PROGRAMME SPECIFICATION

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Award titles

Programme Title(s)

BEng (Anrh) Peirianneg Cynhyrchu
BEng (Hons) Production Engineering

BEng (Anrh) Dylunio Peirianneg Diwydiannol (Mecanyddol)
BEng (Hons) Industrial Engineering Design (Mechanical)

BEng (Anrh) Dylunio Peirianneg Diwydiannol (Drydanol ac Electronig)
BEng (Hons) Industrial Engineering Design (Electrical & Electronic)

Internal Programme Title(s) (if different to the title on the certificate)
BEng (Hons) Production Engineering (Degree Apprenticeship)
BEng (Hons) Industrial Engineering Design (Mechanical) (Degree Apprenticeship)
BEng (Hons) Industrial Engineering Design (Electrical & Electronic) (Degree Apprenticeship)

Programme to be included in Graduation Ceremonies
Yes

Delivery period

January 2022-January 2026

Intake points

three intakes per year, September, January and May

Regulatory details

Regulatory details
Awarding body
Glyndŵr University
Programme delivered by
Glyndŵr University - all programmes NPTC – BEng (Hons) Industrial Engineering Design (Mechanical) BEng (Hons) Industrial Engineering Design (Electrical & Electronic)
Location of delivery
Glyndŵr University Plas Coch Campus BEng (Hons) Industrial Engineering Design (Mechanical) to be delivered at Neath Campus and Newtown College.

BEng (Hons) Industrial Engineering Design (Electrical & Electronic) to be delivered at Neath Campus only.

Neath Campus	Newtown College
Dwr-y-Felin Road	Llanidloes Road
Neath	Newtown
SA10 7RF	SY16 4HU

Faculty/Department

Engineering
Faculty of Arts, Science and Technology

Exit awards available

BEng (Ordinary) Production Engineering
BEng (Ordinary) Industrial Engineering Design (Mechanical)
BEng (Ordinary) Industrial Engineering Design (Electrical & Electronic)
DipHE Production Engineering
DipHE Industrial Engineering Design (Mechanical)
DipHE Industrial Engineering Design (Electrical & Electronic)
CertHE Engineering

Professional, Statutory or Regulatory Body (PSRB) accreditation

N/A, (to seek accreditation from the Institution of Mechanical Engineers (IMechE) and the Institution of Engineering and Technology (IET) for home provisions at the next EAB accreditation visit in 22/23)

Please add details of any conditions that may affect accreditation (e.g. is it dependent on choices made by a student?) *e.g. completion of placement.*

N/A

HECoS codes

100182 (Engineering design)
100209 (Production and manufacturing engineering)

UCAS code

N/A

Relevant QAA subject benchmark statement/s

Subject Benchmark Statement; Engineering February 2019
Higher Education in Apprenticeships Characteristics Statement

Mode of study

Part time

Normal length of study for each mode of study

3 years

Language of study

English

Transitional arrangements for re-validated provision if applicable

Programme title and curriculum remain unchanged. Current students will stay on the existing programmes and be informed of minor changes made to progress review process and module content updates.

The following University Award Regulations apply to this programme (*highlight the appropriate ones and delete the others)*

General Regulations and Definitions
Regulations for Bachelor Degrees, Diplomas, Certificates and Foundation Degrees
Language Admissions Policy

OFFICE USE ONLY	
Date of validation event:	16 September 2021
Date of approval by Academic Board:	22 October 2021
Approved Validation Period:	*5 years from January 2022*
Transitional arrangements approved (if revalidation)	*Programme title and curriculum remain unchanged. Current students will be taught out on the existing programmes and be informed of minor changes made to progress review process and module content updates*
Date and type of revision:	22 August 2022 ENG6AA Engineering Modelling & Simulation is split into ENG6A5 Mechanical Engineering Modelling and Simulation and ENG6A6 Electrical and Electronic Engineering Modelling and Simulation. 17/03/2023 APSC approval to replace ENG497 with ENG4B8 28/08/2024 APSC approval of change of assessment for ENG4B8 & ENG5AG 14/01/2025 AM0 update oto programme structure

1 Criteria for admission to the programme

Standard entry criteria

For the three-year degree apprenticeship route applicants must be in full time relevant employment in a role aligned to the Engineering Degree Apprenticeship (Wales) framework (2019). Decisions on entry for this programme will be made in partnership between the University and the Employer ensuring that the candidate meets the standard academic entry requirements as well as the professional and employer entry requirements which varies between employer. This will be determined pre-application by the programme leader and employer representative. All apprentices enter into a three way learning agreement upon acceptance to the programme.

Entry requirements are in accordance with the University's admissions policy, please click on the following link for more information. Admissions policies

The University's entry requirements are set out on our Admissions webpages

Qualification	Entry requirements
3 year Degree Apprenticeship	48-72 UCAS tariff points from an appropriate Level 3 qualification such as A Levels 5 GCSEs at grade A*-C, including Maths and English Language/Welsh

These figures are intended as a general guide. Each application is considered individually.

International entry qualifications are outlined on the National Academic Recognition and Information Centre (NARIC) as equivalent to the relevant UK entry qualification.

In addition to the academic entry requirements, all applicants whose first language is not English or Welsh must demonstrate English language proficiency.

European students are able to provide this evidence in a number of ways (please see http://www.glyndwr.ac.uk/en/Europeanstudents/entryrequirements/ for details), including IELTS.

International students are required to provide an English Language Certificate which meets the requirements of the University *(please see http://www.glyndwr.ac.uk/en/Internationalstudents/EntryandEnglishLanguageRequirements/ for details).*

Non Standard entry criteria
Other learning and experience may be considered for entry to the programme. A student may be allowed entry if he or she does not have the standard entry qualifications but can provide evidence of necessary knowledge and skills to successfully enter and complete the course.

The University, in line with the Degree Apprenticeship provision in Wales, is committed to ensuring that applicants with vocational qualifications and/or significant workplace experience are able to access these Degree Apprenticeship Programmes.

2 Record of Prior (Experiential) learning

Applicants may enter the programme at various levels with Recognition of Prior Learning (RPL) or Recognition of Prior Experiential learning (RPEL) in accordance with the University General Regulations.

3 DBS Requirements

N/A

4 Suitability for Practice Procedure

N/A

5 Aims of the programme

The key aim of the programmes is to develop the intellectual and application skills of individuals by means of personal management, knowledge acquisition, problem analysis, deductive skills, synthesis and evaluation of solutions, and including an awareness of social and environmental implications, in preparation for:

- A career as a professional engineer in industry;
- A management role in industry;
- Life-long learning and an appreciation of the value of education in continuing professional development.

Additionally, the student's competencies are to be assessed within the workplace by the employer; specifically, professional behaviour, health and safety and company roles, responsibilities and working practices. This will be evidenced within the three-way progress meetings throughout the programme.

The qualifications within this submission are designed to provide apprentices with the essential knowledge, skills and techniques which underpin and enhance the learning process. They will be encouraged to develop a positive, reflective and professional approach to their learning, taking responsibility for their own progression and career

development. These transferable skills enable and promote sustainable lifelong learning and continuing professional development within their professional field or sector. The programmes are designed to provide an opportunity for apprentices to apply their knowledge, skills and ideas within their own working environment.

6 Distinctive features of the programme

The Degree Apprenticeship Engineering Programmes have been developed to meet the demands of industry to provide engineering qualifications that not only cover the traditional theoretical aspects associated with this vocation but also encompass new and emerging technologies.

Degree apprenticeships in Wales are work-based learning programmes that provide opportunities for individuals working in Wales to develop relevant industry knowledge and job competencies while in paid employment, gaining the experience of doing a particular job(s).

Developed as a three-way learning partnership between the employer, the student and the academic programme team, the programmes will enable students to develop skills which will be in high demand in the future, meeting regional skills gaps.

Designed in response to employer need, students will study one day per week with the remaining four days in employment. By utilising the full calendar year and applying core tenants of work-based learning, students will achieve their award in three years.

Programme leaders will support the apprentice and their employer to identify relevant and appropriate projects as well as ensure that both the employer and apprentice needs are met. Tutorials/progress reviews are an embedded feature within the programme and will encourage the engagement of the employer within the programme ensuring an open three-way dialogue between the provider, employer and apprentice with regular feedback on technical and professional skills and competencies in line with the Skills and Competencies portfolio aligned to the framework.

Where necessary the Programme Leader or the Enterprise team will work with the employers to ensure that the employers are supported and trained to provide the best experience and support to their apprentices. WGU provides complimentary mentoring, professional supervision and other resources to expand the skills of apprentice supervisors and managers to ensure that the learning that is applied to the workplace is effective and impactful.

Both local and national organisations have had significant input into the development of the programme, particularly relating to programme and module content, ensuring it is ‘fit for purpose’. Also, students, both past and present, have been involved with the programme development, whereby scheduling of delivery and assessment has been influenced by student feedback.

All aspects of this programme and the delivery align with the relevant competencies and outcomes detailed on the Degree Apprenticeship for Wales Level 6 Engineering Framework (2019) Pathways as well as complying with the provisions of the Apprenticeships, Skills, Children and Learning Act (2009), Specification of Apprenticeship Standards for Wales and aligning with the QAA Characteristics Statement on Higher Education Apprenticeships.

7 Credit Accumulation and exit awards

The three-year, part time apprenticeship programme will utilise the extended academic year with three trimesters of delivery enabling students to undertake 120 credits per extended academic year. This programme has three entry points, September, January and May. This

is to ensure the flexibility required by Apprenticeship provision. Each intake will follow the same programme structure as detailed below. The primary intake at will be September, however collaborative delivery may utilise the January intake of students. The May intake is a further possible option, dependent on funding. Day release taught modules will be delivered over three trimesters with assessment and progression boards taking place in line with the University structure (September).

Exit Awards
Successful completion of 120 credits at Level 4 entitles the student to the exit award of Certificate of Higher Education Engineering

Successful completion of 240 credits at Level 5 entitles the student to a Diploma of Higher Education in chosen specialism.

Successful completion of 300 credits at Level 6 entitles the student to a Bachelor's degree (Ordinary)

8 Programme Structure Diagram, including delivery schedule

BEng Production Engineering – September Intake

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
4	ENG495	Analytical Engineering Techniques	20	Core	S1	Y1
4	ENG4B8	Fundamentals of Electrical and Electronic Engineering	20	Core	S1	Y1
4	ENG499	Mechanical Engineering	20	Core	S2	Y1
4	ENG496	Design & CAD	20	Core	S2	Y1
4	ENG4AA	Work Based Learning	20	Core	S1-3	Y1
4	ENG4AW	Engineering & Operations Management	20	Core	S3	Y1
5	ENG5AD	Industrial Project	20	Core	S1-3	Y2
5	ENG5AA	Analytical Control Techniques	20	Core	S1	Y2
5	ENG5AF	Materials & Processes	20	Core	S1	Y2
5	ENG5AC	Industrial Automation & PLCs	20	Core	S2	Y2
5	ENG5AH	Mechatronics Application & Manufacturing systems	20	Core	S2	Y2
5	ENG5AJ	Modern Manufacture, Sustainability & Industry 4.0	20	Core	S3	Y2

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
6	ENG6AC	Machine & Production Systems	20	Core	S1	Y3
6	ENG6AD	Maintenance & Safety Systems	20	Core	S1	Y3
6	ENG6AB	Industrial Communication Systems	20	Core	S2	Y3
6	ENG6AE	Managing Workforce, Engagement & Commitment	20	Core	S2	Y3
6	ENG6AG	Project	40	Core	S1-3	Y3

BEng Production Engineering – January Intake

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
4	ENG495	Analytical Engineering Techniques	20	Core	S2	Y1
4	ENG496	Design & CAD	20	Core	S2	Y1
4	ENG4AA	Work Based Learning	20	Core	S2-3-1	Y1 & Y2
4	ENG4AW	Engineering & Operations Management	20	Core	S3	Y1
4	ENG4B8	Fundamentals of Electrical and Electronic Engineering	20	Core	S1	Y2
4	ENG499	Mechanical Engineering	20	Core	S1	Y2
5	ENG5AD	Industrial Project	20	Core	S2-3-1	Y2 & Y3
5	ENG5AC	Industrial Automation & PLCs	20	Core	S2	Y2
5	ENG5AH	Mechatronics Application & Manufacturing systems	20	Core	S2	Y2
5	ENG5AJ	Modern Manufacture, Sustainability & Industry 4.0	20	Core	S3	Y2
5	ENG5AA	Analytical Control Techniques	20	Core	S3	Y2
5	ENG5AF	Materials & Processes	20	Core	S1	Y3
6	ENG6AC	Machine & Production Systems	20	Core	S3	Y3
6	ENG6AD	Maintenance & Safety Systems	20	Core	S3	Y3

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
6	ENG6AB	Industrial Communication Systems	20	Core	S2	Y3
6	ENG6AE	Managing Workforce, Engagement & Commitment	20	Core	S2	Y3
6	ENG6AG	Project	40	Core	S2-3-1	Y3 & Y4

BEng Production Engineering – May Intake

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
4	ENG4AA	Work Based Learning	20	Core	S3-1-2	Y1 & Y2
4	ENG495	Analytical Engineering Techniques	20	Core	S3	Y1
4	ENG4AW	Engineering & Operations Management	20	Core	S1	Y2
4	ENG4B8	Fundamentals of Electrical and Electronic Engineering	20	Core	S1	Y2
4	ENG499	Mechanical Engineering	20	Core	S2	Y2
4	ENG496	Design & CAD	20	Core	S2	Y2
5	ENG5AD	Industrial Project	20	Core	S3-1-2	Y2 & Y3
5	ENG5AJ	Modern Manufacture, Sustainability & Industry 4.0	20	Core	S3	Y2
5	ENG5AA	Analytical Control Techniques	20	Core	S1	Y3
5	ENG5AF	Materials & Processes	20	Core	S1	Y3
5	ENG5AC	Industrial Automation & PLCs	20	Core	S2	Y3
5	ENG5AH	Mechatronics Application & Manufacturing systems	20	Core	S2	Y3
6	ENG6AB	Industrial Communication Systems	20	Core	S3	Y3
6	ENG6AE	Managing Workforce, Engagement & Commitment	20	Core	S3	Y3
6	ENG6AC	Machine & Production Systems	20	Core	S1	Y4

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
6	ENG6AD	Maintenance & Safety Systems	20	Core	S1	Y4
6	ENG6AG	Project	40	Core	S3-1-2	Y3 & Y4

BEng Industrial Engineering Design (Mechanical) – September Intake

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
4	ENG495	Analytical Engineering Techniques	20	Core	S1	Y1
4	ENG4B8	Fundamentals of Electrical and Electronic Engineering	20	Core	S1	Y1
4	ENG499	Mechanical Engineering	20	Core	S2	Y1
4	ENG496	Design & CAD	20	Core	S2	Y1
4	ENG4AA	Work Based Learning	20	Core	S1-3	Y1
4	ENG4AW	Engineering & Operations Management	20	Core	S3	Y1
5	ENG5AD	Industrial Project	20	Core	S1-3	Y2
5	ENG5AA	Analytical Control Techniques	20	Core	S1	Y2
5	ENG5AF	Materials & Processes	20	Core	S1	Y2
5	ENG5AB	Computer Aided Engineering	20	Core	S2	Y2
5	ENG5AG	Mechanical System Design	20	Core	S2	Y2
5	ENG5AJ	Modern Manufacture, Sustainability & Industry 4.0	20	Core	S3	Y2
6	ENG6A5	Mechanical Engineering Modelling & Simulation	20	Core	S1	Y3
6	ENG6AD	Maintenance & Safety Systems	20	Core	S1	Y3
6	ENG6AF	Product Design	20	Core	S2	Y3
6	ENG6AE	Managing Workforce, Engagement & Commitment	20	Core	S2	Y3
6	ENG6AG	Project	40	Core	S1-3	Y3

BEng Industrial Engineering Design (Mechanical) – January Intake

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
4	ENG495	Analytical Engineering Techniques	20	Core	S2	Y1
4	ENG496	Design & CAD	20	Core	S2	Y1
4	ENG4AA	Work Based Learning	20	Core	S2-3-1	Y1 & Y2

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
4	ENG4AW	Engineering & Operations Management	20	Core	S3	Y1
4	ENG4B8	Fundamentals of Electrical and Electronic Engineering	20	Core	S1	Y2
4	ENG499	Mechanical Engineering	20	Core	S1	Y2
5	ENG5AD	Industrial Project	20	Core	S2-3-1	Y2 & Y3
5	ENG5AB	Computer Aided Engineering	20	Core	S2	Y2
5	ENG5AG	Mechanical System Design	20	Core	S2	Y2
5	ENG5AJ	Modern Manufacture, Sustainability & Industry 4.0	20	Core	S3	Y2
5	ENG5AA	Analytical Control Techniques	20	Core	S3	Y2
5	ENG5AF	Materials & Processes	20	Core	S1	Y3
6	ENG6A5	Mechanical Engineering Modelling & Simulation	20	Core	S3	Y3
6	ENG6AD	Maintenance & Safety Systems	20	Core	S3	Y3
6	ENG6AF	Product Design	20	Core	S2	Y3
6	ENG6AE	Managing Workforce, Engagement & Commitment	20	Core	S2	Y3
6	ENG6AG	Project	40	Core	S2-3-1	Y3 & Y4

BEng Industrial Engineering Design (Mechanical) – May Intake

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
4	ENG4AA	Work Based Learning	20	Core	S3-1-2	Y1 & Y2
4	ENG495	Analytical Engineering Techniques	20	Core	S3	Y1
4	ENG4AW	Engineering & Operations Management	20	Core	S1	Y2
4	ENG4B8	Fundamentals of Electrical and Electronic Engineering	20	Core	S1	Y2

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
4	ENG499	Mechanical Engineering	20	Core	S2	Y2
4	ENG496	Design & CAD	20	Core	S2	Y2
5	ENG5AD	Industrial Project	20	Core	S3-1-2	Y2 & Y3
5	ENG5AJ	Modern Manufacture, Sustainability & Industry 4.0	20	Core	S3	Y2
5	ENG5AA	Analytical Control Techniques	20	Core	S1	Y3
5	ENG5AF	Materials & Processes	20	Core	S1	Y3
5	ENG5AB	Computer Aided Engineering	20	Core	S2	Y3
5	ENG5AG	Mechanical System Design	20	Core	S2	Y3
6	ENG6AF	Product Design	20	Core	S3	Y3
6	ENG6AE	Managing Workforce, Engagement & Commitment	20	Core	S3	Y3
6	ENG6A5	Mechanical Engineering Modelling & Simulation	20	Core	S1	Y4
6	ENG6AD	Maintenance & Safety Systems	20	Core	S1	Y4
6	ENG6AG	Project	40	Core	S3-1-2	Y3 & Y4

BEng Industrial Engineering Design (Electrical & Electronic) – September Intake

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
4	ENG495	Analytical Engineering Techniques	20	Core	S1	Y1
4	ENG4B8	Fundamentals of Electrical and Electronic Engineering	20	Core	S1	Y1
4	ENG499	Mechanical Engineering	20	Core	S2	Y1
4	ENG496	Design & CAD	20	Core	S2	Y1
4	ENG4AA	Work Based Learning	20	Core	S1-3	Y1
4	ENG4AW	Engineering & Operations Management	20	Core	S3	Y1
5	ENG5AD	Industrial Project	20	Core	S1-3	Y2
5	ENG5AA	Analytical Control Techniques	20	Core	S1	Y2

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
5	ENG5AE	Instrumentation & Condition Monitoring	20	Core	S1	Y2
5	ENG5AC	Industrial Automation & PLCs	20	Core	S2	Y2
5	ENG5AK	Power, Distribution & System Design	20	Core	S2	Y2
5	ENG5AJ	Modern Manufacture, Sustainability & Industry 4.0	20	Core	S3	Y2
6	ENG6A6	Electrical and Electronic Engineering Modelling & Simulation	20	Core	S1	Y3
6	ENG6AD	Maintenance & Safety Systems	20	Core	S1	Y3
6	ENG6AB	Industrial communication Systems	20	Core	S2	Y3
6	ENG6AE	Managing Workforce, Engagement & Commitment	20	Core	S2	Y3
6	ENG6AG	Project	40	Core	S1-3	Y3

BEng Industrial Engineering Design (Electrical & Electronic) – January Intake

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
4	ENG495	Analytical Engineering Techniques	20	Core	S2	Y1
4	ENG496	Design & CAD	20	Core	S2	Y1
4	ENG4AA	Work Based Learning	20	Core	S2-3-1	Y1 & Y2
4	ENG4AW	Engineering & Operations Management	20	Core	S3	Y1
4	ENG4B8	Fundamentals of Electrical and Electronic Engineering	20	Core	S1	Y2
4	ENG499	Mechanical Engineering	20	Core	S1	Y2
5	ENG5AD	Industrial Project	20	Core	S2-3-1	Y2 & Y3
5	ENG5AC	Industrial Automation & PLCs	20	Core	S2	Y2
5	ENG5AK	Power, Distribution & System Design	20	Core	S2	Y2
5	ENG5AJ	Modern Manufacture, Sustainability & Industry 4.0	20	Core	S3	Y2

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
5	ENG5AA	Analytical Control Techniques	20	Core	S3	Y2
5	ENG5AE	Instrumentation & Condition Monitoring	20	Core	S1	Y3
6	ENG6A6	Electrical and Electronic Engineering Modelling & Simulation	20	Core	S3	Y3
6	ENG6AD	Maintenance & Safety Systems	20	Core	S3	Y3
6	ENG6AB	Industrial Communication Systems	20	Core	S2	Y3
6	ENG6AE	Managing Workforce, Engagement & Commitment	20	Core	S2	Y3
6	ENG6AG	Project	40	Core	S2-3-1	Y3 & Y4

BEng Industrial Engineering Design (Electrical & Electronic) – May Intake

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
4	ENG4AA	Work Based Learning	20	Core	S3-1-2	Y1 & Y2
4	ENG495	Analytical Engineering Techniques	20	Core	S3	Y1
4	ENG4AW	Engineering & Operations Management	20	Core	S1	Y2
4	ENG4B8	Fundamentals of Electrical and Electronic Engineering	20	Core	S1	Y2
4	ENG499	Mechanical Engineering	20	Core	S2	Y2
4	ENG496	Design & CAD	20	Core	S2	Y2
5	ENG5AD	Industrial Project	20	Core	S3-1-2	Y2 & Y3
5	ENG5AJ	Modern Manufacture, Sustainability & Industry 4.0	20	Core	S3	Y2
5	ENG5AA	Analytical Control Techniques	20	Core	S1	Y3
5	ENG5AE	Instrumentation & Condition Monitoring	20	Core	S1	Y3
5	ENG5AC	Industrial Automation & PLCs	20	Core	S2	Y3
5	ENG5AK	Power, Distribution & System Design	20	Core	S2	Y3

Level	Module Code	Module Title	Credit Value	Core/ Option	Delivery (i.e. S1,2)	Year of Study
6	ENG6AB	Industrial communication systems	20	Core	S3	Y3
6	ENG6AE	Managing Workforce, Engagement & Commitment	20	Core	S3	Y3
6	ENG6A6	Electrical and Electronic Engineering Modelling & Simulation	20	Core	S1	Y4
6	ENG6AD	Maintenance & Safety Systems	20	Core	S1	Y4
6	ENG6AG	Project	40	Core	S3-1-2	Y3 & Y4

9 Intended learning outcomes of the programme

Undergraduate				
Knowledge and understanding				
	Level 4	Level 5	Level 6	Level 6 Honours Degree
A1	*Develop an understanding of mathematical concepts or principles relevant to Industrial Engineering.*	*Apply mathematical concepts or principles relevant to Industrial Engineering problems.*	*Apply mathematical principles and analytical techniques to integrated Industrial Engineering problems.*	*Model and analyse complex industrial engineering systems using appropriate mathematical methods, while recognising the limitations of such analysis.*
A2	*Identify and explain scientific principles relevant to Industrial Engineering.*	*Develop scientific principles and demonstrate an understanding of relevant applications within Industrial Engineering.*	*Investigate Industrial Engineering principles and applications.*	*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.*
A3	*Develop an awareness of current technologies and their uses within Industrial Engineering.*	*Appraise current and future technologies within Industrial Engineering and develop an awareness of the sustainability implications.*	*Display a critical awareness of current issues and future prospects at the forefront of the discipline*	*The critical evaluation of current and future developments within Industrial Engineering and the careful consideration of the sustainability implications.*

Intellectual skills				
	Level 4	Level 5	Level 6	Level 6 Honours Degree
B1	*Identify problems and potential causes and effects.*	*Identify and analyse problems and use diagnostic methods to recognise causes and achieve satisfactory solutions.*	*Apply engineering principles to the solution of design and operation problems in industrial engineering.*	*Innovate in solving novel and challenging problems and be aware of the limitations of the solutions in industrial engineering.*
B2	*Identify, organise and use resources to complete tasks safely and efficiently*	*Identify, organise and use resources effectively to complete tasks, with consideration for cost,*	*Assess the resources and techniques used to complete tasks appropriately, and to achieve engineering objectives. Demonstrate a*	*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*

Intellectual skills				
	Level 4	Level 5	Level 6	Level 6 Honours Degree
		quality, safety and environmental impact.	*strong understanding of the legal requirements, appropriate ethical conduct and associated risks that may occur before, during and after the task has been completed.*	*may occur before, during and after the task has been completed.*
B3	Apply given tools/methods to a well-defined problem and begin to appreciate the complexity of the issues.	Recognise and define key elements of problems and choose appropriate methods for their resolution in a considered manner.	*Analyse, evaluate and interpret engineering data.*	*Critically appraise engineering problems. Generate and analyse data to solve complex engineering problems.*
B4	*Form opinions based upon knowledge and understanding of the subject in question.*	*Present arguments to uphold decisions following an evaluation of a particular subject.*	*Assess, interpret and implement decisions with an awareness of technical, economic and commercial implications.*	*Assess, interpret and implement decisions with a critical awareness of technical, economic and commercial implications.*

Subject skills				
	Level 4	Level 5	Level 6	Level 6 Honours Degree
C1	*Conduct given laboratory experiments to investigate engineering principles and properties of devices and systems.*	*Devise laboratory experiments to prove engineering principles and properties of devices and systems.*	*Conduct laboratory experiments to investigate engineering principles and properties of devices and systems in industrial engineering.*	*Conduct and analyse experiments, adapting experimental procedures to novel situations if necessary, analysing experimental data in detail, and drawing comprehensive conclusions*
C2	*Design and construct devices and systems to meet given performance criteria.*	*Design and construct devices/systems and devise methods of testing to check for given performance criteria.*	*Design, construct, test and evaluate devices and systems to meet given performance criteria, including the use of computer-based tools where appropriate.*	*Design, construct, test and evaluate devices and systems to meet given performance criteria, including the use of computer-based tools.*

Subject skills				
	Level 4	Level 5	Level 6	Level 6 Honours Degree
C3	*Monitor processes or systems, and develop an awareness of possible improvements.*	*Monitor processes or systems, trend processes and make predictions, in order to bring about continuous improvement.*	*Extract and evaluate information relating to industrial engineering. Prepare descriptive, interpretive and evaluative technical reports.*	Analyse and evaluate processes, techniques or systems relating to unfamiliar problems with an awareness of quality issues and their application to continuous improvement.
C4	*Propose and plan a self-directed individual programme of investigation.*	*Plan and undertake and report a self-directed individual programme of investigation and design.*	*Plan and carry out a personal programme of work.*	*Propose, plan, undertake and report a self-directed individual programme of investigation, design and implementation.*

Practical, professional and employability skills				
	Level 4	Level 5	Level 6	Level 6 Honours Degree
D1	*Identify basic information and suitable sources, carry out searches and bring information together in a way that ensures work is accurate, clear and properly saved.*	*Plan how to obtain and use required information for the purpose of an activity and use appropriate structures and procedures to explore and develop information.*	*Communicate effectively in writing, verbally and through graphical representations.*	*Identify problems, bias and recommendations effectively through graphical, written and verbal forms of communication.*
D2	*Use oral, written and electronic methods for the communication of technical and other information.*	*Use oral, written and electronic methods for effective communication of technical and other information.*	*Optimise use of resources and time in project planning and implementation.*	*Use information technology competently - to source information, to prepare reports, to model performance using specialised software packages.*
D3	*Apply safe systems of work.*	*Manage and apply safe systems of work.*	*Learn independently and be familiar with how to access key information.*	*Evaluate and reflect on own performance and self-management.*
D4	*Work reliably without close supervision accepting responsibility for tasks undertaken*	*Demonstrate the ability to work reliably and effectively without supervision accepting responsibility for tasks undertaken.*	*Demonstrate the practical skills of independent planning and execution of projects which relate to relevant engineering discipline.*	*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.*

BEng (Hons) Production Engineering

In addition to meeting the generic Programme Learning Outcomes detailed above, students on BEng (Hons) Production Engineering will also

	Level 4	Level 5	Level 6	Level 6 (Hons)
A4	N/A	*Apply a comprehensive knowledge of industrial process systems to validate new system architecture.* *Be able to deepen their understanding of materials behaviour in combination with applied machine design.*	*Demonstrate an ability to critically appraise existing controlled processes, make judgements and propose solutions.* *be able to develop knowledge of principles of engineering design in the area of mechanical engineering.*	*Propose and formulate a new automation/control system through a programme of self-managed learning.* *be able to develop a comprehensive knowledge on modern mechanical engineering design and testing.*
C5	N/A	*Formulate and implement solutions to complex new and existing automation problems* *Be able to demonstrate skills of effective design, modelling and performance analysing of basic structural systems to machines and robotic systems.*	*Analyse data to improve the efficiency of existing systems using the latest technology in sensors, communication, electrical drives and robotics.*	*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 automation.*

BEng (Hons) Industrial Engineering Design (Electrical &Electronic)

In addition to meeting the generic Programme Learning Outcomes detailed above, students on Industrial Engineering Design (Electrical & Electronic) will also

	Level 4	Level 5	Level 6	Level 6 (Hons)
A5	N/A	*Apply a comprehensive knowledge of industrial process systems to validate new system architecture.* *be able to:* *Deepen their understanding of electrical and electronic engineering;* *Be able to design and implement basic electrical and electronic engineering systems.*	*Demonstrate an ability to critically appraise existing controlled processes, make judgements and propose solutions.* *be able to develop a knowledge of principles of engineering design in the area of electrical and electronic engineering.*	*Propose and formulate a new automation/control system through a programme of self-managed learning.* *be able to develop a comprehensive knowledge on modern electrical and electronic engineering design and testing and in-depth understanding of state-of-art electrical communications and PLC engineering practices.*
C6	N/A	*Formulate and implement solutions to complex new and existing automation problems* *be able to demonstrate skills of effective design, modelling and performance analysing of basic electrical and election engineering systems.*	*Analyse data to improve the efficiency of existing systems using the latest technology in sensors, communication, electrical drives and robotics.* *be able to deal with electrical and electronic engineering solutions and make sound engineering judgment to solve electrical related problems.*	*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 automation.* *be able to:* *Deal with the complex evaluation and finding solutions to electrical and electronic engineering problems using various tools and techniques;* *Propose, plan undertake and report a self-directed dissertation in the area of electrical and electronic engineering.*

BEng (Hons) Industrial Engineering Design (Mechanical)

In addition to meeting the generic Programme Learning Outcomes detailed above, students on Industrial Engineering Design (Mechanical) will also

	Level 4	Level 5	Level 6	Level 6 (Hons)
A6	N/A	*Be able to deepen their understanding of materials behaviour in combination with applied machine design.*	*Be able to develop knowledge of principles of engineering design in the area of mechanical engineering.*	*Be able to develop a comprehensive knowledge on modern mechanical engineering design and testing.*
C7	N/A	*Be able to demonstrate skills of effective design, modelling and performance analysing of basic structural systems to machines and robotic systems.*	*Be able to deal with mechanical engineering solutions and make sound engineering judgment to solve related problems and/or to develop new design approaches.*	*Be able to deal with the complex evaluation and finding solutions to mechanical engineering problems using various tools and techniques, incl. numerical simulation.*

10 Learning and teaching strategy

The programme is informed and guided by the Active Learning Framework (ALF), which incorporates a blended learning approach. This approach is a key part of the delivery and involves teaching, learning support, and the delivery of online sessions. The embedding of ALF provides students with a more flexible approach to their learning and is fundamental in giving all students equal opportunity to succeed. This is embedded in the University's Strategy for Supporting Student Learning and Achievement (SSSLA), which aims to 'drive the development of the pedagogic approaches required to enable flexible, accessible and inclusive curriculum delivery. It seeks to assist the student to become an independent learner, delivering subject skills alongside the embedding of skills for employment. The curriculum is designed to encourage an appreciation for learning. Learning is enriched by appropriate underpinnings, current research, industrial applications and the development of transferable skills.

The team recognises that the learning and teaching strategy should reflect the different requirements of both Degree Apprenticeships and the individual students. In order to achieve this the team have agreed the following strategy:

1. A key feature of apprenticeships is that the majority of learning and training takes place 'on-the-job' while apprentices are engaged in work activity. It is therefore fundamental that an apprentice's work will provide a source for learning, an environment for learning and the key context for learning. This is recognised by the team and supported by the programme leader linking the work-place to the programme of study.

2. To ensure that the teaching methods adopted for classroom and related activity are planned effectively so that tutors use a range of examples, reflecting the diversity of experiences when explaining the application of theory to practice. This will also provide the opportunity for apprentices to bring their work-based experiences back into the teaching space and develop a shared learning network with their peers.

3. To ensure that group discussions, case study / problem solving activity relate to and reflect the different aspects of practice represented within the classroom.

4. Where guest lecturers are used, they will be briefed by the module tutor to ensure that they are aware of the student profile and that the proposed presentation / lecture accommodates this.

5. Students will be supported by tutorial discussions between the tutor and student to ensure that the proposed learning reflects the practice needs of the student.

6. To ensure that the assessment strategy and methods of assessment are sufficiently flexible to enable students to apply and demonstrate their learning in a context which is relevant to them.

7. Academic skills will be embedded into all programmes and modules. This will be evident through the key skills mapping to learning outcomes in module specifications. These skills will be developed through learning and teaching activities, online support, formative and summative assessment. Students will be made aware of the importance of academic skills and the embedding of these will be reviewed periodically by the programme team.

The programme places emphasis on the importance of reflective learning, and envisages students drawing on informal and formal feedback to engage in a dialogue with staff to help plan their future learning. The three-way progress reviews required every 61 days provide a

communication channel for apprentice, employer and provider to facilitate the shared learning between the workplace and the classroom or laboratory and for apprentice to receive feedback and manage progress through the apprenticeship, in line with expectations from HEFCW and QAA Higher Apprenticeships Characteristics Statement.

In addition, Apprentices, in negotiation with employers and programme leader, will be able to develop the ability to identify additional learning opportunities within the context of their day-to-day work activity. For example, within the work-based learning module at level 4 apprentices will be able to undertake negotiated work-based projects that build on work activities and integrate knowledge, skills, behaviours and values developed through higher education learning.

The learning and teaching methods adopted reflect the QCA /QAA descriptors in the following ways:

- Lectures are used to impart key information and show case new ways of working which will enable students to develop a sound understanding of the principles of their field of study as well as identifying new ways of working.
- Case studies, role plays, and group working will be used to facilitate application of the principles more widely. They will also be used to prompt discussion and practise problem solving skills. This will also allow students to evaluate the appropriateness of different approaches to solving problems.
- The use of portfolios facilitates reflection on the qualities necessary for employment, requiring the exercise of personal responsibility and decision making. Additionally, they will allow students to identify the limits of their knowledge and skills and identify strategies for development.
- Assessments are used to facilitate learning as well as providing an indication of student achievement.

The programme team has developed a strategic approach to delivering learning and teaching which meets the needs of the student group, enables skills development, allows for the practical application of knowledge and encourages students to become reflective and critically evaluative practitioners. The balance between face-to-face lectures and directed study is detailed within the module specifications. Students will be encouraged, through classroom activities and assessments, to reflect on both their own and organisational behaviour in order to improve their performance as well as giving them the knowledge and confidence to contribute towards the development of their organisational performance.

Learning and Teaching are activities which operate at different levels simultaneously. To the student the immediate activity relates to the explicit topics being studied. However, transferable skills are also inherent in order for the student to both carry out the tasks and to develop. These elements are built into the modules comprising the programme as what might be called embedded issues. Other embedded issues, such as awareness of environmental impact, sustainability and commercial implications are also integrated in modules throughout the programme.

Knowledge and Understanding

Acquisition of knowledge is by means of lectures, practical and laboratory-based exercises, investigative exercises involving searching of various sources, directed reading and further reading. Pre-written notes will have a role in supporting these activities. Understanding is developed through tutorials, discussion, evaluation exercises and individual exercise sheets.

Intellectual Skills

These skills are developed by the students undertaking individual activities, within tutorials and practical sessions, or by being required to contribute to group activities. In each case, throughout the course a range of problems are set requiring the student to carry out information searches, analysis, design formulation, synthesis, test definition, modelling (software based), a methodology or by calculation. Reflective self-evaluation forms part of this. Critical evaluation is encouraged via debate and discussion in the tutorials.

Key Skills

Key skills include: communication skills, ability to work in a group or on one's own, management of time, use of computers and other technology, the application of calculations (the discipline of regularly attending and contributing to classes exercises the transferable skills of self-management and time management). Each module specification provides examples of transferable skills covered within its learning outcomes. Beyond this most modules require performance in several skill areas including self-management, communication and use of computer packages. All of these are monitored by the module tutors and feedback given.

VLE (Virtual Learning Environment)

Extensive use is made of Glyndŵr University's VLE, Moodle, to enhance the learning experience. Moodle is used by staff to provide information about the courses and individual modules. In addition to lecture notes, it is used to provide students with additional information such as embedded content (e.g. videos), Moodle quizzes, discussion boards, activities and links to other sources of information.

The programme leader will be responsible for gathering progress and behaviour information from the academic team and feeding this information into the progress update process. The notes from these meetings will be shared with relevant academic staff if they impact on any aspect of the teaching or learning required.

11 The Wrexham Glyndwr Graduate

At Glyndŵr 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 Careers team are available to provide information, advice and guidance and access to resources for potential students, current students and graduates. WGU Connect provides students with access to an online directory of vacancies.

The Careers team can support students with employability and interview skills such as use of the STAR (Situation, Task, Action, Result) technique that many recruiters use to gather relevant information about a specific capability that the job requires.

Professional registration to an engineering body as a student member is actively encouraged, through guest lectures by representatives of these bodies and by lecturing staff. Continuing Professional Development (CPD) is implemented in their studies with regular events being held at the University in partnership with the local branches of the IET, IMechE, RAeS and IoP. Apprentices are reminded to consider their future career prospects and how professional registration can assist them and their companies in their future. Programme

lead of the degree apprenticeship acts as the Academic Liaison officer for the IMechE for the University

12 Work based/placement learning statement

Within the three-year part time apprenticeship programmes, students are expected to be in a relevant full-time position and to apply relevant learning to their work-place through applied projects and utilising real-world examples within their assessments.

Throughout the programme, applied projects and assignments are agreed in partnership with the employer and the apprentice to ensure that they enable improved productivity, innovation and business growth for each employer. This provides a clear return on investment for the employer and to ensure that the apprentice can evidence the required skills and competencies within their job role and for their organisation. In each academic year, at least 30% of the modules within the programme will be based on and assessed by the application and evaluation of real-world, work-place problems and their solutions.

13 Welsh medium provision

Students are entitled to submit assessments in the medium of Welsh. When a student elects to submit the assessment in the Welsh language and no appropriate Welsh speaking tutor/assessor is available, the written assessment will be translated into English. This translation will be conducted by University qualified translators.

The University is committed to supporting its learners to use incidental Welsh during reviews and conversations relating to their programme as well as providing additional professional development opportunities to develop conversational and professional Welsh. The University has a number of Welsh speaking advisors/managers who can fully conduct the review process through the medium of Welsh. During the enrolment process and induction, this support is highlighted and resources are given to learners to encourage them to learn and use Welsh in the workplace.

14 Assessment strategy

The programmes provide opportunities for formative, diagnostic and summative feedback. 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.

Formative assessment will be utilised in all modules to allow students to develop, improve and prepare for summative assessment. The form of this assessment will vary depending on the module and skills being developed. Some form of feedback will be provided. These formative opportunities and how feedback will be delivered will be explained to students at the start of the module and on module spaces.

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.

The achievement of the overall framework based on assessment of the qualification success and achievement of the relevant module learning outcomes in the credit and qualification aligned to the Degree Apprenticeship framework in Wales.

Consistent with the QAA expectations for Assessment of Students and the Recognition of Prior Learning in Wales, Degree Apprenticeships are required to comply with QAA expectations for assessment of taught provision and for the recognition of prior learning.

Assessment Methods

All assessment is underpinned by ALF and students will get the opportunity to demonstrate their academic skills in a variety of methods, with flexibility and accessibility being key factors.

Formal Written Examinations

These have been defined as being at a maximum length of 3 hours for a module which has no assignment element. The examinations are formally defined and centrally conducted via Glyndŵr University's Assessment Office.

Coursework

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 perhaps 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.

Continuous Assessment

Some modules use continuous assessment whereby a set of progressive exercises are used to build up to the achievement of a major task. Each exercise is given a mark (called summative assessment) and feedback given, usually during class, in order to help with the next stage. The final mark is a combination of these marks. It is also the preferred method of assessment for the project, as the student project develops there are interim points for assessment which are inclusive of VLE quizzes, presentations, log books, and staged formal reports. The feedback to the student is thus also continuous and assists the students to achieve their potential.

Case Study

For some modules, a 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.

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.

Feedback to students

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.

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 Journals or Learning Logs; this may be verbal or written feedback, or it may be formal written feedback, as in the case of assignment marking with comments.

In addition, progress review updates are required between employer, apprentice and provider no less than every 61 days. This ensures a near constant feedback and communication cycle during the delivery of the apprenticeship.

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.

Project work

The unique nature of degree apprenticeship programmes afford an opportunity to get employers (especially the workplace mentor) involved with assessment. Employers will be invited to become involved with the scope and nature of any project work, which will directly affect project outcomes and their assessment.

The following diagram provides an overview of module assessments and indicative submission dates.

Module code & title	Assessment type and weighting	Assessment loading	Indicative submission date
ENG495 Analytical Engineering Techniques	50% Coursework 50% Exam	2500 Words 2Hr.	Wk. 6, TRI 1 Wk. 12, TRI 1
ENG4B8 Fundamentals of Electrical and Electronic Engineering	100% Portfolio	2500 Words	Wk. 12, TRI
ENG499 Mechanical Engineering	50% Portfolio 50% Exam	2500 Words 2Hr.	Wk. 6, TRI 2 Wk. 12, TRI 2
ENG496 Design & CAD	50% Coursework 50% Portfolio	2500 Words 1500 Words	Wk. 7, TRI 2 Wk. 12, TRI 2
ENG4AW Engineering & Operations Management	50% Written Assignment 50% Portfolio	2500 Words 2500 Words	Wk. 6, TRI 3 Wk. 12, TRI 3
ENG4AA Work Based Learning	25% Written Assignment 75% Portfolio	1200 3800	Wk. 10, TRI 1 Wk. 8, TRI 3
ENG5AB Computer Aided Engineering	50% In-class Test (MCQ) 50% Assignment	2Hr. 2500 Words	Wk. 6, TRI 2 Wk. 12, TRI 2
ENG5AA Analytical Control Techniques	50% Coursework 50% Exam	2500 Words 2Hr.	Wk. 6, TRI 1 Wk. 12, TRI 1

ENG5AJ Modern Manufacture, Sustainability & Industry 4.0	50% Written Assignment 50% Written Assignment	2500 Words 2500 Words	Wk. 6, TRI 3 Wk. 10, TRI 3
ENG5AF Materials & Processes	50% Assignment 50% Exam	2500 Words 2Hr.	Wk. 6, TRI 1 Wk. 12, TRI 1
ENG5AC Industrial Automation & PLCs	100% Portfolio	3500 Words	Wk. 12, TRI 2
ENG5AE Instrumentation & Condition Monitoring	50% Case Study 50% Portfolio	2500 Words 2500 Words	Wk. 6, TRI 1 Wk. 12, TRI 1
ENG5AD Industrial Project	10% Presentation 90% Dissertation/ Project	15 min 5000 Words	Wk. 10, TRI 3 Wk. 11, TRI 3
ENG5AG Mechanical System Design	50% Written Assignment 50% Written Assignment	2000 Words 2000 Words	Wk. 8, TRI 2 Wk. 12, TRI 2
ENG5AH Mechatronics Application & Manufacturing Systems	50% Assignment 50% Assignment	2500 Words 2500 Words	Wk. 8, TRI 2 Wk. 12, TRI 2
ENG5AK Power, Distribution & System Design	50% In-class Test 50% Case Study	2Hr. 2500 Words	Wk. 8, TRI 2 Wk. 12, TRI 2
ENG6AE Managing Workforce, Engagement & Commitment	60% Portfolio 40% Group Project	4000 Words 2000 Words	Wk. 6, TRI 1 Wk. 12, TRI 1
ENG6AF Product Design	100% Portfolio	4000 Words	Wk. 11, TRI 2
ENG6AC Machine & Production System	50% Exam 50% Case Study	3 Hrs 2500 Words	Wk. 12, TRI 2 Wk. 6, TRI 2
ENG6AB Industrial Communication System	50% Assignment 50% Exam	2500 Words 3Hr.	Wk. 6, TRI 2 Wk. 12, TRI 2
ENG6A5 Mechanical Engineering Modelling & Simulation	100% coursework	4000 words	
ENG6A6 Electrical & Electronic Engineering Modelling & Simulation	100% coursework	4000 words	
ENG6 Maintenance & Safety System	100% Portfolio	4000 Words	Wk. 12, TRI 1
ENG6AG Project	80% Written Assignment 20% Presentation	10,000 Words 10 min	Wk. 10, TRI 3 Wk. 10, TRI 3

15 Assessment and award regulations

Derogations

A derogation from academic regulations has been approved for these 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%.

External Examiners should review and approve all coursework and examination papers which contribute to the overall degree classification and which contribute more than 30% to the overall module mark.

Failure may be compensated at the time of attempted level completion, up to a maximum of 30 credits across all levels of the programme. Major individual and group based project modules must not be compensated.

Non Credit Bearing assessment
None

Borderline Classifications (Undergraduate programmes)
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.

16 Accreditation

N/A

17 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 Questionnaires (SEMs)
Student Voice Forum
Individual student feedback
Student representatives
Annual Monitoring reports
Periodic review and re-validation process
External Examiner reports
PSRB requirements and accreditation activities
National Student Survey (NSS)

The Programme Leader will take overall responsibility for quality assurance and enhancement in line with the expectations detailed within the University's Programme Leaders Handbook.

Each module will be assigned to a named module leader who will take responsibility for the delivery of the learning, teaching and assessment of the module. In keeping with the policies and procedures agreed by the University, the key mechanism for quality control and enhancement at programme level will be the processes and procedures associated with the annual monitoring cycle which is formalised through the production of the Annual Monitoring Report (AMR). The AMR evaluates the programme delivery drawing on feedback from students, professional bodies, external examiners and employers. The outcomes of the AMR are scrutinised and agreed at Programme Level with subsequent monitoring and review being formalised though the Faculty Board and the Learning and Teaching Quality Committee. Specific methods used for consulting students include the completion of Module Evaluation Questionnaires, Student Voice Forum and end of year group feedback sessions.

The Programme team meet monthly in order to monitor programme performance. Issues discussed include recruitment and retention, student feedback, assessment calendars, approaches to teaching and learning, coordination of site visits and guest lecture plans.

Peer observation is undertaken; this includes classroom-based observation as well as peer review of marking, assessment and feedback.

Whilst the Programme Leader is responsible for day to day management of the programme, Personal Tutors will ensure the welfare and development of each student on the programme throughout their period of study.

Feedback from students

Student Representatives will be elected from the student group and will attend the SVF meetings to provide a student input. The representative will also be able to bring urgent matters to the Programme Leader's attention by a direct approach.

Individual Progress review updates are required no less than every 61 days as part of the Degree Apprenticeship Programme. This facilitates individual feedback from both employer and apprentice throughout the programme.

Industrial Meetings

Regular meetings take place with industry's training managers, chief engineers, factory/site managers and regional managers. This gives an opportunity for their current and future training needs to be discussed and developed.

Open Door Policy

Staff operate an open-door policy, whereby students may 'pop in' to have a chat about anything they may be concerned about or need some help with. The feedback from the students, indicate that this is the most useful method of communicating and usually resolves any issues immediately.

Whilst the Programme Leader is responsible for day to day management of the programme, Personal Tutors will ensure the welfare and development of each student on the programme throughout their period of study.

18 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 Glyndŵr website at www.glyndwr.ac.uk to find out more about the Departments

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

All students at Wrexham Glyndŵr 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.

On the individual level, students will be supported in their learning in the following ways:

- Students will be provided with a programme handbook which details their programme of study and signposts them to University level support mechanisms, policies and regulations.
- Student academic support needs will be met in the following ways.

    i. Individual tutorials with academic tutors to identify individual learning needs and aspirations which will then be monitored throughout the programme.

    ii. Following confirmed assessment of learning needs, the team will make reasonable adjustments to assessments in order to reflect the needs of students with support needs.

    iii. Tutors will use the VLE as a repository for course material and are actively engaging in developing opportunities to use this to provide feedback to students, promote online discussion and promote a VLE academic community.

    iv. Pastoral support will be provided by a named personal tutor who will remain with them for the duration of their study. Should a student wish to change their personal tutor during their period of study this can be accommodated.

    v. The University study skills tutor will be available to support and guide students for on-going individual and/or small group support on a self-referral basis throughout the year including the summer period.

    vi. Induction programmes will include Study Skills and IT and the VLE.

    vii. Each programme of study will have arrangements in place for a programme student representative. This representative will be invited to attend SVF meetings and where appropriate, relevant Institutional meetings.

    viii. Each apprentice is supported by the programme leader and their employer to identify relevant and appropriate projects as well as ensure that both the employer and apprentice needs are met.

    ix. Tutorials/progress reviews are an embedded feature within the programme and will encourage the engagement of the employer within the programme ensuring an open three-way dialogue between the provider, employer and apprentice with regular feedback on technical and professional skills and competencies.

    x. The relationship between the employer, apprentices and programme leader is overseen by a member of the Enterprise team. This oversight provides an objective, non-academic and non-employer linked support facility for students.

    xi. Where necessary the work-related learning unit will work with the employers to ensure that the employers are supported and trained to provide the best experience and support to their apprentices. The University provides complimentary mentoring, professional supervision and coaching courses to expand the skills of apprentice supervisors and managers to ensure that the learning that is applied to the workplace is effective and impactful.

19 Equality and Diversity

Glyndŵr 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

DATE OF APPROVAL	
Date of programme delivery approval event:	*03 November 2021*
Date of approval by Academic Board:	03 November 2021

potential to achieve in higher education is given the chance to do so. Please click on the following link for more information
https://www.glyndwr.ac.uk/en/AboutGlyndwrUniversity/EqualityandDiversity/

APPENDIX 1 – PARTNER PROVIDER SUPPLEMENT TO PROGRAMME SPECIFICATION

When printed this becomes an uncontrolled document. Please check the Programme Directory for the most up to date version by clicking here.

Programme Title(s):
BEng (Hons) Industrial Engineering Design (Mechanical)
BEng (Hons) Industrial Engineering Design (Electrical & Electronic)
This is the intended award title from the definitive Programme Specification and what will be printed on the award certificate.

1	***Awarding body***
	Glyndŵr University
2	**Partner Provider**
	NPTC College Group
3	**Location of delivery**
	BEng (Hons) Industrial Engineering Design (Mechanical) to be delivered at Neath Campus and Newtown College. BEng (Hons) Industrial Engineering Design (Electrical & Electronic) to be delivered at Neath Campus only. Neath Campus Dwr-y-Felin Road Neath SA10 7RF Newtown College Llanidloes Road Newtown SY16 4HU
4	**Faculty/Department**
	Faculty of Arts, Science and Technology
5	**Mode of study**
	Part time
6	**Frequency / timing of intake/s**
	3 intake points per academic year (January, May & September)

7 Language of study

English

8 Name of academic link (correct at the point of programme approval)

Martyn Jones

9 GU Approved Partner Programme Delivery Schedule(s)

BEng (Hons) Industrial Engineering Design (Mechanical) & (Electrical & Electronic)

Level 4 Modules	Mechanical / Electrical & Electronic	Module Leader	Trimester delivery Jan intake	Trimester delivery May intake	Trimester delivery Sep intake
ENG495 Analytical Engineering Techniques (20 Credits)	Common Module	Dr Alan Miles	Tri 2-3	Tri 3-1	Tri 1-2
ENG4B8 Fundamentals of Electrical and Electronic Engineering (20 Credits)	Common Module	Kevin Jones	Tri 2-3	Tri 3-1	Tri 1-2
ENG499 Mechanical Engineering (20 Credits)	Common Module	Luc Williams	Tri 2-3	Tri 3-1	Tri 1 -2
ENG4AA Work Based Learning (20 Credits)	Common Module	Carl James	Tri 2-3-1	Tri 3-1-2	Tri 1-3
ENG4AW Engineering & Operations Management (20 Credits)	Common Module	Carl James	Tri 2-3-1	Tri 3-1-2	Tri 1-3
ENG496 Design and CAD (20 Credits)	Common Module	Luc Williams	Tri 2-3	Tri 3-1	Tri 1-2

Level 5 Modules	Mechanical / Electrical & Electronic	Module Leader	Trimester delivery Jan intake	Trimester delivery May intake	Trimester delivery Sep intake
ENG5AD Industrial Project (20 Credits)	Common Module	Kevin Jones	Tri 2-3	Tri 3-2-1	Tri 1-3
ENG5AA Analytical Control Techniques (20 Credits)	Common Module	Dr Alan Miles	Tri 2-3	Tri 3-1	Tri 1-2
ENG5AJ Modern Manufacture, Sustainability and Industry (20 Credits)	Common Module	Kevin Jones	Tri 2-3	Tri 3-1	Tri 1-2
ENG5AF Materials and Processes (20 Credits)	Mechanical	Keith Waite	Tri 2-3	Tri 3-1	Tri 1-2
ENG5AG Mechanical System Design (20 Credits)	Mechanical	Dr Alan Miles	Tri 2-3	Tri 3-1	Tri 1-2

ENG5AB Computer Aided Engineering (20 Credits)	Mechanical	Luc Williams	Tri 2-3	Tri 3-1	Tri 1-2
ENG5AE Instrumentation and Condition Monitoring (20 Credits)	Electrical & Electronic	Kevin Jones	Tri 2-3	Tri 3-1	Tri 1-2
ENG5AC Industrial Automation and PLCs (20 Credits)	Electrical & Electronic	Dr Alan Miles	Tri 2-3	Tri 3-1	Tri 1-2
ENG5AK Power Distribution and System Design (20 Credits)	Electrical & Electronic	Kevin Jones	Tri 2-3	Tri 3-1	Tri 1-2

Level 6 Modules	**Mechanical / Electrical & Electronic**	**Module Leader**	**Trimester delivery Jan intake**	**Trimester delivery May intake**	**Trimester delivery Sep intake**
ENG6AG Project (40 Credits)	Common Module	Kevin Jones	Tri 2-3-1	Tri 3-1-2	Tri 1-2-3
ENG6AE Managing workforce and Engagement and Commitment (20 Credits)	Common Module	Carl James	Tri 2-3	Tri 3-1	Tri 1-2
ENG6AD Maintenance and Safety Systems (20 Credits)	Common Module	Kevin Jones	Tri 2-3	Tri 3-1	Tri 1-2
ENG6AA Engineering Modelling & Simulation	Common Module	Kevin Jones	Tri 2-3	Tri 3-1	Tri 1-2
ENG6AF Product Design (20 Credits)	Mechanical	Dr Alan Miles	Tri 2-3	Tri 3-1	Tri 1-2
ENG7AB Industrial Communication Systems (20 Credits)	Electrical & Electronic	Kevin Jones	Tri 2-3	Tri 3-1	Tri 1-2