

## PROGRAMME SPECIFICATION

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### Award titles

#### Programme Title(s)

BSc Astudiaethau Peirianeg Sifil

BSc Civil Engineering Studies

#### Programme to be included in Graduation Ceremonies

Yes

### Delivery period

Sept 2021-Sept 2025

### Intake points

September

### Regulatory details

<b>Regulatory details</b>
<b>Awarding body</b>
Glyndŵr University
<b>Programme delivered by</b>
Glyndŵr University
<b>Location of delivery</b>
Plas Coch Campus
<b>Faculty/Department</b>
Faculty of Arts, Science and Technology Built Environment Department
<b>Exit awards available</b>
None
<b>Professional, Statutory or Regulatory Body (PSRB) accreditation</b>
<p>Whilst the BSc degree in its entirety, is not accredited by the PSRB, the work based learning (WBL) element of the degree has been designed to reflect the requirements of the Joint Board of Moderators (JBM) Employer Managed Further Learning programme, an alternative pathway, that meets the required educational base for Incorporated Civil Engineer registration for the Institution of Civil Engineers, the Institution of Structural Engineers, the Chartered Institution of Highways and Transportation and the Institute of Highway Engineers. The unique WBL element of the existing programme has been approved by the JBM and following revalidation, will be submitted for re-approval to the JBM on the same basis as the existing programme.</p> <p>The BSc Civil Engineering Studies is a relatively new programme, having first been introduced in September 2016. As well as providing core academic modules, it is uniquely designed to incorporate two work based learning modules, one at Level 5 and one at level 6, which requires the completion of PSRB learning outcomes, specified by the Engineering Council. This unique programme was designed as a consequence of demand from local employers, with assistance and support from the Institution of Civil Engineers. It is the only programme of its kind in the UK and is accredited by the JBM until September 2021. The</p>

current academic programme constitutes the only JBM approved Level 6 pathway towards Incorporated Civil Engineer status in North Wales.

Glyndŵr University entered into an Academic Partnership with the ICE in 2017. The JBM approved Further Learning programme has become fundamental to maintaining the support of regional employers, not least because of the professional body recognition that the programme brings.

Working closely with the JBM and the ICE in this respect means that details of the programme are available on professional-body websites as a consequence of satisfying the requirements of industry-specific PSRB organisations.

In conclusion therefore, successful completion of the BSc Civil Engineering Studies programme, together with the Employer Managed Further Learning component, equips Glyndŵr graduates with a PSRB-approved pathway that meets the required educational base for Incorporated Civil Engineer registration within those professional bodies most relevant to the student's own employment context.

**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.**

Completion of Work Based Learning modules at level 5 and 6 which incorporate the JBM further learning outcomes.

**HECoS codes**

100148

**UCAS code**

n/a

**Relevant QAA subject benchmark statement/s**

Subject Benchmark Statement-Engineering Oct 2019

[https://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/subject-benchmark-statement-engineering.pdf?sfvrsn=1f2c881\\_16](https://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/subject-benchmark-statement-engineering.pdf?sfvrsn=1f2c881_16)

**Mode of study**

Part time

**Normal length of study for each mode of study**

The normal length of study in each mode of attendance is as follows:

BSc Civil Engineering Studies part time, two years.

Whilst the duration described above are considered the 'norm' in terms of mode of attendance, extended day and delivery to bespoke requirements of employers will facilitate alternative timescales subject to University Regulations and associated procedural requirements.

**Language of study**

English

**Transitional arrangements for re-validated provision if applicable**

The existing Level 6 students will continue on the old provision.

**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**

OFFICE USE ONLY	
Date of validation event:	17 February 2021
Date of approval by Academic Board:	13 April 2021
Approved Validation Period:	5 years from Sept 2021
Transitional arrangements approved (if revalidation)	The current L6 students will be taught out on the old provision
Date and type of revision:	Enter the date of any subsequent revisions (Detail the type of revision made and the implementation date)

## 1. Criteria for admission to the programme

### Non Standard entry criteria

Requirements and admission procedures are in accordance with University policy and regulations for undergraduate qualifications. Standard entry criteria to the proposed programmes are conditional upon candidates having gained pre-requisite qualifications as follows:

- An approved Higher National Certificate (HNC) or Level 4 equivalent programme in Civil Engineering
- Membership of a professional body regulated by the Engineering Council at Incorporated Engineer level or professional bodies such as the Chartered Institute of Builders or Chartered Institute of Architectural Technologists at Chartered level will also be considered by the programme team.

In addition to the academic entry requirements specified, all applicants are required to be employed in a civil engineering discipline. Exceptional circumstances where student are out of employment for temporary period of time will be dealt with on a case-by-case basis. Applicants whose first language is not English or Welsh must demonstrate proficiency in the use of English by evidencing successful completion of a UKVI Approved Secure English Language Test (SELT) achieving an overall score of 6, with no component below 5.5.

## 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. Any programme specific restrictions are outlined below.

## 3. DBS Requirements

N/A

## 4. Suitability for Practice Procedure

N/A

## 5. Aims of the programme

The part time top up degree is a fast track degree delivered over two years and in conjunction with the Further Learning Programme, provides successful graduates with a JBM approved pathway for Incorporated Civil Engineer status. This programme has been developed to enable students who possess a Higher National Certificate in Civil Engineering or equivalent to complete a BSc Civil

Engineering Studies. Students who have successfully satisfied the entry requirements will enter the programme at Level 5.

For the student, the programme is intended to produce graduates who have a depth of knowledge of key civil engineering aspects and are able to communicate this effectively, both orally and in writing. It is intended to prepare graduates with an aptitude to solve practical and technological problems and provide robust and valid solutions to civil engineering projects. It is also intended to provide students with a competent understanding of how sustainability and health and safety threads through academic and work based learning modules. The programme will allow students a challenging, rewarding and valuable experience in the development of knowledge and understanding of those processes and technologies that exist within the civil engineering industry.

In the design and implementation of the programme content described in the following sections, and with the full engagement of employers and candidates, the BSc Civil Engineering Studies will deliver to industry competent, knowledgeable and articulate civil engineering designer's and managers.

## **6. Distinctive features of the programme**

The current BSc Civil Engineering Studies programme, delivered in conjunction with the Joint Board of Moderators Work Based Further Learning programme, is the only programme of its kind in the UK and the only JBM Level 6 approved provision in North and Mid Wales and is designed to equip students with a professional attitude towards the design, construction, supervision, maintenance, sustainability, quality and health and safety aspects of their role.

The part time top up degree is a fast track degree delivered over two years and in conjunction with the Further Learning Programme, provides successful students with a JBM approved pathway for Incorporated Civil Engineer status.

The design of the BSc Civil Engineering Studies programme has been developed to partially satisfy the requirements of the Joint Board of Moderators degree accreditation process and fully meets the requirements of the Further Learning requirements and is based on Engineering Council UK Standard for Professional Engineering Competence (UK-SPEC), the Quality Assurance Agency (QAA) Subject Benchmark Statement for Engineering, and the Joint Board of Moderators (JBM) Guidelines for Employer Managed Further Learning.

The programme builds on the knowledge gained from the Higher National Certificate in Civil Engineering by enabling students to undertake specialist areas of study which complement and expand their knowledge and associated skills, of the wider context within which civil engineering and management is delivered. These aims will be underpinned by a learning strategy which seeks to offer students the opportunity to develop their analytical, problem solving and critical thinking skills in order that they may be able to operate more effectively in industry.

Such contexts range from the procedural to the technological, and so collective module content combines to facilitate a breadth of understanding and depth of knowledge that will equip the Glyndŵr University graduate with the knowledge, comprehension, intellectual ability and subject practical skills to progress as professional civil engineers.

A further distinctive feature of the programme is that in its delivery, unlike some subject areas, most if not all aspects of module content is informed by application in practise as well as theoretically in an academic sense. Because of this contextual bias, students are encouraged to be both innovative in developing ideas and problem solving, and mindful as to their application within well-defined legislative and 'good practise' constraints that already exist within the construction industry.

Having established the significance of the industrial context in the development of module content and the work based learning modules, it is important that the programme exploits further opportunities

to engage with industry. This will be facilitated through site visits and study tours which will be arranged in a safe post-Covid environment and guest and timetabled online lectures from specialists.

Academically and experientially therefore, the Wrexham Glyndŵr graduate of Civil Engineering will benefit from a programme that threads formal professional body requirements, problem solving and the application of processes and technologies in the modern industrial context, and the personal and academic qualities expected at Level 6 into managerial competency conducive to such a vibrant and challenging industrial sector.

## 7. Credit Accumulation and exit awards

Successful completion of 100 credits at level 5 and 80 credits at level 6 entitles the student to BSc Ordinary Degree in Civil Engineering Studies. There is no exit award available for the intended award.

## 8. Programme Structure Diagram, including delivery schedule

The Programmes will be delivered on a part time basis as follows:

BSc. Civil Engineering Studies is a two year programme. Both year one and year two will be delivered via a Blended learning model. Throughout the programme, the mode of delivery will consist of synchronous and asynchronous lectures and pre-determined attendance at the Plas Coch site for the delivery of practical and tutorial sessions. Students will also be required to complete work based learning modules at Level 5 and Level 6 and these modules will be managed by the Programme Leader, in conjunction with the Employers.

The programme that is the subject of this submission was first established in 2016 and was delivered as a part time day release programme. In order to incorporate the sorts of flexibilities in structure and delivery that industry have requested, the future provision will consist of a blended learning approach, where online synchronous delivery compliments asynchronous delivery, together with practical and tutorial sessions on site.

In the delivery patterns and modes of attendance described in the sections that follow, all modules are 'core' to the programme, and all are credit-bearing. There are no optional modules.

**The following table illustrates the structure of the programme**

### Part time Level 5

Mod Code	AUR541	Mod title	Engineering Mechanics and Materials	Credit value	20	Core	Year 1
Mod Code	AUR542	Mod title	Highway Design	Credit value	20	Core	Year 1
Mod Code	AUR543	Mod title	Work Based Learning 1	Credit value	20	Core	Year 1
Mod Code	AUR533	Mod title	Civil Engineering Maths	Credit value	20	Core	Year 1
Mod Code	AUR544	Mod title	Water Engineering	Credit value	20	Core	Year 1

Progression to level 6 requires passes in all five modules to give 100 credits at level 5.

## Level 6

Mod Code	AUR626	Mod title	Individual Project	Credit value	20	Core	Year 2
Mod Code	AUR627	Mod title	Design for Climate Resilience	Credit value	20	Core	Year 2
Mod Code	AUR625	Mod title	Project Management Technologies & BIM	Credit value	20	Core	Year 2
Mod Code	AUR628	Mod title	Work Based Learning 2	Credit value	20	Core	Year 2

Completion of Level 6 requires passes in all four modules to give 80 credits and qualify for BSc Civil Engineering Studies.

In terms of delivery, the table below represents an indicative combination of modules through two semesters, incorporating *blended learning* delivery, which recent experience has demonstrated works best within the current staff/student demographic.

Furthermore, it is anticipated that in accordance with University Regulations, Programme Specification, Module Specifications and associated controlling documentation, the BSc Civil Engineering Studies programme may be facilitated on a 'modular' basis, where individual modules or combinations thereof are undertaken in short blocks of delivery in the workplace, at summer school or through other such bespoke arrangements

<b>BSc Civil Engineering Studies</b> Indicative Part time delivery	
<i>Semester 1</i>	
<i>Semester 2</i>	
<b>Level 5</b> <b>Year 1</b>	<b>AUR542 Highway Design</b>
	<b>AUR544 Water Engineering</b>
	<b>AUR543 Work Based Learning 1</b>
	<b>AUR533 Civil Engineering Maths</b>
<b>AUR541 Engineering Mechanics and Materials</b>	
<b>Level 6</b> <b>Year 2</b>	<b>AUR628 Work Based Learning 2</b>
	<b>AUR 625 Project Management Technologies &amp; BIM</b>
	<b>AUR626 Individual Project</b>
	<b>AUR627 Design for Climate Resilience</b>

## 9. Intended learning outcomes of the programme

### Knowledge and Understanding

	Level 5	Level 6
A1	Develop an understanding of mathematics and statistical methods to solve surveying /civil engineering problems, necessary to support application of key engineering principles.	
A2	Demonstrate knowledge and understanding of the scientific principles underpinning water engineering and transportation and relevant technologies and their evolution.	Apply knowledge and understanding of scientific principles and methodology necessary to underpin their education in civil engineering, to enable appreciation of its scientific and engineering context, and to support their understanding of relevant historical, current and future developments and technologies.
A3	Select and analyse appropriate data to define a problem, identify constraints and provide a solution which considers, cost, health and safety, and environmental impact and assessment.	Evaluate effective use of extended design and project management techniques and business applications including BIM
A4	Demonstrate a knowledge and understanding of broader technical and non- technical engineering subjects.	

### Intellectual Skills

	Level 5	Level 6
B1	Demonstrate ability to apply qualitative and quantitative methods in order to understand the performance of materials, systems and components.	
B2	Describe information that may be incomplete or uncertain, identify constraints and justify decisions.	Critically evaluate decision making and reflect on solutions

	Level 5	Level 6
B3	Demonstrate the management of projects, people, resources and time taking account of legal and statutory requirements, risk, safety, quality and reliability.	Appraise and evaluate business, customer and user needs, including considerations such as the wider engineering context, public perception and aesthetics.
B4	Use oral, written and appropriate industry standard computer software in the solution of practical problems and the communication to technical and non- technical audiences	Evaluate quantitative and computational methods in order to solve engineering problems and to implement appropriate action.
B5	Apply the basic principles that underpin engineering and specifically civil engineering.	Demonstrate critical understanding of engineering principles and the ability to apply them to analyse key engineering processes.
B6	Identify problems and apply appropriate methods to identify causes and achieve satisfactory solutions	Employ problem-solving skills, technical knowledge and understanding to create or adapt designs solutions that are fit for purpose including impact of climate change and resilience
B7	Demonstrate awareness of the framework of legislation policies that govern civil engineering disciplines	Evaluate an integrated or systems approach to engineering problems through knowhow of the relevant technologies, legislation and their application.
B8	Recognise the importance of professional bodies and the professional conduct expected from members	Demonstrate a positive attitude to lifelong learning that encourages individual professional development.
B9	Use maths as a tool for solving civil engineering problems and communicate results	Synthesize complex ideas and justify judgements made through effective use of evidence

### Subject Skills

	Level 5	Level 6
C1	Demonstrate an ability to work with technical uncertainty and risk	Develop and evidence ability to manage risk, work effectively and respond to change
C2	Demonstrate an ability to use safely, laboratory and workshop equipment for experimental investigation and evaluate data to produce results.	Prepare reports in prescribed and recommended forms
C3	Demonstrate knowledge of contexts in which civil engineering knowledge can be applied (for example	Appraise contexts in which civil engineering knowledge can be applied in other related disciplines.



	Level 5	Level 6
	operations and management, application and development of technology, etc.)	
C4		Critically appraise design and technical solutions to civil engineering problems and evaluate how decisions and solutions are justified
C5	Illustrate knowledge of relevant legal and contractual issues, including specific health and safety legislation.	Critically assess knowledge of relevant legal and contractual issues, including specific health and safety legislation.
C6	Identify awareness of quality issues and their application to continuous improvement.	Apply an understanding of quality issues and their application to continuous improvement.
C7	Collect data from primary and secondary sources and use appropriate methods to manipulate and analyse this data.	Summarize an informed research project and synthesise findings of relevant research against a civil engineering example
C8	Design engineering work in a way that contributes to sustainable development	Evaluate the effectiveness of assessment tools and methodologies to determine Environmental Impact
C9	Recognise how multi-disciplined teams work collaboratively.	Reflect on the importance of working in a different roles within an multi-disciplined team.

### Practical, Professional and Employability Skills

	Level 5	Level 6
D1	Recognise own academic strengths and weaknesses , reflect on performance and respond to feedback	Apply critical reflection to their work based practice and motivate and direct others to enable them to progress.
D2	Plan self-learning and improve performance, as the foundation for lifelong learning/CPD.	Carry out and record CPD necessary to maintain and enhance competence in area of discipline
D3	Work effectively with others in a group.	Work effectively with colleagues, clients and suppliers, or the public and be aware of the needs and concerns of others, especially related to diversity and equality.
D4	Demonstrate an awareness of professional ethics and values, together with a duty of care, corporate responsibility and professional code of conduct	Develop and apply an understanding of professional ethics and values, together with a duty of care, corporate responsibility and professional code of conduct

## 10. Learning and teaching strategy

The learning and teaching experience will benefit from a variety of approaches that ensure content is considered against a broad contextual background commensurate with the diverse nature of industrial practice. Candidates will develop academic skills and associated competencies in an environment that encourages original thought and personal development through the interpretation and analysis of technical content.

In exploiting opportunities to encourage the interest and engagement of students, delivery will be such that a variety of recognised methods will be employed, both instructive and exploratory, towards appropriate coverage and depth in the consideration of module content.

The University has adopted Active Learning Framework (ALF) and this mechanism provides flexibility of delivery, which it will no doubt be especially suited to part time students, some of whom currently travel over 2 hours each way to attend delivered sessions at Wrexham Glyndŵr University.

This framework involves the delivery of live, synchronous sessions, aligned to the published timetable, to allow students guaranteed weekly engagement with content, the lecturer and each other. Students will be encouraged to attend the synchronous events and all timetabled sessions will be recorded and uploaded to Moodle.

For students unable to make a synchronous event, the uploading of the timetabled session recording to Moodle allows for students to engage in asynchronous learning at their own pace, as well as offering those students who did attend the opportunity to revisit and review content they engaged with. Asynchronous delivery may also require the student to engage in self-directed learning, however students will be offered opportunities to engage with lecturers, personal tutors and the Programme Leaders on request, either online or onsite during timetabled tutorials.

Wherever possible, scenario-based opportunities will be utilised to explore both general principles and specific issues in context, and traditional didactic methods will be limited to those areas of the curriculum that necessitate such an instructive approach. BSc Civil Engineering Studies cohorts have historically benefitted from a wealth of personal industrial experience from staff, guest speakers, laboratory work and external participants, and opportunities to engage and extract such input will be encouraged through participatory classroom management with an emphasis on peer opinion and group discussion. In this respect, delivery will be overtly student-centred, and all who participate should be given the opportunity to feel comfortable and confident in contributing to the learning process, within an environment of mutual respect and learning.

### **Lectures**

On line lectures are formal staff-led sessions, designed to introduce principles and new topics and materials and may also provide an overview of a topic for further student study. The synchronous online lectures are delivered and recorded via MS TEAMS. The asynchronous recordings are supplemented by additional resources and uploaded to the University's virtual learning environment, Moodle

### **Practical sessions**

Laboratory workshops for material analysis, structural analysis and hydraulics will be staff-led and may be undertaken in small groups. The sessions are designed to enable students to acquire practical skills through the application of theoretical concepts. The sessions may require data collection, analysis and reporting.

## **Tutorials**

Personal and Academic tutorials are provided where lecturers assist students in solving civil engineering problems, in discussing lecture material and providing a pastoral role.

## **Site visits and Guest lectures**

Site visits are arranged for groups of students whenever possible. As all of the students are employed, employers are encouraged to offer site visits to relevant projects and guest lectures are encouraged from both industry and participating employers.

## **Group work**

Group work will be expected in several modules and this enable students to appreciate the value of team work, whilst developing interpersonal skills, supportive relationships and cooperation.

As this course is designed to be delivered via a blended learning approach, there is an expectation that some aspects of the practical sessions, such as laboratory work, personal tutorials, site visits and work based learning may need to be delivered either at Plas Coch, Wrexham or the Employers workplace. This will amount to a max of 24hours per annum, physical contact time on campus or other sites, as directed.

Whilst all but two modules meet the University requirements in terms of delivery hours, it is proposed that Engineering Maths and Water Engineering, at level 5, provide 48hrs contact. This is due to the more technical nature of the maths and hydraulics and the additional requirement to meet the threshold marks, as identified in the derogation.

In terms of resourcing the programmes, cohorts will be provided with all that is necessary to ensure that knowledge and understanding is developed in the use of facilities and equipment that best-reflect current industrial practice. Such resources will include technological equipment, laboratory workshops, computational software and electronic databases that might be expected to be utilised in the design, construction and use of infrastructure in contemporary development processes.

In resourcing academic aspects of the provision, digital platforms such as Moodle, Digimap and the Construction Information Service will enable students to access programme documentation, lecture content and research material in order that students are fully served by such resources in the preparation and submission of assessments.

A range of assessment methods will be utilised to ensure that students are able to express themselves in a variety of different ways, in order to simulate the sorts of written, practical, visual and oral communication mediums that might be expected to take place within the industrial work environment.

The methods of assessment may comprise of the following:

- Report writing
- Portfolio building
- Online seen and unseen tests
- Laboratory analysis
- Individual or Group oral presentations
- Case studies
- Research projects

The work based learning component in particular, will allow students to directly connect professional and vocational aspects of their chosen sector with those academic components of the programme, such that in combination, academic study and occupational experience will be complementary in developing a student's knowledge and understanding of their subject.

Every opportunity will be taken to maximise industrial engagement within programmes through contributions from guest speakers, visits to live construction and civil engineering projects and through attendance at seminars, conferences and exhibitions that are often promoted within the sector.

Personal Development Planning will be part of work based learning modules at Level 5 and Level 6 , where professional standards, and the expectations of Continuous Professional Development in their respective fields, will be aligned to the expectations of the University Modular Curriculum Framework.

In conclusion, the learning and teaching strategy should be inclusive of every opportunity to study beyond the classroom, and should ensure that delivery is contextualised within the contemporary industrial environment to its fullest extent.

## **11. The Wrexham Glyndŵr 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.

Further information on each of the Glyndŵr Graduate attributes are available [here](#).

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.

## **12. Work based/placement learning statement**

The work based learning (WBL) element of the degree has been designed to reflect the requirements of the Joint Board of Moderators (JBM) Employer Managed Further Learning programme and the associated learning outcomes, provided by the Engineering Council. Successful completion of the further learning provides students with an alternative pathway, which meets the required educational base for Incorporated Civil Engineer registration for the Institution of Civil Engineers, the Institution of Structural Engineers, the Chartered Institution of Highways and Transportation and the Institute of Highway Engineers.

The work based learning modules are a significant component in the BSc Civil Engineering

Studies programme and constitute 40 credits. All of the students undertaking the programme are expected to be employed in a civil engineering discipline and the learning experience reflects the vocational nature of the civil engineering professional in content, skills and employability provision. The purpose of work based learning in this context is to engage the student, the employer and the academic provider in the identification, analysis and extension of understanding in a work-related aspect which meets the requirements of the JBM outcomes. Such a collaborative approach will create a three-dimensional relationship wherein the student is central in directing its course, steered by the advice and guidance of both employer and academic provider towards the completion of the learning outcomes defined by the module specification; the success of the work-based learning component will therefore depend upon the full engagement of the student, the employer organisation and the delivery team in pursuit of these objectives.

In order to assist with this, a meeting is held with the potential student and employer prior to enrolling on the programme in order that all parties are aware of their contribution and commitment with respect to the work based learning modules. Students are required to complete 29 JBM learning outcomes linked to the Employer Managed Further Learning within the Level 5 and Level 6 work based learning modules. Each completed learning outcome is expected to be reviewed by the module leader and signed off by the Employer's designated engineer, prior to being submitted to the University via the appropriate assessment method. The student, in conjunction with the employer initially prepares a learning log and undertakes gap analysis to identify potential areas which may need to be strengthened or additional experience is required. The employer then has the opportunity to provide the student with sufficient work based opportunities to meet those outcomes over the remainder of the 2 year programme. Throughout the 2 year programme, meetings take place on a regular basis with employers to provide guidance and advise on standardisation. Guidance is also available via the Moodle portal and the TEAMS platform.

Much of the student experience evidenced via the work based learning modules, can be modified to meet the requirements of the professional bodies review process which includes the Individual Professional Development and as such the ICE Membership officer visits the University annually to discuss how the students can progress with the professional body membership process.

Latent benefits of an enthusiastic approach to implementing the work-based learning component include enhancing the relationship between the academic provider and employer organisations towards future collaboration, with students playing a central role in developing these relationships.

### **13. Welsh medium provision**

It is important to recognise that many of the students who have studied on this programme in the past have either worked or live in North and Mid Wales. By integrating the Welsh language, culture, and heritage into the programme it will enable the students to access clients, employers, and career opportunities within North Wales, especially as this area has a large Welsh speaking consumer base.

The BSc Civil Engineering Studies programme will be delivered through the medium of English, though students are entitled to submit assessments in the medium of Welsh if this is preferred. The current staff complement in the Built Environment does contain a Welsh speaker, therefore programme/module tutorial, and personal tutorial engagement in Welsh can be facilitated. Where a qualified tutor is available, students will be allocated to that tutor who will then assess the work through the medium of Welsh. Where a need for Welsh medium assessment has been identified and no appropriate Welsh speaking tutor/assessor is

available, the written assessment will be translated into English. This translation will be undertaken by University qualified translators.

#### 14. Assessment strategy

The assessment strategy will encompass a range of techniques to ensure that students are provided with diverse opportunities to demonstrate their knowledge and understanding.

Written submissions, the practical use of technological equipment, visual presentations, laboratory analysis, in-class tests, coursework and viva voce are all important components in a systematic approach to providing students with opportunities to express themselves.

Types of assessment have been selected to best-suit the nature of the technical content of each module, and collectively constitute a balanced and coherent whole in pursuit of an inclusive and broad-based approach to the measurement of ability.

In terms of feedback strategy, details of the criteria on which students will be marked, the feedback date and how feedback will be provided are identified in individual module specifications/handbooks.

Students can expect to receive formal feedback on assessed work no later than three working weeks after it has been submitted. In class tests receive verbal feedback. If unexpected events result in that deadline not being met, students will be informed of the likely date that feedback will be received.

Any marks received will be provisional until formally approved by an Assessment Board.

The following table sets-out the range of assessment methods in the context of the part-time students in respect of the modules proposed.

Module code & title	Assessment type and weighting	Indicative submission date
AUR541 Engineering Mechanics and Materials	1. Written Assignment (50%) 2. In-class Test (50%)	End of Semester 1 End of Semester 2
AUR533 Civil Engineering Maths	1. In-class Test (50%) 2. In-class Test (50%)	End of Semester 1 End of Semester 2
AUR542 Highway Design	1. Portfolio (100%)	End of Semester 1
AUR544 Water Engineering	1. In-class test (50%) 2. Presentation(50%)	Mid Semester 2 End of Semester 2
AUR543 Work Based Learning 1	1. Portfolio (100%)	End of Semester 2
AUR625 Project Management technologies and BIM	1. Report (40%) 2. Report (60%)	End of Semester 1 End of Semester 2
AUR628 Work Based Learning 2	1. Portfolio (100%)	End of Semester 2
AUR626 Individual Project	1. Dissertation/Project (85%) 2. Oral Assessment (15%)	End of Semester 2 End of Semester 2
AUR627 Design for Climate Resilience	1. Oral Assessment (50%) 2. Group Presentation (50%)	End of Semester 1 End of Semester 2

#### 15. Assessment and award regulations

##### Derogations

For AUR533, Civil Engineering Maths, credits shall be awarded by an Assessment Board for those modules in which a pass mark (40%) has been achieved, **with a minimum mark of 35% in each element of assessment.**

**Non Credit Bearing assessment**

There are no non-credit-bearing assessments associated with the programme described in this submission.

**Borderline Classifications (Undergraduate programmes)**

The BSc Civil Engineering Studies is an ordinary degree.

**Ordinary Degrees**

N/A

**Restrictions for trailing modules (Taught Masters)**

N/A

**Prerequisites for processing to MRes research component**

N/A

**16. Accreditation**

Whilst the BSc degree in its entirety, is not accredited by the PSRB, the Work Based Learning (WBL) element of the degree has been designed to reflect the requirements of the Joint Board of Moderators (JBM) Employer Managed Further Learning programme, an alternative pathway, which meets the required educational base for Incorporated Civil Engineer registration for the Institution of Civil Engineers, the Institution of Structural Engineers, the Chartered Institution of Highways and Transportation and the Institute of Highway Engineers.

It is proposed that the new programme of further learning will be submitted to the JBM for re-approval in 2021-2022, as the existing provision (2016-2021) is valid for the September 2021 student intake.

In order to obtain Incorporated Engineer status with the Engineering Council, the student must undertake Professional Review. The Professional Review process, which is undertaken directly with the appropriate professional body comprises of three stages.

- Stage 1 relates to the successful achievement of approved further learning/degree.
- Stage 2 relates to Individual Professional Development, which is offered and managed by the professional body and comprises of a two-three year work based evidence gathering exercise, signed off by a the Employer's Supervising Civil Engineer, designated by the Professional Body. .
- Stage 3 relates to the attendance at Professional Review itself. This comprises of a 5000 word report, 90 hours evidenced Continuous Professional Development, preparation of experience Curriculum Vitae, 15 minute presentation, 60 minute interview and 120 minute essay/exam. Stage 3 is fully assessed by reviewers of the appropriate professional Institution.

After the successful completion of all three stages, the candidate may be awarded Incorporated Engineer ( I.Eng) status by the Engineering Council.

**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 Survey
- 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)

External review of quality and standards within the programmes described in this submission is provided by the External Examiner appointed by Glyndŵr University, who is able to compare provision sanctioned by the University with that of other Universities and Colleges of Higher Education.

A Student Voice Forum (SVF) will be held twice each year, in November and March, which provide a plenum for students, via representatives, to contribute formal commentary as to how programmes and the learning environment within which they take place are managed; minutes and responses to SVFs are subsequently posted to the Virtual Learning Environment. Furthermore, the report of the External Examiner and associated team response is made available to students via Student Voice Fora. SVF minutes and responses subsequently inform the Annual Monitoring Report and where appropriate, the Academic Link Annual Report.

Students are also encouraged to approach Programme Leaders and module tutors individually, should they have any concerns in relation to their programme of study.

Formalised anonymous feedback is obtained from Student Evaluation of Module surveys which are utilised by programme teams towards informing future provision. Students are encouraged to complete Student Evaluation of Module surveys in respect of each module on-line via the 'Student Voice' Moodle folder, at mid- and end-points of module delivery

The University's quality assurance structure is superintended by the Learning and Teaching Quality Committee, Academic Board and the Academic Partnerships Committee, which oversee all matters in relation to quality. An Academic Registrar is responsible for the coordination of processes in relation to the maintenance of quality, whose managerial responsibilities include the facility to report any issues affecting quality to the Senior Management Team should they arise in the course of Academic Subject Team meetings.

In line with Glyndŵr University's quality assurance system an Annual Monitoring Report (AMR) is prepared in respect of each programme of study by Programme Leaders at the University or at collaborative partner organisations, depending upon where delivery takes place. AMRs are submitted in November of each academic year and are formally presented to School Board for consideration. AMRs collect performance data in module and programme contexts using indicators such as mean, standard deviation, retention data and feedback from students and staff. Actions recommended through this process are then implemented by programme teams.



## 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](http://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.

The University has a range of departments that offer support to students, including:

- Library & IT Resources
- The Assessment Centre
- DisAbility Support Team
- Irlen Centre
- Careers Centre and Job Shop
- Zone Enterprise hub
- Chaplaincy
- Counselling & Wellbeing
- Student Funding and Welfare
- International Welfare
- Student Programmes Centre
- Glyndŵr Students' Union

Students are able to access support through the Virtual Learning Environment (VLE), Library services (including on-line access), funding, welfare, disability, careers and study skills support available at Glyndŵr University. New students joining the programme will be expected to participate in an induction programme at the University where practicable, to ensure that study is effectively supported in the contexts identified above.

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 tutees and to provide pastoral and academic support throughout their studies at the University. It is a vital role to support student engagement and retention, and to help every student to succeed to the best of their ability.

### Faculty support for students

All students engaged in the programme will be provided with a Student Handbook that provides detailed guidance on all relevant aspects of the provision essential to the support of students in their programme of study.

Student attendance will be subject to regular monitoring through the collection of online class attendance registers as a means of identifying potential issues indicative of a need for student support. Upon enrolment, each student will be allocated a Personal Tutor; the Personal Tutor will be expected to remain available to students at all reasonable times should there be a need to discuss any potential problems that might negatively affect academic performance.

Potential issues of an academic nature should first be addressed to the appropriate Module Leader towards an appropriate and timely resolution. Where issues are not satisfactorily resolved in the first instance the Programme Leader will be informed, whereby appropriate action will be taken to ensure a satisfactory outcome.

### **Programme specific support for students**

Programmes within the Built Environment section benefit from industry-specific resources that replicate operational theory and practice within the construction and civil engineering sector. The use of specialist software in the design, construction and operation of buildings and infrastructure includes Computer Aided Design packages such as Revit 2019, AutoDesk Civil3D and MicroDrainage, together with packages that collect/provide topographical information such as Pix4D and Edina Digimap. Familiarity with the purpose and capabilities of software packages in the virtual replication of topography, construction and infrastructure enables students engaged in built environment programmes to appreciate the significance of virtual modelling, and to understand the benefits that such data-based visual articulation brings to design, construction and operational processes.

As well as those software packages identified, the Construction Information Service, available through the University's Resource Finder facility, provides students with an industry-specific database of contemporary legal, technical and professional standards, guidance and legislation that ensures programme content, assessment preparation and contextual research is current and authoritative.

## **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 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/>

