Programme Specification

1.	**Programme title**	MSc Electronic Engineering MSc Electronic Engineering with Professional Placement (15 months) MSc Electronic Engineering with Professional Placement (24 months)
2.	**Awarding institution**	Middlesex University
3a	**Teaching institution**	Middlesex University: London
3b	**Language of study**	English
4a	**Valid intake dates**	September
4b	**Mode and duration of study**	Full-time MSc Electronic Engineering: 12 months MSc Electronic Engineering with Professional Placement (24 months): 24 months Part-time MSc Electronic Engineering: 24 months
4c	**Delivery method**	On-campus/Online
5.	**Professional/Statutory/Regulatory body** (if applicable)	
6.	**Apprenticeship Standard** (if applicable)	
7.	**Final qualification(s) available**	MSc Electronic Engineering PGDip Electronic Engineering PGCert Electronic Engineering MSc Electronic Engineering with Professional Placement (15 months) MSc Electronic Engineering with Professional Placement (24 months)

8. Academic year effective from	2025/26 for MSc Electronic Engineering and MSc Electronic Engineering with Professional Placement (24 months) 2026/27 for MSc Electronic Engineering with Professional Placement (15 months)

9. Criteria for admission to the programme

An Honours degree normally classified 2.2 or above, or equivalent, in electrical/electronic engineering, computer science or a related area, with evidence of previous programming experience. Application from mature applicants with suitable life skills and experience is also welcomed, highlighting our flexible admission criteria. Recognition of Prior Learning (RPL) is permitted.

Successful applicants must have competence in English language. For international applicants whose first language is not English the requirement is that they have IELTS 6.5 (with minimum 6.0 in each component) or TOEFL internet based 87 (with at least 21 in listening & writing, 22 in speaking and 23 in reading).

Principle of fair admission

The University aims to ensure that its admissions processes are fair, open and transparent and aims to admit students who, regardless of their background, demonstrate potential to successfully complete their chosen programme of study where a suitable place exists and where entry criteria are met. The University values diversity and is committed to equality in education and students are selected on the basis of their individual merits, abilities and aptitudes. The University ensures that the operation of admissions processes and application of entry criteria are undertaken in compliance with the Equality Act.

We take a personalised and fair approach to how we make offers. We feel it's important that our applicants continue to aspire to achieving great results and make offers which take into account pieces of information provided to us on the application form.

This includes recognition of prior learning and experience. If you have been working, or you have other learning experience that is relevant to your programme, then we can count this towards your entry requirements and even certain modules once you start studying.

10. Aims of the programme

The programme aims to:

- Consolidate student knowledge about current developments and state of the art challenges as well as their applications in electronics engineering.
- Provide students with a thorough grounding in software and hardware skills and techniques within the context of electronics engineering.
- Develop advanced skills in designing, simulating, implementing and analysing electronic systems.

- Develop students' academic and scientific skills in researching, experimenting and presenting their work.
- Provide students with the technical and practical skills sought by employers in the areas of electronics engineering and automation.

11. Programme learning outcomes

A. Knowledge and understanding

On completion of this programme the successful student will have knowledge and understanding to:

1. apply a comprehensive knowledge of relevant subject principles (engineering, statistics, mathematics, management) to the solution of complex problems in electronic engineering; (AHEP4 [1]M1)
2. critically analyse hardware and software requirements of electronic systems and related control methods;
3. design, develop and test control solutions for smart systems, including machine learning;
4. formulate and critically analyse complex electronic systems and to offer conclusions and recommendations; (AHEP4 M2)
5. develop a system hierarchy for electronics and software integration solutions, including data communications;
6. formulate and apply fundamental simulation techniques using a systems approach to real-world processes and systems;
7. design solutions for complex problems that evidence some originality to address stakeholder needs (user, business, societal, environmental, cultural, diversity, inclusion, etc.), as well as complying with constraints such as commercial, legal, professional and industry standards. (AHEP4 M5)

B. Skills

On completion of this programme the successful student will be able to:

1. select and apply computational and analytical techniques to model complex problems related to electronic systems; (AHEP4 M3)
2. build, test and optimise integrated electronic system solutions using appropriate tools and techniques;
3. use a suitable programming language to simulate the behaviour and evaluate the performance of a physical/electronic system;
4. carry out technical literature reviews and critically evaluate these to solve complex problems related to the programme; (AHEP4 M4)
5. design and implement AI/ML solutions in electronic systems;
6. evaluate the business, environmental and societal impact of solutions to complex problems and manage their impact; (AHEP4 M7)

[1] The Accreditation of Higher Education Programmes (AHEP) outlines the purpose and application process for universities that wish to secure or maintain accreditation of their programmes. The terms M1, M2, M3, etc., on the Engineering Council's AHEP framework represent the specified learning outcomes and competency areas required for accreditation.

7. work effectively as a reflective practitioner as a member of a team as well as an individual and assess own and team performance; (AHEP4 M16)
8. communicate complex technical and academic content effectively in both oral and written forms to a technical and non-technical audience. (AHEP4 M17)

12. Teaching/learning methods

A. Knowledge and understanding

Students gain knowledge and understanding through a dynamic mix of teaching, learning, and assessment strategies, designed to actively engage them and enhance their comprehension. The educational context is enriched with staff-led interactive sessions, which delve into theoretical concepts in a multi-disciplinary context. These engaging sessions are complemented by hands-on laboratory activities, crucial for reinforcing theoretical knowledge through practice-led experiments and simulations, allowing students to apply their learning in tangible scenarios.

To broaden their understanding, students participate in a variety of interactive activities including seminars, group tutorials, and collaborative exercises. These are crafted to foster critical thinking, problem-solving, and the application of theory to practical, real-life societal challenges, with a particular focus on sustainable development and the UN Sustainable Development Goals (SDGs). Additionally, students undertake individual and group projects, encouraging research-informed exploration and synthesis of information, thereby deepening their subject mastery.

Guided and independent study is highly promoted, complementing formal instruction. This self-directed exploration is supported by comprehensive resources such as key concept videos provided in advance, enhancing digital learning, and offering opportunities for students to deepen their understanding, explore topics more extensively, and adopt a global perspective.

Academic advising plays a crucial role in this holistic educational approach, guiding students through their academic journey, fostering an inclusive learning environment, and highlighting opportunities for work-based learning and engagement with industry. This approach ensures that students not only gain a deep understanding of their subject but also remain well-being-focused, ready to apply their knowledge in a global context, and prepared for success in both academic and professional endeavours.

B. Skills

Students develop their skills within a stimulating and diverse teaching and learning framework, designed to nurture practical abilities, critical thinking, and teamwork. This dynamic setting encourages the acquisition of vital professional competencies through a blend of interactive sessions, guided learning, and academic advising.

Central to our approach are practice-led workshops that integrate multidisciplinary learning, encompassing engaging discussions, group tutorials, and hands-on laboratory work. These sessions offer an immersive experience, allowing students to apply theoretical concepts in real-world contexts, thereby enhancing their technical and analytical skills.

Seminars and laboratory exercises immerse students in experiential learning, emphasising the application of knowledge to practical challenges and encouraging collaboration. This

environment promotes active engagement and peer learning, deepening students' understanding of complex issues and fostering inclusive approaches to problem-solving.

Projects, undertaken both individually and in groups, are key to our pedagogy. They provide a platform for students to engage with comprehensive tasks that mirror industry problems, demanding creativity, critical evaluation, and strategic thinking. These projects often incorporate global and employer perspectives, highlighting the relevance of sustainable development and the application of research-informed strategies.

Utilising state-of-the-art simulation tools and engaging in testing activities, students gain insights into the practical aspects of their field, from conceptual design to tangible outcomes, preparing them for industry-specific tasks and decision-making.
With the aid of key concept videos provided in advance and a strong emphasis on digital learning, we offer a well-rounded educational experience. This approach not only ensures the acquisition of theoretical knowledge but also emphasizes the development of practical skills and competencies essential for success in the global marketplace. Through work-based learning opportunities and industry engagement, we prepare students for the realities of their future careers, all while maintaining a focus on health and well-being.

	FT	PT
[2]Approx. number of timetabled hours per week (at each level of study, as appropriate), including on-campus and online hours	12	6
Approx. number of hours of independent study per week (at each level of study, as appropriate)	28	4
Approx. number of hours on placement (including placement, work-based learning or year abroad, as appropriate).	3 months (15 months programme) or 36-48 weeks (24 months programme)	No part-time placement

13. Employability

13a Development of graduate competencies

During the course, students will acquire a profound understanding of electronic engineering, equipping you to excel in designing, analysing, and implementing advanced electronic systems. Students will also participate in interactive projects and workshops, gaining practical skills that replicate real-world industrial practices, supported by state-of-the-art labs and tools. The course will help students develop into a forward-thinking professional who thrives in ever-changing technological landscapes. The curriculum is crafted to enhance your innovation capabilities, preparing you to tackle complex electronics system challenges.

MSc Electronic Engineering graduates will develop **Leadership and Influence** by taking initiative in research projects, group assignments, and innovation-driven collaborations. They will cultivate decision-making skills by balancing technical feasibility, safety, and ethical considerations in robotics applications. By mentoring peers, they will enhance their ability to

[2] This information will be used as part of our submission to Discover Uni (previously Unistats).

lead and inspire others. Public speaking through technical presentations and outreach activities will further solidify their leadership presence in academia and industry.

Problem-solving and delivery skills graduates will apply systematic methodologies such as design thinking and model-based engineering to solve complex electronic challenges. They will leverage data-driven decision-making, optimising system performance through sensor analysis and AI. From conceptual design to prototype testing and real-world deployment, they will ensure that electronic systems are efficient, scalable, and reliable. By adhering to rigorous validation and testing standards, they will produce high-quality, reproducible research and technology solutions.

Effective **Communication and Collaboration** graduates will develop strong technical writing skills for research papers, technical reports, and documentation. They will refine their ability to present complex ideas clearly in potential academic conferences and industry showcases. Through groupwork assignments, they will foster inclusive and effective teamwork.

By mastering these competencies, MSc Electronic graduates will be well-prepared for careers in academia, research, and industry, contributing to cutting-edge advancements in electronic, telecommunication, robotics, AI, and automation.

13b Employability development

Employability Services is committed to equipping postgraduate Electronic Engineering students with the tools, support, and opportunities needed to thrive in their careers. Employability Services play a pivotal role in bridging the gap between academic excellence and professional success for MSc Electronic Engineering graduates, empowering them to make a meaningful impact in a rapidly changing technological landscape.

The services provided are tailored to enhance employability and ensure industry readiness in a highly competitive field. These include:

- **Employability Skills and Training:** Specialised workshops and training sessions designed to develop key employability competencies for MSc Electronic Engineering students, such as project management, technical interview preparation, CV building, and advanced problem-solving. These sessions aim to refine both the technical and soft skills required for roles in electronic, telecommunication, and related industries.
- **Personalised 1:1 Support for Postgraduate Students:** Dedicated career advisors provide tailored guidance to help robotics students navigate their career paths. From individual consultations on career goals and planning to identifying niche opportunities in automation, AI, electronic, and telecommunication sectors, students receive customised support to maximise their potential.
- **Employer Engagement, Vacancy Sourcing, and Advocacy:** Strong collaborations with leading electronic and telecommunication firms, start-ups, and global companies ensure that students have access to an extensive network of potential employers. Employability Services acts as an advocate for students by promoting their unique skills and qualifications to prospective organisations, while also sourcing exclusive opportunities tailored to their expertise in electronic, telecommunication, automation, and intelligent systems.
- **Placement Administration:** Full support is provided to streamline the process of securing placements, including assistance with applications, networking, and

administrative tasks. For MSc Electronic Engineering students, placements are sourced with a focus on gaining experience in areas such as electronic and telecommunication system integration, automation solutions, and machine learning applications, enabling students to apply their academic knowledge in professional settings.

- **Continuous Development Opportunities:** Beyond graduation, Employability Services provides alumni with ongoing access to resources, networking opportunities, and career advice, ensuring they **remain** competitive and adaptable as technology and electronic/telecommunication industries evolve.

13c Placement and work experience opportunities (if applicable)

A dedicated internal team will focus on building strong employer relationships across the country, delivering timetabled workshops, and offering personalised 1:1 support to manage students' placement opportunities effectively.

For MSc Electronic Engineering with Professional Placement (15 months) / MSc Electronic Engineering with Professional Placement (24 months) only

The MSc Electronic Engineering programme offers structured professional placement opportunities to enhance students' practical learning and industry exposure. These placements are designed to complement the academic curriculum by providing real-world experience in electronic and telecommunication roles.

Students enrolled in the MSc Electronic Engineering with Professional Placement (15 months or 24 months) have the opportunity to work with industry partners, enabling them to apply their academic knowledge to real-world challenges. During these placements, students engage in activities such as robotic system design, automation integration, machine learning applications, and digital twin development, mirroring the demands of cutting-edge electronic and telecommunication industries.

These placements allow students to:

- **Gain hands-on experience:** Work on real-world electronic and telecommunication projects in diverse sectors such as 5G/6G and beyond networks, healthcare, autonomous vehicles, applying advanced technical knowledge to solve practical problems.
- **Develop critical professional skills:** Enhance essential skills such as problem-solving, project management, teamwork, and communication within multidisciplinary environments.
- **Build industry networks:** Establish valuable connections with electronic engineering professionals, paving the way for future collaborations or employment opportunities.
- **Understand global and ethical demands:** Deepen their understanding of the global electronic and telecommunication markets, with a focus on sustainable, ethical, and responsible applications of robotics technology.

These placements are fully supported by Employability Services and the programme team, who assist students in identifying relevant opportunities and provide personalised guidance throughout the placement period. Such experiences bridge the gap between academic study and professional practice, equipping MSc Electronic Engineering graduates with the technical expertise, practical experience, and professional skills needed to excel in a competitive global electronic engineering and telecommunications industry.

13d Future careers / progression

Graduates from the programme will be expected to enter into employment that requires high-level skills in electronics system design and integration with highly specialised practical skills in automated solutions, embedded systems, telecommunications, digital twins, machine learning, that are much sought after worldwide.

Graduates will also have the potential to progress to senior engineering and leadership positions as their careers evolve, managing multidisciplinary teams and overseeing large-scale projects.

For those seeking continued academic development, the programme will serve as an excellent foundation for pursuing a PhD or engaging in cutting-edge research in electronic, telecommunication, and intelligent systems, contributing to scientific discovery and technological advancement.

By equipping graduates with a blend of theoretical knowledge, hands-on technical proficiency, and practical problem-solving capabilities, the programme ensures readiness for impactful careers in a data-driven world.

14. Assessment methods

A. Knowledge and understanding

Students' knowledge and understanding is assessed by means of a wide variety of assessment techniques, each carefully chosen to align with the specific objectives of our curriculum and to cater to the diverse learning styles of our student body.

This includes a variety of interactive assignments such as presentations, formal report writing, and structured dialogues. These tasks not only assess students' understanding and ability to communicate complex ideas but also foster critical thinking and collaborative learning.

Incorporating authentic assessment strategies, students engage in practical activities, problem-solving tasks, and project work that reflect real-world scenarios and industry standards. These exercises are instrumental in enabling students to confront actual problems, apply systematic problem-solving approaches, and harness innovative thinking.

Practical laboratory tasks provide a platform for students to engage in scientific inquiry, applying theoretical knowledge to experimental setups, and interpreting data to draw meaningful conclusions.

A key component of our assessment approach is the provision of continual formative feedback, including discursive feedback that supports students' learning journeys. This varied feedback mechanism ensures students are continuously guided and supported in their learning, enhancing the authenticity and effectiveness of the assessment process.

B. Skills

Students' skills are assessed by employing a diverse array of practical and analytical methods tailored to measure their proficiency and application of learned competencies.

To enhance communication skills, students are tasked with presenting technical material and expressing their insights through structured reports and project documentation. This practice not only refines their ability to present intricate data in a clear and succinct manner but also equips them for the demands of professional communication, including report writing and presentations.

The inclusion of authentic assessment tasks in the form of practical assignments and project work compels students to employ their skills in realistic situations. This approach ensures they are adept at converting theoretical understanding into actionable, real-world solutions.

A cornerstone of our assessment strategy is the provision of continual formative feedback, including discursive feedback, which plays a pivotal role in students' ongoing learning and development. This varied feedback mechanism supports a reflective learning process, enabling students to iteratively improve their skills and understanding throughout their educational journey.

15a Structure of the programme

MSc Electronic Engineering (FT)

Level 7	Semester 1	Semester 2	Semester 3
Year 1	PDE4440 Digital Signal Processing & Communications [30]	PDE4444 Machine Learning for Engineers [15]	PDE4445 Individual Project [60]
	PDE4431 Robot Manipulation [15]	PDE4442 Embedded Realtime Systems [30]	
	PDE4441 Digital Twin Engineering [15]	PDE4443 Engineering Sustainability [15]	
	Exit stage PgCert*	**Exit stage PgDip***	**Full MSc**

MSc Electronic Engineering (FT) with Professional Placement (24 months)

Level 7	Semester 1	Semester 2	Semester 3
Year 1	PDE4440 Digital Signal Processing & Communications [30]	PDE4444 Machine Learning for Engineers [15]	PDE4445 Individual Project [60]

	PDE4431 Robot Manipulation [15]	PDE4442 Embedded Realtime Systems [30]	
	PDE4441 Digital Twin Engineering [15]	PDE4443 Engineering Sustainability [15]	
	PDE4260 Preparing for the Professional Placement (Week 6 onwards) [0]		
	Exit stage PgCert*	**Exit stage PgDip***	**Full MSc**
Year 2	PDE4262 Postgraduate Professional Placement (extended) [0]		

MSc Electronic Engineering (FT) with Professional Placement (15 months)

Level 7	Semester 1	Semester 2	Semester 3
Year 1	PDE4440 Digital Signal Processing & Communications [30]	PDE4444 Machine Learning for Engineers [15]	PDE4445 Individual Project [60]
	PDE4431 Robot Manipulation [15]	PDE4442 Embedded Realtime Systems [30]	
	PDE4441 Digital Twin Engineering [15]	PDE4443 Engineering Sustainability [15]	
	PDE4260 Preparing for the Professional Placement (Week 6 onwards) [0]		
	Exit stage PgCert*	**Exit stage PgDip***	**Full MSc**
Year 2	PDE4261 Postgraduate Professional Placement [0]		

MSc Electronic Engineering (PT)

Level 7	Semester 1	Semester 2	Semester 3
Year 1	PDE4440 Digital Signal Processing & Communications [30]	PDE4444 Machine Learning for Engineers [15]	
		PDE4443 Engineering Sustainability [15]	
		Exit stage PgCert*	

Year 2	PDE4431 Robot Manipulation [15]	PDE4442 Embedded Realtime Systems [30]	PDE4445 Individual Project [60]
	PDE4441 Digital Twin Engineering [15]		
		Exit stage PgDip*	**Full MSc**

MSc Electronic Engineering (PT) with Professional Placement (24 months)

Level 7	Semester 1	Semester 2	Semester 3
Year 1	PDE4440 Digital Signal Processing & Communications [30]	PDE4444 Machine Learning for Engineers [15]	
		PDE4443 Engineering Sustainability [15]	
		Exit stage PgCert*	

Year 2	PDE4431 Robot Manipulation [15]	PDE4442 Embedded Realtime Systems [30]	PDE4445 Individual Project [60]
	PDE4441 Digital Twin Engineering [15]		

	PDE4260 Preparing for the Professional Placement (Week 6 onwards) [0]		
		Exit stage PgDip*	**Full MSc**

Year 3	PDE4262 Postgraduate Professional Placement (extended) [0]

MSc Electronic Engineering (PT) with Professional Placement (15 months)

Level 7	Semester 1	Semester 2	Semester 3
Year 1	PDE4440 Digital Signal Processing & Communications [30]	PDE4444 Machine Learning for Engineers [15]	
		PDE4443 Engineering Sustainability [15]	
		Exit stage PgCert*	

Year 2	PDE4431 Robot Manipulation [15]	PDE4442 Embedded Realtime Systems [30]	PDE4445 Individual Project [60]
	PDE4441 Digital Twin Engineering [15]		
	PDE4260 Preparing for the Professional Placement (Week 6 onwards) [0]		
		Exit stage PgDip*	**Full MSc**

Year 3	PDE4261 Postgraduate Professional Placement [0]

Students completing 60 credits, which must include either PDE4440 Digital Signal Processing & Communications or PDE4442 Embedded Realtime Systems, are eligible for PGCert Electronic Engineering.

Students completing 120 credits, which must include both PDE4440 Digital Signal Processing & Communications and PDE4442 Embedded Realtime Systems, are eligible for PGDip Electronic Engineering.

Students failing the Postgraduate Placement module will be transferred to the corresponding programme without the Placement title.

15b Levels and modules

Level 7

Compulsory (Core)	**Optional (Elective)***	**Progression requirements**
Students must take all of the following: PDE4440 Digital Signal Processing & Communication PDE4431 Robot Manipulation PDE4441Digital Twin Engineering PDE4444 Machine Learning for Engineers PDE4442 Embedded Realtime System PDE4443 Engineering Sustainability PDE4445 Individual Project For Postgraduate Professional placements only: PDE4260 Preparing for the Professional Placement PDE4262 Postgraduate Professional Placement (extended) Or PDE4261 Postgraduate Professional Placement	There are no optional modules on this programme.	Students must complete 180 credits at Level 7 to continue with Placement module.

15c Non-compensatory modules

Module level	Module code
7	PDE4445

16. Programme-specific support for learning

Meeting the learning outcomes of this programme requires active participation in the subject and the development of autonomous practice in meeting objectives. Supporting this level of active participation and autonomous practice is achieved via regular weekly tutorial contact with academic staff, productive and informed support from technical staff and the use of online, resource-based learning materials where appropriate. The subject provides extensive facilities where students can engage with their coursework assignments in a supported and productive environment.

17. HECos code(s)	100165

18. Relevant QAA subject benchmark(s)	Subject Benchmark Statement: Engineering (2023)

19. University Regulations

This programme will run in line with general University Regulations: Policies | Middlesex University

20. Reference points

The following reference guidance notes were used in designing and reviewing this programme:

- QAA The Frameworks for Higher education Qualifications of UK Degree-Awarding Bodies, February 2024
- QAA Subject Benchmark Statements: Engineering, March 2023
- QAA Characteristic Statement Master's Degree, February 2020
- UK Standard for Professional Engineering Competence (UKSPEC)
- United Nations Sustainable Development Goals and its 2030 Agenda for Sustainable Development
- Middlesex University's Policy, Regulations and Guidelines
- Middlesex University's Learning and Quality Enhancement Handbook
- QAA The UK Quality Code for Higher Education, May 2023
- The Accreditation of Higher Education Programmes (AHEP), 2020
- Middlesex University policy on equal opportunities
- Middlesex University Learning Framework 2031

21. Other information

Please note programme specifications provide a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve if they take full advantage of the learning opportunities that are provided. More detailed information about the programme can be found in the rest of your programme handbook and the university regulations.

22. Curriculum map for MSc Electronic Engineering, MSc Electronic Engineering with Professional Placement (15 months) and MSc Electronic Engineering with Professional Placement (24 months)

22a Programme learning outcomes

Knowledge and understanding	
A1	Apply a comprehensive knowledge of relevant subject principles (engineering, statistics, mathematics, management) to the solution of complex problems in electronic engineering.
A2	Critically analyse hardware and software requirements of electronic systems and related control methods.
A3	Design, develop and test control solutions for smart systems, including machine learning.
A4	Formulate and critically analyse complex electronic systems and to offer conclusions and recommendations.
A5	Develop a system hierarchy for electronics and software integration solutions, including data communications.
A6	Formulate and apply fundamental simulation techniques using a systems approach to real-world processes and systems.
A7	Design solutions for complex problems that evidence some originality to address stakeholder needs (user, business, societal, environmental, cultural, diversity, inclusion, etc.), as well as complying with constraints such as commercial, legal, professional and industry standards.
Skills	
B1	Select and apply computational and analytical techniques to model complex problems related to electronic systems.
B2	Build, test and optimise integrated electronic system solutions using appropriate tools and techniques.
B3	Use a suitable programming language to simulate the behaviour and evaluate the performance of a physical/electronic system.
B4	Carry out technical literature reviews and critically evaluate these to solve complex problems related to the programme.
B5	Design and implement AI/ML solutions in electronic systems.
B6	Evaluate the business, environmental and societal impact of solutions to complex problems and manage their impact.
B7	Work effectively as a reflective practitioner as a member of a team as well as an individual and assess own and team performance.
B8	Communicate complex technical and academic content effectively in both oral and written forms to a technical and non-technical audience.

Programme outcomes														
A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	B4	B5	B6	B7	B8
Highest level achieved by all graduates														
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7

23b Mapping by level of study and module

Module Title	Module Code by Level	A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	B4	B5	B6	B7	B8
Digital Signal Processing and Communications	PDE4440	X	X					X	X	X	X				X	X
Robot Manipulation	PDE4431	X							X	X						
Digital Twin Engineering	PDE4441		X	X		X	X				X		X		X	X
Machine Learning for Engineers	PDE4444			X					X				X			
Embedded Realtime Systems	PDE4442		X		X	X	X	X	X	X					X	X
Engineering Sustainability	PDE4443	X										X		X		X
Individual Project	PDE4445	X	X		X		X		X	X		X		X		X
Preparing for the Professional Placement	PDE4260														X	X
Postgraduate Professional Placement	PDE4261														X	X
Postgraduate Professional Placement (extended)	PDE4262														X	X

UN Sustainable Development Goals mapped to the programme modules:

UN SDGs Module																	
	No Poverty	Zero Hunger	Good Health and Well-Being	Quality Education	Gender Equality	Clean Walter and Sanitation	Affordable and Clean Energy	Decent Work and Economic Growth	Industry, Innovation and infrastructure	Reduce Inequality	Sustainable Cities and Communities	Responsible Consumption and Production	Climate Action	Life Below Walter	Life on Land	Peace, Justice and Strong institutions	Partnerships for the Goals
Digital Signal Processing and Communication (PDE4440)			X				X		X		X		X		X		
Robot Manipulation (PDE4431)			X				X		X		X	X	X				
Digital Twin Engineering (PDE4441)			X	X					X		X	X	X		X		
Machine Learning for Engineers (PDE4444)			X						X		X	X	X		X		
Embedded Real-Time System (PDE4442)			X						X		X	X					
Engineering Sustainability (PDE4443)			X						X		X	X	X	X	X		
Individual Project (PDE4445)			X	X			X		X		X	X	X	X	X		
Preparing for the Professional Placement (PDE4260)			X						X								
Postgraduate Professional Placement (12 months/3months) (PDE4262/PDE4261)			X						X								

AHEP4

Module Title	Module Code by Level	Engineering Council's AHEP framework learning outcomes and competency areas							
		M1	M2	M3	M4	M5	M7	M16	M17
Digital Signal Processing and Communications	PDE4440	X	X	X		X		X	X
Robot Manipulation	PDE4431	X		X					
Digital Twin Engineering	PDE4441			X			X		
Machine Learning for Engineers	PDE4444			X		X		X	
Embedded Realtime Systems	PDE4442		X	X		X		X	X
Engineering Sustainability	PDE4443				X		X		X
Individual Project	PDE4445	X	X	X	X				X
Preparing for the Professional Placement	PDE4260							X	X
Postgraduate Professional Placement	PDE4261							X	X
Postgraduate Professional Placement (extended)	PDE4262							X	X