PROGRAMME SPECIFICATION

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Award titles
Programme Title(s)

BSc (Anrh) Seiberddiogelwch Gymhwysol
BSc (Hons) Applied Cyber Security

BSc (Anrh) Peirianneg Meddalwedd Gymhwysol
BSc (Hons) Applied Software Engineering

Internal Programme Title(s) (if different to the title on the certificate)
BSc (Hons) Applied Cyber Security (Degree Apprenticeship)
BSc (Hons) Applied Software Engineering (Degree Apprenticeship)

Programme to be included in Graduation Ceremonies
Yes

Delivery period
Jan 2022-Jan 2026

Intake points
September, January and June

Regulatory details

Regulatory details
Awarding body
Glyndŵr University
Programme delivered by
Glyndwr
Location of delivery
Plas Coch Campus
Faculty/Department
FAST, Computing
Exit awards available
Cert HE Applied Cyber Security
Dip HE Applied Cyber Security
Cert HE Applied Software Engineering
Dip HE Applied Software Engineering
BSc (Ord) Applied Cyber Security
BSc (Ord) Applied Software Engineering
Professional, Statutory or Regulatory Body (PSRB) accreditation
BCS accreditation will be sought following the approval

This information is correct at the time of validation, please refer to the PSRB register for current accreditation status.
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
100366 – Cyber Security 100374 – Software Engineering
UCAS code
n/a
Relevant QAA subject benchmark statement/s
Subject Benchmark Statement: Computing Oct 2019 https://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/subject-benchmark-statement-computing.pdf?sfvrsn=ef2c881_10 Higher Education in Apprenticeships Characteristics Statement
Mode of study
Part time
Normal length of study for each mode of study
3 Years Part time
Language of study
English
Transitional arrangements for re-validated provision if applicable
There are no new students entering the programme at level 4 until these are approved. It will not affect the current students entering level 6 as there is no curriculum changes from the current one so Level 6 will be taught out on the current provisions. Students progressing from Level 4 to Level 5 will be taught out on the current provisions. The new 61 days progress review process will start with immediate effect applicable to all current computing DA students.
The following University Award Regulations apply to this programme
General Regulations and Definitions Regulations for Bachelor Degrees, Diplomas, Certificates and Foundation Degrees

OFFICE USE ONLY	
Date of validation event:	16th Sept 2021
Date of approval by Academic Board:	10th Nov 2021
Approved Validation Period:	*5 years from Jan 2021*
Transitional arrangements approved (if revalidation)	*Current students will be taught out on the existing provisions and be informed of minor changes to module content and progress review process.*
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

Standard entry criteria

For the three-year degree apprenticeship route applicants must be in full time relevant employment in a role aligned to the Computing 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 Bachelors degree	112 Tariff points

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. Any programme specific restrictions are outlined below.

3   DBS Requirements

Not required

4   Suitability for Practice Procedure

Not applicable

5   Aims of the programme

The broad field of computing is an exciting, challenging and dynamic discipline. Computers form an integral part of every aspect of society and modern life. New computing technologies are introduced at an enormous rate and the computing field develops and changes continually and rapidly.

Students studying these programmes will be exposed to an education and learning experience that aims to instil knowledge and develops critical and intellectual abilities applicable to problem solving and solution specifying in technologically and socially diverse environments.
As students' progress through their apprenticeship, they will gain more knowledge and experience. Students can expect to be stretched and challenged, but supported throughout their apprenticeship focusing on building-up the knowledge, skills and behaviours that are needed to be successful in the workplace. Their educational journey begins by providing them with a solid set subject-specific knowledge and skills, which gradually draws to a narrower focus of their chosen subjects over the duration of their studies. Integrated into this experience is the explicit opportunity to contribute to their workplace.

The overall common aims of the programmes are to:

- Provide students with knowledge and understanding of the fundamental principles and technologies which underpin the discipline of cyber security and software engineering.
- Produce independently learning, workplace ready practitioners with a strong set of communication and employment skills who are cognisant of their career trajectory and personal and professional development goals.
- Provide a rigorous and scientifically-based course of study, informed by research, which successfully balances practical vocational skills with theoretical understanding.
- Produce versatile and resourceful practitioners fostering innovation, enterprise, and enthusiasm for excellence in the discipline.
- Develop capability in the exploration, critical analysis and evaluation of technical, business and professional issues and concepts, including an awareness of ethical and environmental factors.
- Provide students with an awareness of the roles and responsibilities of a professional working within the cyber security or the software engineering profession.
- Enable students to spend a significant period of time in the programme related workplace and to reflect upon their experiences and lessons learned therein.

Applied Cyber Security specific aims:

- Provide students with a fundamental understanding of Cyber and Information Security and associated technologies, an ability to manage security within organisations, and technical skills which support security.
- Provide access a variety of specialist software and up-to-date facilities, including a dedicated Cyber Security Hub.

Applied Software Engineering specific aims:

- Provide students with a sound knowledge of software engineering principles and applications across the software development lifecycle
- Provide a thorough grounding in the core principles of computer science and integrating these with computer languages, tools, techniques and methodologies used by computer professionals.

6   Distinctive features of the programme

Applied Cyber Security:

The demand for graduates with the knowledge, understanding and skills required to analyse, design, develop, test, and maintain modern computer systems is high. Organisations rely on the use of computers for information processing and problem solving so the industry requires specialists to create, understand and further advance Cyber Security. This degree will look at the Cyber Security at the core of the underlying technologies that are increasingly infiltrating every element of our society.

The programme begins at level 4 by providing a solid foundation and introduction to the broad disciplines and that underpin the subject of Cyber Security, resulting in a strong understanding of the subject. This includes developing core knowledge in subjects such as computer systems and professionalism, alongside practical subject skills, such as computer programming. Upon commencement of level 5, a number of these themes are developed further, and to a more advanced level, with a particular emphasis upon enabling students to effectively apply what they have learned to real-world scenarios. During level 6 of the programme, an even sharper focus is provided in terms of the subject-specific material being taught. This happens in tandem with students being provided with the freedom to pursue a project of choice, under supervision. The defining features of level 6 are the encouragement for students to demonstrate their abilities as independent learners and to exercise critical and analytical thinking and problem-solving skills.

Applied Software Engineering:

There is, similarly, a high demand for Software Engineers, with the skills, knowledge and understanding to develop, advance, design and maintain modern computer applications and systems. Industry relies on having software that is reliable, well designed and efficient. This degree will look at core Applied Software Engineering skills, underlying systems and technologies that continue to effect industry and society.

The programme begins at level 4 by providing a solid foundation and introduction to the broad disciplines and that underpin the Software Engineering, resulting in a strong understanding of the subject. This includes developing core knowledge in subjects such as computer systems and professionalism, alongside practical subject skills. Upon commencement of level 5, many of these themes are developed further, and to a more advanced level, with a particular emphasis upon enabling students to effectively apply what they have learned to real-world scenarios engaging with their employer, specifically with work-based projects. During level 6 of the programme, an even sharper focus is provided in terms of the subject-specific material being taught.
This happens in tandem with students pursuing a project from their employer, under supervision both academic and industrial. The defining features of level 6 are the encouragement for students to demonstrate their abilities as independent learners and to exercise critical and analytical thinking and problem-solving skills.

Real world skills are at the heart of our computer courses including team working, project management, communication and creative thinking. These degrees aim to equip Degree Apprentices with the knowledge and skills required to work as professional engineer and/or consultant in the design, configuration and management of computer systems. The main focus is on the more technical aspects and underlying principles of computer systems.

7 Credit Accumulation and exit awards

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

Successful completion of 240 credits at Level 5 entitles the student to a Diploma of Higher Education Applied Cyber Security

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

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

Successful completion of 240 credits at Level 5 entitles the student to a Diploma of Higher Education Applied Software Engineering

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

8 Programme Structure Diagram, including delivery schedule

Applied Software Engineering Full-time delivery
Level 4

Mod Code	COM465	Mod title	Computer Systems	Credit value	20	Core	Delivery Semester 3
Mod Code	COM438	Mod title	Managing Data	Credit value	20	Core	Delivery semester 1
Mod Code	COM468	Mod title	Design Methodologies	Credit value	20	Core	Delivery semester 1
Mod Code	COM440	Mod title	Web Design & Development	Credit value	20	Core	Delivery semester 2
Mod Code	COM439	Mod title	Problem Solving with Programming	Credit value	20	Core	Delivery semester 2
Mod Code	COM467	Mod title	Governance	Credit value	20	Core	Delivery semester 3

Level 5

Mod Code	COM540	Mod title	Databases and Web-based Information Systems	Credit value	20	Core	Delivery semester 2
Mod Code	COM556	Mod title	User Experience Design (UXD)	Credit value	20	Core	Delivery semester 1

Mod Code	COM540	Mod title	Databases and Web-based Information Systems	Credit value	20	Core	Delivery semester 2
Mod Code	COM543	Mod title	Internet & Mobile Applications Development	Credit value	20	Core	Delivery semester 3
Mod Code	COM561	Mod title	Secure software design	Credit value	20	Core	Delivery semester 2
Mod Code	COM539	Mod title	Data Structures and Algorithms	Credit value	20	Core	Delivery semester 1
Mod Code	COM562	Mod title	Work based project	Credit value	20	Core	Delivery semester 3

Level 6

Mod Code	COM641	Mod title	Distributed Data and Analytics	Credit value	20	Core	Delivery semester 1
Mod Code	COM640	Mod title	Advanced Mobile Development	Credit value	20	Core	Delivery semester 3
Mod Code	COM644	Mod title	IT Project Management	Credit value	20	Core	Delivery semester 1
Mod Code	COM643	Mod title	Future Technologies	Credit value	20	Core	Delivery semester 2
Mod Code	COM646	Mod title	Project	Credit value	40	Core	Delivery semester 2 & 3

Applied Cyber Security Full-time delivery
Level 4

Mod Code	COM465	Mod title	Computer Systems	Credit value	20	Core	Delivery semester 3
Mod Code	COM438	Mod title	Managing Data	Credit value	20	Core	Delivery semester 1
Mod Code	COM457	Mod title	Discrete Computational Methods	Credit value	20	Core	Delivery semester 1
Mod Code	COM466	Mod title	Fundamentals of Information Security	Credit value	20	Core	Delivery semester 2
Mod Code	COM439	Mod title	Problem Solving with Programming	Credit value	20	Core	Delivery semester 2
Mod Code	COM467	Mod title	Governance	Credit value	20	Core	Delivery semester 3

Level 5

Mod Code	COM546	Mod title	Server Technologies	Credit value	20	Core	Delivery semester 1
Mod Code	COM560	Mod title	Securing networks and infrastructure	Credit value	20	Core	Delivery semester 2
Mod Code	COM539	Mod title	Data Structures and Algorithms	Credit value	20	Core	Delivery semester 1
Mod Code	COM561	Mod title	Secure software design	Credit value	20	Core	Delivery semester 2
Mod Code	COM538	Mod title	Cybersecurity and Forensics	Credit value	20	Core	Delivery semester 3
Mod Code	COM562	Mod title	Work based project	Credit value	20	Core	Delivery semester 3

Level 6

Mod Code	COM645	Mod title	Network Security	Credit value	20	Core	Delivery semester 3
Mod Code	COM642	Mod title	Ethical Hacking	Credit value	20	Core	Delivery semester 1
Mod Code	COM644	Mod title	IT Project Management	Credit value	20	Core	Delivery semester 1
Mod Code	COM643	Mod title	Future Technologies	Credit value	20	Core	Delivery semester 2
Mod Code	COM646	Mod title	Project	Credit value	40	Core	Delivery semester 2 & 3

9 Intended learning outcomes of the programme.

Knowledge and Understanding

	Level 4	Level 5	Level 6	Level 6 (Hons)
A1	*Demonstrates a working understanding of essential facts, concepts, principles and theories relating to computing and computer applications. Shows competence in basic IT and communication skills, workshop practice and laboratory investigations*	*Demonstrates a widening appreciation of the significance of key concepts, principles, theories and practices that underpin computing as an academic discipline and explores its extent and boundaries through practical work, design exercises and case studies*	*Shows confident familiarity with the broad areas of the knowledge bases of the discipline, including the management and an appreciation of the principles, theories and practices that underpin computing as an academic discipline. Reveals a working understanding of current technology and of its limits*	*Demonstrates confidence and reveals a clear understanding of the boundaries of existing and emerging technology and the limits of its application, and of the range of conventional design methods and the types of judgement employed by computing professionals*
A2	*The appropriateness of a range of development tools for the creation of software applications including front end usability, middle and back end data systems*	*Recognise and understand a range of appropriate programming tools and techniques in new contexts in the design of software applications including front end usability, middle and back end data systems*	*Select and deploy accurately established techniques and tools to develop applications for selected business problems, and choose appropriate theory for analysis, with only general guidance, including front end usability, middle and back end data systems*	*Confidence and flexibility in applying a range of programming tools for the creation of applications for selected business problems, and in the application of knowledge and skills appropriate to their solution, including front end usability, middle and back end data systems*
A3	*Demonstrate a working knowledge of some of the tools, practices and methodologies used in the specification, design, implementation and testing of computer software systems; understand some of the risks of software implementation*	*Familiarity and ability to choose appropriate methods and tools for the design and implementation of software systems. Outline how software can be evaluated and show a working knowledge of the general rules and best practices adopted and knowledge of software testing techniques*	*Select accurately established techniques and methods used in defining and assessing criteria for measuring the extent to which a computer system is appropriate for its current deployment; understand the risks of software implementation and apply risk-based strategies and policies for software testing*	*Critical and reflective about the use of software testing, design and evaluation methodologies and tools, with full understanding of the associated risks, controls and potential impact*
A4	*Recognise a variety of professional and sustainability considerations that may be encountered in the exploitation of computer-based systems (social,*	*Identify and describe several professional concepts and challenges that will be encountered in the deployment of computer-based systems in response to common, well-defined scenarios*	*Comprehensively appraise professional situations and scenarios where computer-based systems are deployed in terms of social, legal, ethical, moral, economic and sustainability issues.*	*Reflect upon own practices and conduct in carrying out a substantive project and discuss the social, legal, ethical, moral, economic and sustainability issues that are relevant to the project.*

	Level 4	Level 5	Level 6	Level 6 (Hons)
	legal, ethical, moral, economic, etc.)			
A5	*Identify key operations, processes and functions that support the construction of algorithms and computer programs*	Discuss and identify algorithmic solutions for common computational problems and highlight their performance and functional differences	Analyse complex computational problems, contrast algorithmic and data structure solutions, and evaluate their performance	Consistently show confidence and independence in understanding and modelling efficient data structures and algorithms to address real world problems

Intellectual Skills

	Level 4	Level 5	Level 6	Level 6 (Hons)
B1	*Using the tutor as a facilitator, the student begins to analyse basic problems, identify requirements and propose alternative solutions for computer software systems*	*Starts to develop an understanding of the limits of their knowledge, and how this influences analysis and interpretations based on that knowledge; identify requirements and propose and compare alternative solutions for computer software systems*	*Develops self-reliance and confidence in the analysis of problems, identify requirements and propose and critically evaluate alternative solutions for computer software systems*	*Integrates learned theory and techniques with practical experience to analyse problems, identify requirements and propose and critically evaluate alternative solutions for computer software systems with informed understanding*
B2	*Demonstrates basic numeracy, literacy and algebraic competence; ability to manipulate data related to simple business problems and describe scenarios*	*Demonstrates more advanced standard numerical/ mathematical skills and literacy as appropriate to their chosen specialist subject*	*Applies a range of more specialist numerical/ mathematical and literacy skills as appropriate to their specialist subject*	*Confidently applies a range of specialist numerical/ mathematical and literacy skills as appropriate to the specialist subject area*
B3	*Carries out application of basic computing principles and procedures to standard, simple situations, with considerable guidance provided by tutors*	*Applies standard computing principles and procedures to somewhat more demanding situations, still with some guidance provided*	*Demonstrates ability to select and use principles and procedures appropriate to the situation or problem in hand, with minimal guidance provided*	*Carries out confident and accurate selection and application of principles and procedures to the solution of a range of computing situations and problems, working autonomously*
B4	*Develops an ability to explore and recognise any risks or safety aspects that may be involved in their work and to the relevance of selected professional, legal, moral, social and ethical issues; communicate the results of their study/work accurately and*	*Uses a range of established techniques within tutorials, for example, using experiential learning exercises, to explore and recognise the relevance of selected professional, legal, moral, social and ethical issues in their work and to communicate the results of their study/work accurately and reliably,*	*Demonstrates technology industry acumen, with minimum supervision, recognising the relevance of legal, professional, moral, social and ethical issues in the work place and the wider environment. Able to inform and adapt their work to satisfy these issues*	*Effective self-management in terms of time; ability to conduct research independently or as a team, into legal, professional, moral, social and ethical issues. Able to inform and adapt their work to satisfy these issues. Demonstrates an ability to carry out research and critical thinking*

	Level 4	Level 5	Level 6	Level 6 (Hons)
	reliably, and with structured and coherent arguments	*and with structured and coherent arguments*		

Subject Skills (Applied Cyber Security)

	Level 4	Level 5	Level 6	Level 6 (Hons)
C1	*Systematically relates a limited number of facts/ideas/elements in an imitative manner, with considerable guidance provided by tutors*	*Demonstrates appreciation of need for the relating and collecting of a range of facts/ideas/elements in an argued case; produces new ideas in closely-defined situations with some guidance provided as appropriate*	*The ability to apply research methods to relate and collect facts/ ideas/ elements in an argued case; produces new ideas in a wider range of situations, with minimal guidance*	*The ability to apply appropriate research methods to collate facts/ ideas/ elements in support of a well-structured argument; design solutions to problems and evolve new concepts, working autonomously*
C2	*Identify and understand the foundations of cyber security, its significance to business and society, the theory and concepts such as; security, identity, confidentiality, integrity, availability, threat, vulnerability, risk, hazard and assurance, and how these relate to each other.*	*Apply appropriate tools and techniques to ensure viable and organised approaches are taken in relation to cyber security, its significance to business and society, the theory and concepts such as; security, identity, confidentiality, integrity, availability, threat, vulnerability, risk, hazard and assurance, and how these relate to each other*	*Compare and contrast a range of strategic methods and actions in relation to real-world scenarios dealing with security, identity, confidentiality, integrity, availability, threat, vulnerability, risk, hazard and assurance,*	*Select and evaluate own use of Cyber Security management methods to implement an information security strategy. in a self-led and managed project*
C3	*Implement computer programs for specific and well defined situations, including cyber security resilience requirements*	*Design and write computer programs or software for common applications, including cyber security resilience requirements*	*Specify and write computer programs or software in response to loosely defined problem scenarios, including cyber security resilience requirements*	*Specify and write computer programs or software in response to loosely defined problem scenarios and evaluate the quality of the solution, including cyber security resilience requirements*
C4	*Recognise the broad requirements for effective information security governance, the elements and actions required to develop an information security strategy and a plan of action to implement it.*	*Apply and utilise techniques for effective information security governance, the elements and actions required to develop an information security strategy and a plan of action to implement it.*	*Confidently engage with techniques for effective information security governance, the elements and actions required to develop an information security strategy and a plan of action to implement it.*	*Independently implement techniques for effective information security governance, including the elements and actions required to develop an information security strategy and a plan of action.*

Subject Skills (Applied Software Engineering)

	Level 4	Level 5	Level 6	Level 6 (Hons)
C1	*Systematically relates a limited number of facts/ideas/elements in an imitative manner, with considerable guidance provided by tutors*	*Demonstrates appreciation of need for the relating and collecting of a range of facts/ideas/elements in an argued case; produces new ideas in closely-defined situations with some guidance provided as appropriate*	*The ability to apply research methods to relate and collect facts/ ideas/ elements in an argued case; produces new ideas in a wider range of situations, with minimal guidance*	*The ability to apply appropriate research methods to collate facts/ ideas/ elements in support of a well-structured argument; design solutions to problems and evolve new concepts, working autonomously*
C2	*Identify and understand the need to manage software and IT development projects*	*Apply appropriate project management and development tools to ensure viable and organised approaches are taken*	*Compare and contrast a range of IT project management methods and employ high-level tools and methods in real-world scenarios*	*Select and evaluate own use of IT project management methods and tools in a self-led and managed project*
C3	*Implement computer programs for specific and well defined situations*	*Design and write computer programs or software for common applications*	*Specify and write computer programs or software in response to loosely defined problem scenarios*	*Specify and write computer programs or software in response to loosely defined problem scenarios and evaluate the quality of the solution*
C4	*Recognise and work with key datasets and perform basic queries and analysis*	*Apply and utilise data sources and processing into application and development scenarios of constrained forms*	*Confidently engage with big data sets and select and apply appropriate analytic techniques*	*Independently integrate big data sets and analytics into specific projects and/or consider their appropriateness in emerging technology scenarios*

Practical, Professional and Employability Skills

	Level 4	Level 5	Level 6	Level 6 (Hons)
D1	*Be able to provide an account of own actions and activities in a succinct and clear manner in written and oral communication*	*Communicates in a clear, systematic and concise way, in writing and orally, in more formal academic and professional styles, and in longer pieces of work of a technical nature. Be able to draw upon and effectively integrate supporting media*	*Engages effectively in a variety of roles; debates; produces clear, well-structured technical reports and other extended pieces of work; gives clear, subject-specific presentations in a variety of contexts*	*Provide professional levels of information through a variety of verbal and non-verbal communication mediums and reflect upon own interaction and ability to support own opinions and arguments for a variety of audiences*
D2	*Interacts effectively with tutors and fellow students; participates in clearly defined group situations*	*Demonstrates more advanced interactive and group skills, including effective participation in more*	*Interacts effectively within a learning or subject-specific group, demonstrates basic negotiating,*	*Interacts effectively within learning or professional groups; demonstrates appropriate negotiating, role,*

	Level 4	Level 5	Level 6	Level 6 (Hons)
		demanding group tasks, presentations, or discussions	*role, leadership and group-support skills*	*leadership and group-support skills to an advanced level*
D3	*Select under guidance and use relevant sources of information to identify potential computing resources for a specific purpose. Demonstrates basic skill in using the Internet and designing web pages.*	*Demonstrates more advanced IT skills; Demonstrates competent use and application of business databases, additional specialist subject packages and produce reports to business standard. Use of online databases effectively to gain information.*	*Demonstrates, uses and accesses a limited selection of more specialist IT skills related to subject specific software. Conducts effective searches for information to identify potential computing resources for a specific purpose and critically evaluate their merit*	*Uses and accesses a limited selection of more specialist IT skills related to subject specific software for analysing business data. Conducts effective searches for information to identify potential computing resources for a specific purpose and critically evaluate their merit*
D4	*Studies in a systematic, directed way with the aid of appropriate Tutor guidance*	*Learns in an increasingly effective and purposeful way, with beginnings of development as an autonomous learner*	*Adopts a broad-ranging and flexible approach to study; identifies learning needs; pursues activities designed to meet these needs in increasingly autonomous ways*	*With minimal guidance, manages own learning using a wide range of resources appropriate to the IT profession; seeks and makes effective use of feedback. Self-reflection and criticality including self -awareness, openness and sensitivity to diversity in terms of people, cultures, business, management and marketing issues*
D5	Shows an understanding of the opinions of other people; flexibility in considering alternatives and opinions	Demonstrates the ability to take the perspective of others; identifying the similarities and differences between two approaches to the solution of a given problem	Demonstrates the ability to take the perspective of others; comparing the strengths and weaknesses of alternative interpretations determining the credibility of a source of information	Demonstrates the ability to take the perspective of others; articulate the strengths and weaknesses of the suggestions of arguments posed; recognize the underlying agendas and motivations of individuals and groups involved in a given situation

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 majority of scheduled learning and teaching activities is through blended learning via digital systems (such as MS Teams) or in person, this will include lectures, guest talks, tutorials, and labs. Attendance at external events and field trips are made available and as when they are appropriate and practicable. These modes of contact provide students with the ability to develop and practice the range of learning outcomes associated with the programme, ranging from the theoretical to the practical.

In the early stages of each module, problems will be well defined and limited in scope and scale. At later stages, problems will become less structured (to encourage reflection on problem issues) and open-ended (to give scope to propose and evaluate alternative solution strategies). Case studies are used when appropriate to integrate study topics and to underline vocational relevance. Coursework assignments are important throughout.

As the programme progresses, students are expected to demonstrate increasing proficiency in use of IT tools and techniques to support production of technical documentation, to enhance oral and written presentations, and to aid organisation of personal study material.

Extensive use is made of the University's Virtual Learning Environment (VLE), Moodle, to provide students with access to a range of delivery, and supporting, materials related to each of the modules featured on the programme. In addition to the materials used during the taught sessions, the VLE is used to provide students with additional content such as quizzes, videos, audio recordings, external links, technical reports, research papers, and so forth. The VLE also provides students with the ability to communicate using discussion forums and is the platform primarily used in the issuing, submission, marking, and feedback of student assessment.

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.
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.

Apprentices are introduced to the professional bodies and the benefits of student membership and career progression opportunities though their modules.
Talks on employability, research and professional bodies are also introduced at induction.

12 Work based/placement learning statement

Within the three-year apprenticeship programmes, students are expected to be in a relevant full-time position and to apply relevant learning to their workplace 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.

13 Welsh medium provision

The programmes will be delivered through the medium of English. Students are entitled to submit assessments in the medium of Welsh.

14 Assessment strategy

A range and diversity of assessment is provided on the programme as a way to allow students with multiple types of opportunity to demonstrate the skills and knowledge that they are developing over the duration of the programme and to help support inclusivity. This mixture often makes use of assessment methods where students must document a process or solution to a challenge, but also in the submission of artefacts, such as computer programs, databases, media assets, and practical network implementations. Where practical the assessment will be related / carried out in the workplace.

Applied Cyber Security

Module code & title	Assessment type and weighting	Assessment loading	Indicative submission date
Level 4			
Computer Systems	Portfolio	100%	Semester 3: 8 August
Managing Data	Course work In-class test	70% 30%	Semester 1: 24 January
Governance	Portfolio	100%	Semester 3: 8 August

Fundamentals of Information Security	Portfolio In-class test	70% 30%	Semester 2: 16 May
Discrete Computational Methods	Coursework In-class Test	60% 40%	Semester 1: 24 January
Problem Solving with Programming	Coursework Coursework	50% 50%	Semester 2: 16 May
Level 5			
Securing networks and infrastructure	Portfolio Practical	50% 50%	Semester 2: 16 May
Data Structures and Algorithms	Portfolio In-class test	75% 25%	Semester 1: 24 January
Cybersecurity and Forensics	In-class test Coursework	30% 70%	Semester 3: 8 August
Secure software design	Portfolio	100%	Semester 2: 16 May
Server Technologies	Case study	100%	Semester 1: 24 January
Work based project	Project	100%	Semester 3: 8 August
Level 6			
Ethical Hacking	Report Practical	40% 60%	Semester 1: 24 January
Network Security	Coursework Practical In-class test	40% 30% 30%	Semester 3: 8 August
Future Technologies	Presentation Report	40% 60%	Semester 2: 16 May
Project Management	Coursework	100%	Semester 1: 24 January
Project	Project	100%	Semester 3: 8 August

Applied Software Engineering

Module code & title	Assessment type and weighting	Assessment loading	Indicative submission date
Level 4			
Computer Systems	Portfolio	100%	Semester 3: 8 August
Managing Data	Course work In-class test	70% 30%	Semester 1: 24 January
Governance	Portfolio	100%	Semester 3: 8 August

Design Methodologies	Portfolio	100%	Semester 1: 24 January
Web Design & Development	Presentation Coursework	40% 60%	Semester 2: 16 May
Problem Solving with Programming	Coursework Coursework	50% 50%	Semester 2: 16 May
Level 5			
Databases and Web-based Information Systems	Coursework Coursework	50% 50%	Semester 2: 16 May
Data Structures and Algorithms	Portfolio In-class test	75% 25%	Semester 1: 24 January
User Experience Design (UXD)	Case Study Group Project	70% 30%	Semester 1: 24 January
Secure software design	Portfolio	100%	Semester 2: 16 May
Internet & Mobile Applications Development	Coursework Coursework	50% 50%	Semester 3: 8 August
Work based project	Group Project	100%	Semester 3: 8 August
Level 6			
Distributed Data and Analytics	Coursework Coursework	50% 50%	Semester 1: 24 January
Advanced Mobile Development	Report Coursework	50% 50%	Semester 3: 8 August
Future Technologies	Presentation Report	40% 60%	Semester 2: 16 May
Project Management	Coursework	100%	Semester 1: 24 January
Project	Project	100%	Semester 3: 8 August

15 Assessment and award regulations

Derogations
None

Non Credit Bearing assessment
N/A

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
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, all of which is achieved via the SSSLA Action Plan which acknowledges the importance of the quality of teaching, the extent and quality of feedback and the extend of collaborative/peer learning.

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 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. 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 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/EqualityandDiversit