be based on the first assessed attempt at all modules at Levels three and four.

Award

13. **MEng:** In order to qualify for the award of the degree of MEng in Computer and Electronic Systems a candidate must have accumulated no fewer than 620 credits from the programme curriculum including those for the modules EE475 CES Individual Project and 19520 Group Project.

14. **MEng in Computer and Electronic Systems with International Study:** In order to qualify for the award of MEng in Computer and Electronic Systems with International Study, in addition to satisfying the provisions of Paragraph 13, a student must have undertaken successfully no fewer than 30 weeks of approved study abroad.

15. **BEng with Honours:** In order to qualify for the award of the degree of BEng with Honours in Computer and Electronic Systems, a candidate must have accumulated no fewer than 500 credits from the programme curriculum. These must include those for the module EE475 CES Individual Project.

16. **BEng:** In order to qualify for the award of the degree of BEng in Computer and Electronic Systems, see General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.

17. **Diploma of Higher Education**: In order to qualify for the award of a Diploma of Higher Education in Computer and Electronic System, see General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.

18. **Certificate of Higher Education:** In order to qualify for the award of a Certificate of Higher Education in Computer and Electronic Systems, see General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.