Swansea University
Prifysgol Abertawe

FACULTY OF SCIENCE AND ENGINEERING

UNDERGRADUATE TAUGHT STUDENT HANDBOOK

YEAR 2 (FHEQ LEVEL 5)

ELECTRONIC AND ELECTRICAL ENGINEERING DEGREE PROGRAMMES

SUBJECT SPECIFIC
PART TWO OF TWO
MODULE AND COURSE STRUCTURE
2025-26

DISCLAIMER

The Faculty of Science and Engineering has made all reasonable efforts to ensure that the information contained within this publication is accurate and up-to-date when published but can accept no responsibility for any errors or omissions.

The Faculty of Science and Engineering reserves the right to revise, alter or discontinue degree programmes or modules and to amend regulations and procedures at any time, but every effort will be made to notify interested parties.

It should be noted that not every module listed in this handbook may be available every year, and changes may be made to the details of the modules. You are advised to contact the Faculty of Science and Engineering directly if you require further information.

IMPORTANT

Term Dates

The 25-26 academic year begins on 29 September 2025

Full term dates can be found here

Academic Integrity

Swansea University and the Faculty of Science of Engineering takes any form of **academic misconduct** very seriously. In order to maintain academic integrity and ensure that the quality of an Award from Swansea University is not diminished, it is important to ensure that all students are judged on their ability. No student should have an unfair advantage over another as a result of academic misconduct - whether this is in the form of **Plagiarism**, **Collusion** or **Commissioning**.

It is important that you are aware of the **guidelines** governing Academic Misconduct within the University/Faculty of Science and Engineering and the possible implications. The Faculty of Science and Engineering will not take intent into consideration and in relation to an allegation of academic misconduct - there can be no defence that the offence was committed unintentionally or accidentally.

Please ensure that you read the University webpages covering the topic – procedural guidance here and further information here. You should also read the Faculty Part One handbook fully, in particular the pages that concern Academic Misconduct/Academic Integrity.

The difference between compulsory and core modules

Compulsory modules must be **pursued** by a student.

Core modules must not only be **pursued**, but also **passed** before a student can proceed to the next level of study or qualify for an award. Failures in core modules must be redeemed.

Further information can be found under “Modular Terminology” on the following link - https://myuni.swansea.ac.uk/academic-life/academic-regulations/taught-guidance/essential-info-taught-students/your-programme-explained/

Key Programme Staff

Electronic and Electrical Engineering Programme Director	Electronic and Electrical Engineering Year 2 Year Coordinator
Dr Augustine Egwebe	To be confirmed

Supporting Your Studies

- Centre for Academic Success
- Faculty of Science and Engineering- Student Support

Supporting Your Professional Development

As a second-year student studying *Electronic and Electrical Engineering* at Swansea University, you are continuing a journey which we hope will end with Engineering Council registration as either an Incorporated Engineer (IEng) or Chartered Engineer (CEng).

Each of the Bachelor of Engineering (BEng) programmes covered by this handbook has been accredited by the Institution of Engineering and Technology (IET) on behalf of the Engineering Council for the purpose of fully meeting the academic requirement for registration as an Incorporated Engineer (IEng) and partially meeting the academic requirement for registration as a Chartered Engineer (CEng).

Each of the Integrated Masters (MEng) programmes covered by this handbook has been accredited by the Institution of Engineering and Technology (IET) on behalf of the Engineering Council for the purpose of fully meeting the academic requirement for registration as a Chartered Engineer (CEng).

What this means for you is that the learning outcomes of each year of your programme of study have been carefully designed to align with Version 3 of the Engineering Council's Accreditation of Higher Education Programmes (AHEP), which forms the educational foundation for the UK Standard for Professional Engineering Competence (UK-SPEC).

The knowledge and skills you will have demonstrated by completing your programme of study are defined by achieving a set of learning outcomes distributed across the following key areas of competence:

- Science and mathematics
- Engineering analysis
- Design and innovation
- The engineer and society
- Engineering practice

To find out more about Professional Registration and what the AHEP competences are, please refer to the Engineering Council's Student Guide to Professional Registration and the Accreditation of Higher Education Programmes collated learning outcomes

Progression routes

There are some options you may want to consider if you are currently enrolled on one of the Electronic and Electrical Engineering undergraduate programmes. After the completion of the Year 2, you could trade up to MEng and/or add an optional year: Year in Industry or Study Abroad. Please discuss this with your Academic Mentor and your family or other supporters, and if you wish to proceed, contact the Faculty Student Support Team (studentsupport-sciencengineering@swansea.ac.uk).

Figure 1 shows the progression routes.

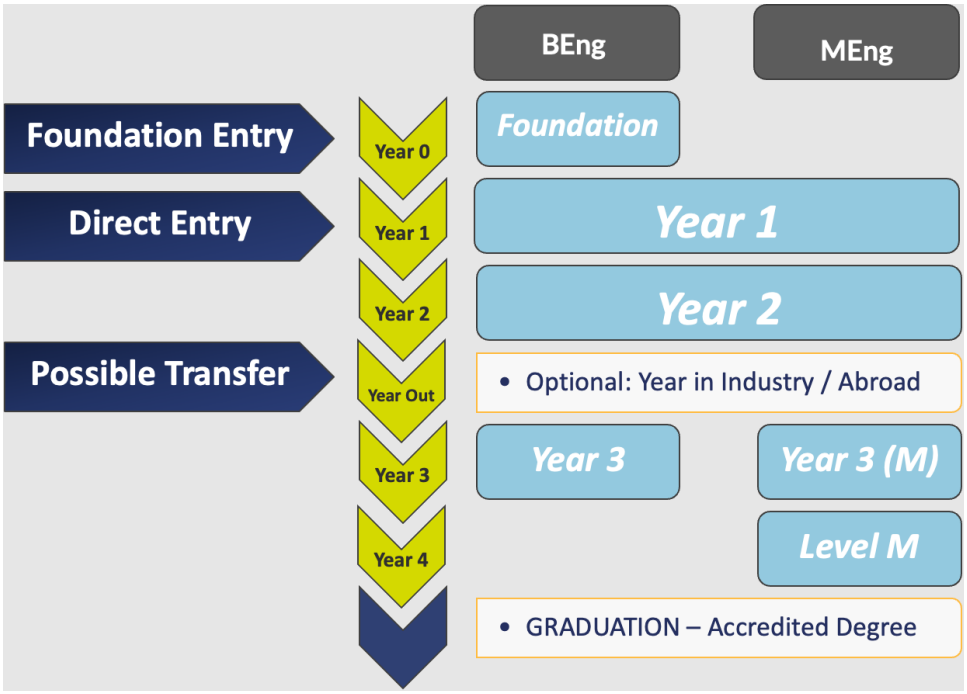

Figure 1 *The progression routes*

Trading up to MEng

If you are currently enrolled on one of the BEng programmes and would like to become a Chartered Engineer, the easiest way to satisfy the academic requirements at Swansea University is to transfer from the BEng to the equivalent MEng programme. This option is open to you until the end of Year 2, providing that your overall average is (or is predicted to be) at least 55%.

Trading up to Year in Industry

If you are currently enrolled on one of the BEng or MEng programmes and would like to have an industry experience, you can opt for a Year in Industry. The Employability Team will assist you in finding a placement and support you throughout the year.

Trading up to a Year Abroad

If you wish to study abroad, you may want to consider transferring from a regular BEng or MEng programme to a programme which includes a year abroad.

The IET – Your Professional Home for Life

As a student at Swansea University, you are privileged to be associated with one of the small groups of universities that have been selected to be Academic Partners of the IET. The most tangible benefit of this is that you can register as a student member of the IET at no cost to yourself for the duration of your study. And as a student member of the IET, you can take *full advantage* of the benefits that membership of the IET offers. These include an impressive range of services supporting *Networking*, *Professional Development*, *Learning Resources* and *Membership Benefits*. A summary of these is shown on the Get more from your partnership page.

In addition, if you are taking part in a Year in Industry next year, your experience can be converted into the Engineering Technician (EngTech) qualification. Please contact your IET Student Advisor for details.

IET on Campus

IET On Campus is designed to support everyone in the Department of Electronic and Electrical Engineering with students at the heart of it. The IET gives you access to tailored practical, technical, and career-related resources and helps you to create links with industry and other universities, building a platform for you to demonstrate your skills and raise your profile. At Swansea, the local branch of IET on Campus is run by the Electrical & Electronic Engineering Society (EEESoc) and is supported by the IET South Wales Local Network.

For more information, please join EEESoc and access their social media channels.

IET Student Advisor

Dr Karin Ennser (MIET, CEng) is the *IET Student Advisor* for Swansea University. Please get in touch with her if you want to find out more about the AHEP and UKSPEC, the IET, IET student membership, IET Scholarships, Graduate Advantage, IET Communities, or opportunities to get involved with Wales Southwest Local Network as an IET young professional volunteer. He will be happy to help.

Other members of staff associated with the IET at Swansea include:

- Dr Timothy Davies (MIET, CEng)
- Dr Augustine Egwebe (MIET)
- Prof Lijie Li (FIET)
- Mr David Moody (MIET)

UK Electronics Skills Foundation

Swansea University is an academic partner of the UK Electronics Skills Foundation (UKESF). The partnership means that you can benefit from the UKESF scholarship scheme, competitions, awards, and internship programme, which connects the most capable Electronics undergraduates with leading companies in the sector.

UKESF offers opportunities for undergraduates to take advantage of an industry placement, develop their employability skills, generous financial support, and the opportunity to network with professionals in the Electronics sector. Dr Karin Ennser is the *UKESF Student Advisor* for Swansea University. Please contact her if you want to find out more.

Year 2 (FHEQ Level 5) 2025/26
Electronic and Electrical Engineering

BEng Electronic and Electrical Engineering[H602,H605]
BEng Electronic and Electrical Engineering with a Year Abroad[H603]
MEng Electronic and Electrical Engineering[H606]
MEng Electronic and Electrical Engineering with a Year Abroad[H600]

Compulsory Modules

Semester 1 Modules	Semester 2 Modules
EG-241 **Electrical Machines** **10 Credits** **Dr A Egwebe/Dr M Monfared** **CORE**	**EG-240** **Electronic Circuits** **10 Credits** **Dr S Ghosh** **CORE**
EG-242 **Electronic Materials and Devices** **10 Credits** **Prof KS Teng** **CORE**	**EG-243** **Control Systems** **10 Credits** **Dr A Egwebe** **CORE**
EGA207 **Applied Electromagnetics** **10 Credits** **Dr TGG Maffeis** **CORE**	**EG-247** **Digital Signal Processing** **10 Credits** **Dr KM Ennser** **CORE**
EGA222 **Electrical Machines Laboratory** **5 Credits** **Dr A Egwebe** **CORE**	**EGA223** **Electronic Circuits Laboratory** **5 Credits** **Dr S Ghosh** **CORE**
EG-2004 **AI, Machine Learning and Data Analysis** **20 Credits** **Prof L Li/Miss CM Barnes/Dr A Das/Dr KM Ennser/Prof C Giannetti/Mr AJ Morgan/...** **CORE**	
EG-252 **Embedded System Design** **20 Credits** **Dr S Ghosh/Dr A Ali** **CORE**	
EG-277 **Research Project Preparation** **0 Credits** **Dr AC Tappenden/Dr M Fazeli/Mrs KM Thomas** **CORE**	
EGT201 **Engineering Tutorials: Year 2** **0 Credits** **Prof JC Arnold** **CORE**	
Total 120 Credits	

Optional Modules

Choose exactly 10 credits

EG-244	Software Engineering	Dr A Ali	TB1	10 (CORE)
EGA211	Semiconductor Technology	Prof K Kalna	TB2	10 (CORE)

Year 2 (FHEQ Level 5) 2025/26
Electronic and Electrical Engineering
BEng Electronic and Electrical Engineering with a Year in Industry[H604]
MEng Electronic and Electrical Engineering with a Year in Industry[H601]

Compulsory Modules

Semester 1 Modules	Semester 2 Modules
EG-241 **Electrical Machines** **10 Credits** **Dr A Egwebe/Dr M Monfared** **CORE**	**EG-240** **Electronic Circuits** **10 Credits** **Dr S Ghosh** **CORE**
EG-242 **Electronic Materials and Devices** **10 Credits** **Prof KS Teng** **CORE**	**EG-243** **Control Systems** **10 Credits** **Dr A Egwebe** **CORE**
EGA207 **Applied Electromagnetics** **10 Credits** **Dr TGG Maffeis** **CORE**	**EG-247** **Digital Signal Processing** **10 Credits** **Dr KM Ennser** **CORE**
EGA222 **Electrical Machines Laboratory** **5 Credits** **Dr A Egwebe** **CORE**	**EGA223** **Electronic Circuits Laboratory** **5 Credits** **Dr S Ghosh** **CORE**
EG-2004 **AI, Machine Learning and Data Analysis** **20 Credits** **Prof L Li/Miss CM Barnes/Dr A Das/Dr KM Ennser/Prof C Giannetti/Mr AJ Morgan/...** **CORE**	
EG-233 **Placement Preparation: Engineering Industrial Year** **0 Credits** **Dr SA Rolland/Dr V Samaras** **CORE**	
EG-252 **Embedded System Design** **20 Credits** **Dr S Ghosh/Dr A Ali** **CORE**	
EG-277 **Research Project Preparation** **0 Credits** **Dr AC Tappenden/Dr M Fazeli/Mrs KM Thomas** **CORE**	
EGT201 **Engineering Tutorials: Year 2** **0 Credits** **Prof JC Arnold** **CORE**	
Total 120 Credits	

Optional Modules

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