Prifysgol Wrecsam
Wrexham University

PROGRAMME SPECIFICATION

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UG Programme Directory

Section 1 Regulatory Details

Awarding body	Wrexham University
Teaching institution	Wrexham Plas Coch Campus
Final award and programme title (Welsh)	**Engineering (Top Up) with Pre-Bachelor's:** BEng Peirianneg Ddiwydiannol (Rheoli Peirianneg)
Final award and programme title (English)	**Engineering (Top Up) with Pre-Bachelor's:** BEng (Hons) Industrial Engineering (Mechatronics)
Exit awards and titles	N/A
Credit requirements	**Engineering (Top Up) with Pre-Bachelor's:** BEng (Hons) Degree – 200 credits, (120 credits gained at level 6, 60 credits at level 5, and 20 credits at level 4)
Does the programme offer Foundation Year route?	No
Placement/work-based learning opportunities	N/A
Faculty / Department	Faculty of Arts, Computing and Engineering (FACE)
HECoS Code	**Engineering:** 100170 (Mechatronics)
Intake Points	**Engineering (Top Up) with Pre-Bachelor's:** August Intake
Mode of Attendance	Full time
Normal Programme Length	1 year
Mode of Study and Location of delivery	Full Time at Wrexham Plas Coch Campus Or Blended (summer school at Wrexham Plas Coch Campus and Level 6 top-up via online delivery)
Language of delivery	English
Welsh Medium Provision	The programmes will be delivered through the medium of English. Students are entitled to submit assessments in the medium of Welsh.
Professional, Statutory or Regulatory Body (PSRB) accreditation	**This information is correct at the time of validation, please refer to the PSRB register for current accreditation status.** The Engineering programmes have been developed in line with PSRB requirements, including IMechE, IET, RAeS & EI. IMechE - www.imeche.org IET - www.theiet.org RAeS - www.aerosociety.com

	EI - www.energyinst.org
External reference points	QAA Subject Benchmark Statement Engineering (2023) *https://www.qaa.ac.uk/docs/qaa/sbs/sbs-engineering-23.pdf?sfvrsn=7c71a881_4* The Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies *https://www.qaa.ac.uk/quality-code/qualifications-and-credit-frameworks*
UCAS Code	**Engineering BEng (Hons):** Industrial Engineering (Mechatronics)
Entry Requirements	The University website sets out the approved entry requirements for each programme, including minimum qualifications and English Language requirements **Direct Entry Criteria** For direct entry to the top up provisions, applicants must have achieved a qualification at Level 5 or better in a relevant discipline. Entry to the programme may be gained by students who can present one of the pieces of evidence listed below: a) Have passed a Dip HE in a relevant discipline. b) Have passed a French DUT. c) Have achieved a minimum of 120 ECTS credits in a relevant discipline. d) Have passed a Foundation Degree or HND in a cognate discipline. e) Have passed a qualification from an EU or other overseas country equivalent, as defined as equivalent NARIC, to a DipHE or better in a relevant discipline. Such as State Certified Technician (Staatlich geprüfter Techniker) or Mittelland Higher Technical (Höhere Fachschule Technik Mittelland)
Record of Prior (Experiential) learning	All students must meet entry requirement to enrol on the programme.
Is DBS check required on entry?	No
Does the Suitability for Practice Procedure apply to the programme?	No
Derogation to Academic Regulations	A derogation from regulations has been approved for all BEng programmes which means that whilst the pass mark is 40% overall, each element of assessment (where there is more than one assessment) requires a minimum mark of 30%.

Non-Credit Bearing assessment	N/A
Substantial module for calculating degree classification for borderline cases	In considering borderline cases the Assessment Board shall raise the classification to the next level if all of the following criteria are met: • At least 50% of the credits at level 6 fall within the higher classification. • All level 6 modules must have been passed at the first attempt. • The mark achieved for the Project module is within the higher classification.
Date of Approval	*18/03/2025*
Date and type of Revision	*To be completed by Q&R*

Section 2 Programme Details

Aims of the programme

BEng (Hons) Top-up Programme with Pre-Bachelor's (200 Credits)

The top-up programme with pre-bachelor's aims to support international students and learners with diverse educational backgrounds who may require additional academic preparation before entering the final year. The integrated pre-bachelor's component (STEM Summer School) allows students to upgrade their study skills, ensuring a smoother transition to Level 6.

This extended version of the top-up programme provides a more holistic academic experience by including credits at Levels 4 and 5, in addition to Level 6. This comprehensive structure helps students build a stronger foundation of knowledge before advancing to more specialised topics in engineering.

By embedding the STEM Summer School into the programme, this version ensures that students' progress seamlessly through Levels 4, 5, and 6, with all credits fully integrated into a single transcript. This reduces reliance on Recognition of Prior Learning (RPL) and offers students a cohesive academic experience with clear credit accumulation

In summary, the top-up programme with pre-bachelor's offers a more robust preparatory phase for students, while the standard top-up programme focuses on completing the final year of study. Both are designed to meet the evolving demands of the engineering industries and to enhance students' global employability.

Distinctive features of the programme

BEng (Hons) Top-up Programmes with Pre-Bachelor's (200 Credits)

The BEng (Hons) Top-up Programme with Pre-Bachelor's provide a unique and comprehensive learning journey for students who require additional academic preparation before entering Level 6. A key distinctive feature of these programmes is the integration of the STEM Summer School as a pre-bachelor's component, which allows students to strengthen their study skills and gain foundational knowledge. This structure supports international students or those from diverse educational backgrounds, ensuring they are well-prepared for the rigours of the final year.

Unlike the standard top-up programme, this version offers a broader credit structure, with students earning 200 credits across Levels 4, 5, and 6. This extended learning pathway ensures a smooth academic transition, allowing students to accumulate credits seamlessly while building a solid foundation in core engineering concepts.

In summary, these top-up programmes offer a flexible, internationally recognised qualification with strong regional and global engagement. They are designed to meet the academic, professional, and personal needs of students from diverse backgrounds, preparing them for future success in engineering sectors.

Programme Structure Diagram, including delivery schedule

Full-time Delivery BEng (Hons) Engineering Top-up Programme with Pre-Bachelor's

BEng (Hons) Industrial Engineering (Mechatronics)

Level	Module Code	Module Title	Credit Value	Core/Option	Delivery (i.e. semester 1,2)
Level 4	LAN474	English for STEM	20	Core	3
Level 5	ENG5B7	Analytical Techniques	20	Core	3
Level 5	ENG5B8	Emerging Technologies	20	Core	3

Level	Module Code	Module Title	Credit Value	Core/Option	Delivery (i.e. semester 1,2)
Level 5	ENG5B9	Research Methodologies	20	Core	3
Level 6	ENG6A3	Mechatronic Applications	20	Core	1
Level 6	ENG60D	Electronic Design and Testing	20	Core	1
Level 6	ENG6AB	Industrial Communications Systems	20	Core	2
Level 6	ENG6A8	Professional Engineering	20	Core	2
Level 6	ENG6AG	Project	40	Core	1 & 2

Programme Learning Outcomes

Full-time Delivery BEng (Hons) Engineering Top-up Programme

BEng (Hons) Industrial Engineering (Mechatronics)

No.	Learning Outcome	K	I	S	P	Level 6 (Hons)
1	Model and analyse complex industrial engineering systems using appropriate mathematical methods, while recognising the limitations of such analysis.	☒	☐	☐	☐	☒
2	Demonstrate a wide knowledge and a comprehensive understanding of complex industrial engineering systems and the ability to analyse and synthesise such engineering principles and systems.	☒	☐	☐	☐	☒
3	Critically evaluate current and future developments within Industrial Engineering and the careful consideration of the sustainability implications.	☒	☐	☐	☐	☒
4	Propose and formulate new designs and simulations through a programme of self-managed learning.	☒	☐	☐	☐	☒
5	Innovate in solving novel and challenging problems and be aware of the limitations of the solutions in industrial engineering.	☐	☒	☐	☐	☒
6	Critically assess the resources and techniques used to complete tasks, and to achieve engineering objectives. Recommend new techniques or use of resources based on a strong understanding of legal requirements, appropriate ethical conduct and associated risks that may occur before, during and after the task has been completed	☐	☒	☐	☐	☒
7	Critically appraise engineering problems. Generate and analyse data to solve complex engineering problems.	☐	☒	☐	☐	☒
8	Assess, interpret and implement decisions with a critical awareness of technical, economic and commercial implications	☐	☒	☐	☐	☒
9	Conduct and analyse experiments, adapting experimental procedures to novel situations if necessary, analysing experimental data in detail, and drawing comprehensive conclusions	☐	☐	☒	☐	☒
10	Design, construct, test and evaluate devices and systems to meet given performance criteria, including the use of computer-based tools.	☐	☐	☒	☐	☒
11	Analyse and evaluate processes, techniques or systems relating to unfamiliar problems with an awareness of quality issues and their application to continuous improvement.	☐	☐	☒	☐	☒
12	Propose, plan, undertake and report a self-directed individual programme of investigation, design and implementation.	☐	☐	☒	☐	☒
13	Through analysis and reasoning be able to communicate the justification of a student lead design project. Critically review, consolidate a systematic and coherent body of knowledge in mechatronics	☐	☐	☒	☐	☒

No.	Learning Outcome	K	I	S	P	Level 6 (Hons)
14	Identify problems, bias and recommendations effectively through graphical, written and verbal forms of communication.	☐	☐	☐	☒	☒
15	Use information technology competently - to source information, to prepare reports, to model performance using specialised software packages.	☐	☐	☐	☒	☒
16	Evaluate and reflect on own performance and self-management	☐	☐	☐	☒	☒
17	Interpret the role of the engineer as a manager of himself/herself and of others, ensuring the highest level of professional and ethical conduct and acting within the legal framework governing engineering activities.	☐	☐	☐	☒	☒

Full-time Delivery BEng (Hons) Top-up Programme with Pre-Bachelor's

Students enrolled onto the BEng (Hons) Top-up Programmes with Pre-Bachelor's entry will attain the following additional learning outcomes:

No.	Learning Outcome	K	I	S	P	Level 4	Level 5
1	Deploy retention and recall strategies to activate a wide range of core STEM vocabulary, common collocations, and idiomatic language to effectively negotiate meaning and mediate communication in the STEM context.	☒	☐	☐	☐	☒	☐
2	Develop sound application of analytical techniques, and general and specialist engineering knowledge and understanding	☐	☐	☒	☐	☐	☒
3	Analyse information from a range of sources to make an argued case and enhance ongoing practice.	☐	☐	☒	☐	☐	☒
4	Assess emergent technologies that have been deployed in the respective field and evaluate various aspects of emerging technologies and their application and impact in the short, medium and long-term future	☐	☐	☒	☐	☐	☒

Learning and teaching strategy

The BEng programme is designed with shared and subject-specific modules, enabling students to collaborate, engage, and deepen their understanding within their chosen field of study. The programme's philosophy aligns with the University's strategic mission and objectives, ensuring a high-quality learning experience. Its teaching and learning strategy fully adheres to Wrexham University's Active Learning Framework (ALF) and Strategy for Supporting Student Learning and Achievement (SSSLA), incorporating guidance from the QAA Subject Benchmark Statement for Engineering (2023).

Delivery Mode

Summer School – Pre-Bachelor's Component (Face-to-Face):

The pre-bachelor's summer school is delivered in person, providing an immersive and interactive learning experience. Students will engage in lectures, seminars, and hands-on workshops, fostering collaboration and practical skill development. This face-to-face approach enables direct engagement with tutors and peers, offering structured guidance and support to build a strong foundation for further studies.

Top-Up Degree (Online Delivery):

The top-up degree is delivered fully online, offering a flexible and interactive learning environment. Modules are taught through a blend of live (synchronous) and self-paced (asynchronous) learning activities, including recorded lectures, virtual seminars, and interactive online workshops. This structure allows students to balance their studies with other commitments while benefiting from digital resources and engagement opportunities. Learning is supported through Moodle VLE, ensuring access to comprehensive materials, discussion forums, and feedback mechanisms.

Both delivery modes emphasise an active and inclusive learning approach, encouraging individual and group work, flipped learning experiences, and problem-solving activities. The curriculum is designed to cultivate independent, reflective, and professional competencies, ensuring students are well-prepared for diverse roles in engineering

The Wrexham University Skills Framework

At Wrexham University we aim to help students develop and enhance key employability skills and capabilities during their study. There are three key areas with different attributes, attitudes and skillsets and the aim is to help students have the opportunity to enhance and develop skills such as resilience, adaptability, confidence, team working, emotional intelligence and communication, creativity and acting ethically and sustainably. Programmes are designed to enable students to develop and enhance these skills via module content, module learning outcomes and assessment opportunities. Each module will help provide different opportunities for developing and enhancing these capabilities.

The programme has been designed using an Employability Level Descriptor in collaboration with the Careers and Employability team. The Employability Level Descriptor document is reviewed as part of validation and following approval will be published in the student programme handbook.

The Careers and Employability team are available to provide additional careers education activities for all programmes as well as individualised information, advice and guidance. Learners gain access to self-directed learning resources by logging into our careers portal. Here students can book professional careers guidance appointments and make employment and volunteering applications and learn to build and develop their CV and applications.

Assessment strategy

The programme team are committed to delivering an assessment strategy which is in line with SSSLA and ALF and reflects the requirements of the QAA Subject Benchmark Statement respectively.
A wide range of assessment methods have been adopted in the programmes to meet diverse learning styles and enable the students to meet modular and programme requirements, through either individual or group assessment, and students will be informed as to whether assessment is of a diagnostic, formative, or summative nature. The assessment methods used reflect the needs of the student group and allows for the knowledge and learning outcomes of the programme to be tested as well as allowing for the development and assessment of practical and transferable skills.

There is a commitment to enable students to focus on their own learning needs and to use assessment as a means for evaluating their own practice. Professional body requirements have been integrated into module assessment to foster developmental progression on the programmes, with cognisance paid to how these assessments may impact upon the student's final grade achievement. Where assessed group work is undertaken, students will be expected, through the production of meeting notes and action plans, to demonstrate that they have contributed equally to the task. This element of personal contribution will determine the individual's overall module assessment. i.e., not all students within a group should expect the same mark.

Assessment Methods

Formative assessment is essential to learning in its aim is to give appropriate and timely feedback to students on their learning, and to help them to improve their future work.

Assessment methods will be appropriate for the outcome being assessed. In addition to formal examination, some other forms of the assessments are used.

In-Class Tests

In-class tests will comprise distinct types of 'unseen' assessment, such as an 'unseen' paper, or Moodle quiz/questions sat in a controlled environment. An exception to the unseen element is when a case study is required for reference. In-class tests will take place in an appropriate time after the corresponding module contents have been delivered.

Indicative feedback of results will be provided to students within three weeks of the submission date. Official results will be provided in the form of a transcript after assessment boards have been convened.

Assignment

This is a single task given to the student in the form of a 'brief' defining the assignment requirements at or near the beginning of the module. This may require the student to carry out investigations and literature searches in their own time and under their own initiative or it may require independent problem solving based on work covered in the lectures/tutorials.

The work is normally required in the form of a formal report submitted by a given deadline. Sometimes a presentation, either individually or as a group forms part of the assessment.

Portfolio

This is a term referring to a collection of small, and diverse, exercises whose individual marks are brought together in a single folder to form a single in-course mark. Examples are where a series of laboratory exercises form part of the module. Feedback is given after each exercise (called formative assessment) so that a student is aware of progress made on an on-going basis.

Course work

For some modules, a course work for case study might be the most appropriate form of assessment whereby the student would investigate a particular scenario, software programme or an instrumentation system. They would analyse the 'subject' and convey their critical opinions; this could be verbally (oral presentation) or a short report. Frequently the student is given three or four scenarios to consider simultaneously, thereby enabling comparison of advantages and disadvantages.

Practical Skills

Assessment of practical skills is covered entirely within practical exercises and the associated reporting, particularly project-based modules. In these modules, practical demonstrations are required as part of a presentation.

Grading

Assessment will be graded using the suggested criteria grid detailed in line with SSSLA, the criteria will be contextualised for each assessment. All work will be assessed by tutors at Wrexham University. Students will receive written feedback within the target times set out by Wrexham University.

Plagiarism

Where practicable, Turnitin will be used a tool to support students to develop their academic writing style as well as to detect plagiarism or collaboration.

Double Marking and Moderation

All module assessments will be internally verified with a sample being moderated by the external examiner in accordance with Wrexham University's Regulatory Requirements.

Extenuating Circumstances and Deadlines for Submission

Students will be informed of the penalties which apply for non-submission. Students will be made aware of the procedure relating to extenuating circumstances and will be encouraged to work closely with their tutors should they require support and guidance on this matter.

Feedback to Students

Feedback, both formal and informal is given to students throughout the programme. Feedback may be verbal, given during tutorials or lab exercises, where both student and lecturer can identify problems and steps can be taken to improve future work. Feedback is presented as part of a continuous assessment plan, such as the development of a portfolio; this may be verbal or written feedback, or it may be formal written feedback, as in the case of assignment marking with comments.

It should be noted that much of the feedback, not only identifies problems along with suitable guidance, but also highlights the student's achievements. This approach usually works better than simply "must try harder."

In some cases, 'progressive feedback' is the most suitable approach, particularly when there are many problems with an individual student's work. i.e., do not try to mend everything all at once, as this can lead to the student becoming demoralised, but rather work on the most important aspects first, whilst introducing other improvements later.

Quality Management

All provision is expected to comply with the University processes for quality assurance, the QAA Quality Code and any specific PSRB requirements to ensure the quality of the learning and teaching on the programme. The University uses the following mechanisms to help evaluate, enhance and review programmes delivery:

- Student Evaluation of Module Questionnaire
- Student Voice Forum

- Individual student feedback
- Student representatives
- Continuous Programme Monitoring and Enhancement reports
- Periodic review and re-validation process
- Internal Moderation and External Examining
- External Examiner Annual Reports
- PSRB requirements and accreditation activities
- National Student Survey (NSS)

Support for Students

The University has a range of departments that offer support for students such as:

- Library & IT Resources
- Inclusion Services
- Careers Service
- Chaplaincy
- Counselling & Wellbeing
- Student Funding and Welfare
- Student Administration

Please access the University's website at www.wrexham.ac.uk to find out more about the Departments.

The Student Union offers support for students, please access their website at to find out more. https://www.wrexhamglyndwrsu.org.uk/

All students at Wrexham University are allocated a Personal Tutor whose main responsibility is to act as the first point of contact for their personal students and to provide pastoral and academic support throughout their studies at the University.

Equality and Diversity

Wrexham University is committed to providing access to all students and promotes equal opportunities in compliance with the Equality Act 2010 legislation. This programme complies fully with the University's Equality and Diversity Policy, ensuring that everyone who has the potential to achieve in higher education is given the chance to do so. Please click on the following link for more information about equality and diversity