

Programme Specification

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Please check the Programme Directory for the most up to date version:

[UG Programme Directory](#)

[PG Programme Directory](#)

Section 1 – Regulatory Details						
1.1	Awarding body	Wrexham University				
1.2	Teaching institution	Wrexham Plas Coch Campus				
1.3	Final award and programme title (Welsh and English)	FdEng Peirianeg Ddiwydiannol (Mecanyddol) FdEng Industrial Engineering (Mechanical)				
1.4	Exit awards and titles	Certificate of Higher Education in Engineering				
1.5	Credit requirements	FdEng: 240 credits in total including a minimum of 120 credits at level 5 Cert HE: A minimum of 120 credits at level 4				
1.6	Intake points	Once yearly, September				
1.7	Mode of study	Part time				
1.8	Length of delivery	2 Years				
1.9	Location of delivery	Campus based (Wrexham)				
1.10	Mode of delivery	<table><tr><td>Part time</td><td>In person</td></tr></table>		Part time	In person	
Part time	In person					
1.11	Language of delivery	English				
1.12	Faculty	Faculty of Arts, Computing and Engineering (FACE)				
1.13	Subject area	Engineering				
1.14	HECoS Code	FdEng Industrial Engineering (Mechanical) 100190				
1.15	Suitable for applicants requiring a Student Visa?	<table><tr><td>Part time</td><td>In person</td><td>No</td></tr></table>		Part time	In person	No
Part time	In person	No				
1.16	Is DBS check required on entry?	No				

Section 1 – Regulatory Details			
1.17	Professional, Statutory or Regulatory Body (PSRB) accreditation	The engineering programmes have been developed in line with PSRB requirements, including IMechE, IET, & RAeS. FdEng Industrial Engineering (Mechanical) * IMechE *Subject to accreditation 2027 IMechE - https://www.imeche.org/ This information is correct at the time of validation, please refer to the PSRB register for current accreditation status.	
1.18	Welsh Medium Provision	The programmes will be delivered through the medium of English. Students have the option to submit assessments in the medium of Welsh. To support Welsh Medium development, the programme includes a 20-credit Welsh for STEM module available as a short course for all engineering students.	
1.19	External reference points	QAA Subject Benchmark Statement Engineering (2023) QAA Characteristics Statements Higher Education Credit Framework CQFW PSRB Accreditation Guidelines QAA Foundation degree characteristics statement (2020)	
1.20	Derogation to Academic Regulations	Regulation Clause(s) affected	Derogation Summary
		UG-D3	Each element of assessment (where there is more than one assessment) requires a minimum mark of 10% below the pass mark.
		E10.4, UG-E5.1	• A maximum of 30 credits can be compensated. • No compensation allowed for L5 modules. • Modules at level 4 that capture AHEP Learning outcomes must also not be compensated (Work Based Learning, Engineering Materials & Processes and Core Engineering Skills and Application).
1.21	Foundation Year route	No	
1.22	Placement / Work based learning	Work based learning is embedded within the programme, which must be completed to pass the modules.	
1.23	Length and level of the placement	N/A	
1.24	Collaborative arrangement	N/A	

Section 2 – Programme Details

2.1 Aims of The Programme

The FdEng Industrial Engineering (Mechanical) programme is designed to support the upskilling and professional development of individuals already employed within the engineering sector. Delivered over two years on a day-release basis, it combines academic study with work-based learning to develop technically capable and industry-aware mechanical engineers.

The programme uses an innovative, exam-free assessment approach, with coursework, practical tasks, and projects designed to reflect real industrial challenges. With strong employer input and flexible delivery, the FdEng supports both individual progression and workforce development.

Successful completion of the programme enables direct entry onto the BEng (Hons) Industrial Engineering (Mechanical) top-up degree, offering a clear pathway to achieving an honours-level qualification while continuing to work in industry.

2.2 Programme Structure and Diagram, Including Delivery Schedule

In Year 1, learners gain a solid grounding in core mechanical engineering principles through modules such as Engineering Maths, Mechanical Engineering, and Electrical Engineering. Practical and digital skills are developed through Engineering Design and CAD and Engineering Materials & Processes, while the Work Based Learning module ensures that theory is applied directly to the learner's role and workplace environment, reinforcing real-world relevance.

In Year 2, learners progress to more advanced topics including Mechanical Design and Analysis, Digital Innovation in Engineering, and Manufacturing Technology and Automation. Skills in product development are strengthened through Design to Manufacture (CAD/CAM), and operational insight is developed in Engineering & Operations Management. The programme culminates in a final Industrial Project, where learners deliver a work-based solution tailored to their employer's needs, demonstrating their applied technical and professional capabilities in an industrial context.

Part-time Programme Structure

Level	Module Code	Module Title	Credit Value	Core/ Option	Semester of delivery	Year of Study
L4	ENG4C2	Engineering Maths	20	Core	1	Yr.1
L4	ENG4D3	Mechanical Engineering	20	Core	1	Yr.1
L4	ENG4D2	Electrical Engineering	20	Core	2	Yr.1
L4	ENG4C9	Engineering Design and CAD	20	Core	2	Yr.1
L4	ENG4D1	Engineering Materials & Processes	20	Core	3	Yr.1
L4	ENG4D5	Work Based Learning	20	Core	1 - 3	Yr.1
L5	ENG5C1	Mechanical Design and Analysis	20	Core	1	Yr.2
L5	ENG5D2	Digital Innovation in Engineering	20	Core	1	Yr.2
L5	ENG5C3	Design to Manufacture (CAD/CAM)	20	Core	2	Yr.2

Part-time Programme Structure						
Level	Module Code	Module Title	Credit Value	Core/ Option	Semester of delivery	Year of Study
L5	ENG5D3	Manufacturing Technology and Automation	20	Core	2	Yr.2
L5	ENG5D9	Engineering & Operations Management	20	Core	3	Yr.2
L5	ENG5D7	Industrial Project	20	Core	1 - 3	Yr.2

2.3 Programme Learning Outcomes

The following programme learning outcomes have been fully mapped against the AHEP-4 learning outcomes for Partial IEng accreditation.

No.	Learning Outcome	K	I	S	P	Cert HE (L4)	FdEng (L5)	Optional Ref (PSRB standards)
1	Apply knowledge of mathematics, statistics, natural science and engineering principles to broadly-defined mechanical engineering problems.	☒	☐	☐	☐	☐	☒	F1
2	Analyse broadly-defined mechanical engineering problems reaching substantiated conclusions.	☒	☐	☐	☐	☒	☐	F2
3	Use appropriate computational and analytical techniques to model broadly-defined problems in mechanical engineering.	☒	☐	☐	☐	☐	☒	F3
4	Select and use technical literature and other sources of information to address broadly-defined problems.	☒	☐	☐	☐	☐	☒	F4
5	Design solutions for broadly-defined problems that meet a combination of user, business and customer needs as appropriate. This will involve consideration of applicable health & safety, diversity, inclusion, cultural, societal and environmental matters, codes of practice and industry standards.	☐	☒	☐	☐	☐	☒	F5
6	Apply a systematic approach to the solution of broadly-defined problems.	☐	☒	☐	☐	☐	☒	F6
7	Evaluate the environmental and societal impact of solutions to broadly-defined problems.	☐	☒	☐	☐	☐	☒	F7
8	Identify ethical concerns and make reasoned ethical choices informed by professional codes of conduct.	☐	☒	☐	☐	☐	☒	F8
9	Identify, evaluate and mitigate risks (the effects of uncertainty) associated with a particular project or activity.	☐	☒	☐	☐	☐	☒	F9
10	Adopt a holistic and proportionate approach to the mitigation of security risks.	☐	☒	☐	☐	☒	☐	F10
11	Recognise the responsibilities, benefits and importance of supporting equality, diversity and inclusion.	☐	☒	☐	☐	☐	☒	F11

No.	Learning Outcome	K	I	S	P	Cert HE (L4)	FdEng (L5)	Optional Ref (PSRB standards)
12	Use practical laboratory and workshop skills to investigate broadly-defined problems.	☐	☐	☒	☐	☐	☒	F12
13	Select and apply appropriate materials, equipment, engineering technologies and processes.	☐	☐	☒	☐	☐	☒	F13
14	Recognise the need for quality management systems and continuous improvement in the context of broadly-defined problems.	☐	☐	☒	☐	☐	☒	F14
15	Apply knowledge of engineering management principles, commercial context and project management.	☐	☐	☐	☒	☐	☒	F15
16	Function effectively as an individual, and as a member or leader of a team.	☐	☐	☐	☒	☐	☒	F16
17	Communicate effectively with technical and non-technical audiences.	☐	☐	☐	☒	☒	☐	F17
18	Plan and record self-learning and development as the foundation for lifelong learning/CPD.	☐	☐	☐	☒	☒	☐	F18
19	Plan, conduct and report on an original programme of work (Project)	☒	☒	☒	☒	☐	☒	-

Note: K- Knowledge and understanding; I-Intellectual Skills; S-Subject Skills; P-Practical, professional and employability skills

2.4 Learning and Teaching Strategy

The learning and teaching strategy aligns with WU's Active Learning Framework (ALF) incorporating key employability skills. It is flexible, engaging, and responsive to student diversity and professional demands. A blended approach combines on-campus sessions with virtual study activities.

Face-to-Face Learning

Students will engage in lectures, seminars, and workshops in various settings, incorporating case studies and problem-based learning. The programme is mapped to instructional models that increase laboratory-based learning, critical for reinforcing theoretical knowledge through practical application:

Model A: 100% Classroom

Model B: 50% Classroom / 50% Laboratory

Model C: 25% Classroom / 75% Laboratory

Model D: 100% Laboratory

These models promote deeper learning, research capability, and technical proficiency. Laboratory hours have been increased to allow students to apply classroom-acquired theory, reinforcing understanding and preparing them for future innovation in industry or postgraduate research.

Virtual Learning

Delivered through the VLE and Microsoft Teams, virtual learning includes asynchronous tasks (videos, quizzes, readings, virtual visits) and synchronous activities (discussions, case studies, simulations). Sessions will be recorded where appropriate.

Tutorials

Delivered both in person and online, tutorials promote active participation through individual and group engagement. They are designed to encourage critical thinking, reflective practice, and student-led learning, supporting creativity, independence, and a deeper understanding of subject knowledge and professional practice.

2.5 Assessment Strategy

The assessment strategies are designed to be supportive and to build confidence, whilst also ensuring that students engage with core material, develop the fundamental knowledge and subject skills required for progression of undergraduate studies, and reward and incentivise students.

Assessment tasks are varied to facilitate students to evidence their learning and include portfolio, presentations, practical and oral assessment which promote authentic assessment and encourage the deeper learning that is a key feature of higher education. Formative feedback opportunities are embedded into each of the modules regularly and encourages students to reflect on their progress.

Feedback is provided within 15 working days of the assessment submission date and may be delivered individually or in groups, in written, verbal, or recorded formats. This ensures that students receive timely, constructive, and developmental guidance to support continuous learning and improvement.

Disclaimer

Throughout quality assurance processes we have ensured that this programme engages with and is aligned to:

- [Academic Regulations](#)
- [The University Skills Framework](#)
- [Welsh Language Policy](#)
- [Equality and Diversity Policy](#)
- [The Student Union offers support for students](#)

Section 3 – Programme set up (office use only)

3.1	Framework	FRAME032_SEP
3.2	Cost centre	GAME
3.3	Course type (HESA)	N/A
3.4	Fee model	Standard full time UG
3.5	Are any modules taught over either multiple periods or across the HESA year (defined as running 1st August - 31st July)	Yes
3.6	Student funding model	SLC/Self-Financed
3.7	Mode of Attendance (Funding)	In person attendance
3.8	Does the Suitability for Practice Procedure apply to the programme?	No
3.9	Programme Leader	Daniel Knox
3.10	Date of Approval	30/06/2026
3.11	Date and type of Revision	