University of the West of Scotland

Undergraduate Programme Specification

Session: 2023/2024
Last Modified: 05/02/2024
Status: Published

1	Named Award Title:	BSc (Hons) IT Software Development Single
2	Award Title for Each Award: [1]	BSc (Hons) IT Software Development Cert HE IT Software Development Dip HE IT Software Development BSc IT Software Development
3	Date of Validation / Approval:	March 2019
4	Details of Cohorts Applies to:	March 2019
5	Awarding Institution/Body:	**University of the West of Scotland**
6	Teaching Institution(s)[2]:	**University of the West of Scotland**
7	Language of Instruction & Examination:	**English**
8	Award Accredited By:	British Computer Society
9a	Maximum Period of Registration:	6 years full-time and 8 years part-time. Please note that part-time students wishing BCS Accreditation must complete the course within 6 years.
9b	Duration of Study:	Full Time – 4 Years Part Time – 8 Years
10	Mode of Study:	Full Time Part Time
11	Campus:	Distance/Online Learning Lanarkshire
12	School:	School of Computing, Engineering and Physical Sciences
13	Programme Board:	Computing
14	Programme Leader:	Dr Jacob Koenig

15. Admission Criteria
Candidates must be able to satisfy the general admission requirements of the University of the West of Scotland as specified in Chapter 2 of the University Regulatory Framework together with the following programme requirements:

---

[1] Include main award and all exit awards e.g. BA / BSc / BEng / DipHE / CertHE

[2] University of the West of Scotland and include any collaborative partner institutions involved in delivery.

SQA National Qualifications:

Grades BBBC at Higher, Maths and English at least at National 5.

or GCE

Grades CCD at A-level, Maths and English at least at GCSE

or SQA National Qualifications/Edexcel Foundation

An appropriate Foundation Apprenticeship, Modern Apprenticeship or HNC/D award with the level of entry and/or credit awarded being subject to the content of the programme.

For Advanced Entry apprentices are required to have completed a relevant MA or have a minimum of 1 year of sector specific work experience at a level equivalent to the point of entry.

Other Required Qualifications/Experience

Applicants may also be considered with other academic, vocational or professional qualifications deemed to be equivalent.

Considering the relevance of the programme to industry, applicants can apply for admission based on Accreditation of Prior Learning / Accreditation of Prior Experiential Learning in accordance with the University's RPL guidelines.

Further desirable skills pre-application (i.e. to satisfy additional PSRB requirements or other)

Essential requirements for entry to this programme are that the applicant is employed and has the right to live and work in Scotland.

16	**General Overview**
	This Graduate Apprenticeship (GA) in IT Software Development is a Work-Based Learning programme which has been developed in partnership with Industry, the education sector and Skills Development Scotland (SDS), to ensure that graduate learning is wholly aligned to Industry needs. This Graduate Apprenticeship provides a new way into degree-level study for individuals who are currently employed, or who want to go straight into work from school. Employees can equip themselves with higher levels of academic learning and industry accreditation, which helps them progress as professionals. By investing in their staff through the apprenticeships, employers can develop their workforce and support staff to develop their skills to industry and professional standards. Apprentices can directly apply their academic learning to real-life situations. Individuals who participate in the Apprenticeship are able to access the same learning opportunities as those who follow the traditional route of direct entry into university.
	This programme is based on the IT & Digital framework produced by Skills Development Scotland (SDS). IT Software Development is a highly skilled sector which has been identified by SDS as a priority for development of a Graduate Apprenticeship. This GA offers employers and employees the opportunity to up-skill and gain an Honours degree whilst employed. The Graduate Apprenticeship in IT Software Development provides apprentices with the knowledge, understanding and skills required to be a successful professional in a wide variety of computing careers including as software developers, web developers, database developers and software testers.
	This programme has been designed to fully embrace the principles of Work-Based Learning. The programme will be delivered over four years with apprentices undertaking 120 credits
17	**Graduate Attributes, Employability & Personal Development Planning**
	The apprentices on this programme will all be in relevant employment therefore the programme will build on their existing employability skills. Graduates of the programme will be Universal, Work-ready and Successful across the three dimensions - academic, personal, and professional which encapsulate the breadth of the learning experience at University level.
	The Graduate Apprentices (GAs) will be productive members of their companies from an early stage. Their learning will be embedded with their workplace activities and their learning and skills are applied in a professional environment right from day one.
	As the GA progresses through the course they will gain a higher level of understanding of academic learning in a workplace environment. Their learning will be applied to their workplace environment rather than theoretical or artificial.
	The GA will develop their critical thinking skills, creativity and leadership skills within the workplace environment. It is expected that they will become change agents.
	The GAs will be able to reflect on their work and develop their skills through their work place experiences. GAs will have the confidence and qualifications needed to succeed when they graduate and beyond. GAs will be uniquely placed to integrate their academic skills, knowledge and practice with workplace practice. GAs will be fully billable professionals, integrated into the professional environment on graduation. GAs will have an understanding of the broader profession
	The programme offers a thorough grounding in the principles of programming and associated software engineering approaches, and develops the lifelong learning skills that apprentices will need to stay abreast of the rapidly evolving technologies in software development.

	Every apprentice will have an academic/link tutor and work place mentor to support them. The apprentice will have regular meetings with their academic/link tutor and mentor to discuss their progress including issues relating to PDP as well as their development goals and aspirations. There are work-based learning modules at each level of the programme which encourage the apprentice to reflect on their personal development and they are expected to use an e-portfolio to record their PDP.
18	**Work Based Learning/Placement Details**
	The programme embraces the principles of Work-Based Learning throughout. There is a 40 credit WBL module and an additional 40 credits of WB modules at each level which incorporate Work Based Learning and Assessment. Coordination of the WBL and the University delivered and assessed content will be undertaken through an Individual Learning Plan developed in partnership between the employer, the apprentice and the University each year.
19	**Attendance and Engagement**
	In line with the Student Attendance and Engagement Procedure, Students are defined as academically engaged if they are regularly engaged with timetabled teaching sessions, course-related learning resources including those in the Library and on the VLE, and complete assessments and submit these on time.
20	**Equality and Diversity**
	The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code.

Programme structures and requirements, SCQF level, term, module name and code, credits and awards (Chapter 1, Regulatory Framework)

21	**Learning Outcomes (Maximum of 5 per heading)**
Outcomes should incorporate those applicable in the relevant QAA Benchmark statements.

SCQF LEVEL 7 **Learning Outcomes (Maximum of 5 per heading)**	
Knowledge and Understanding	
A1	Describe and explain the dynamic nature of the software engineering sector.
A2	Define and discuss the key areas, concepts and principles of software development as applied to the workplace.

A3	Identify and describe the principles of structured programming in a current programming language.
A4	Describe and explain the standard mathematical and statistical concepts used in computing.

Practice - Applied Knowledge and Understanding	
B1	Develop computing applications by applying knowledge and understanding of the principles and techniques of structured programming.
B2	Compile, execute, debug and document software using a current Integrated Development Environment (IDE).
B3	Employ the professional skills, techniques, practices and/or materials associated with software development in the context of the work place.

Communication, ICT and Numeracy Skills	
C1	Communicate complex ideas both verbally and in writing.
C2	Present and evaluate coherent arguments, information and ideas in a clear and appropriate manner.
C3	Employ a range of approaches to addressing defined and/or routine problems and issues in software development in the work place.
C4	Reflect on the experience of applying their knowledge and understanding of the software development sector in a work place environment.
C5	Select and use appropriate routine and advanced ICT applications to process a variety of information and data.

Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	
D1	Coherently present and evaluate arguments, information and ideas.

Autonomy, Accountability and Working With Others	
E1	Define and explain key issues in relation to the accountability and responsibilities of computer professionals to clients, the community, and society at large.
E2	Manage limited resources within defined areas of computing work.
E3	Take account of own and others' roles and responsibilities in carrying out and evaluating computing tasks in the work place.
E4	Define and explain key issues in relation to professionalism in their work,
E5	Define and explain key issues in relation to the accountability and responsibilities of computer professionals to clients, the community, and society at large.

Learning Outcomes - Level 7 Core Modules

SCQF Level	Module Code	Module Name	Credit	Term 1	2	3	Footnotes
7	WRKB07001	Work-Based Learning 1	40	✓	✓		
7	GRLA07002	GA - Introduction to Software Development	40	✓	✓		
7	MATH07005	Mathematics for Computing	10		✓		

Footnotes for Core Modules:

Learning Outcomes - Level 7 Optional Modules

SCQF Level	Module Code	Module Name	Credit	Term 1	2	3	Footnotes
		Select TWO modules (at least 30 credits) or other modules in consultation with the Programme Leader:					
7	COMP07009	Introduction to Web Development	20	✓			
7	GRLA07001	GA - Computing Systems (10 Credit)	10		✓		

Footnotes for option modules

22 a	**Level 7** **Criteria for Progression and Award**
	Standard UWS progression regulations will apply. Students who achieve 120 credits at SCQF level 7, including the core modules above, will be eligible for the exit award - Certificate of Higher Education (Cert HE) in IT Software Development Students who achieve 120 credits at SCQF level 7, but do not achieve all the core credits for the programme may be eligible for the Certificate of Higher Education (Cert HE) in IT. Links: UWS Regulatory Framework

	Level 8 Learning Outcomes (Maximum of 5 per heading)
Knowledge and Understanding	
A1	Define and explain the concepts and principles of the object-oriented paradigm in the development of computing applications.
A2	Identify and explain the importance of data abstraction and the role this plays in computing.
A3	Demonstrate an intellectual understanding of, and an appreciation for, the central role of algorithms and data structures, and work with a variety of them.
A4	Identify and explain the key aspects of relational database theory.
Practice - Applied Knowledge and Understanding	
B1	Analyse the extent to which a proposed or existing computer-based application meets the criteria defined for its intended use.
B2	Use a range of routine and advanced skills, techniques and practices to develop software.
B3	Analyse a new or existing workplace system and design and implement a relational database to better meet company the requirements.
Communication, ICT and Numeracy Skills	
C1	Present a reasoned and evidence-based proposal for a computer-based solution to meet an identified need in the work place.
C2	Employ routine and specialised software development skills. For example, use a range of standard applications to process and obtain data.
C3	Utilise a database to store and retrieve information effectively.
Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	
D1	Employ a range of approaches to formulate evidence-based solutions/ responses to defined and/or routine problems/issues associated with the work place.
D2	Critically evaluate and analyse evidence-based solutions/responses to defined and/or routine problems/ issues associated with the work place.
Autonomy, Accountability and Working With Others	
E1	Work as a member of a team, taking account of own and others' roles, responsibilities and contributions in carrying out and evaluating tasks as a student and an employee.
E2	Manage resources within defined areas of work as agreed by Work Place Mentor.
E3	Deal with ethical and professional issues in accordance with current professional and/or ethical codes or practices in the discipline of computing under guidance.

E4	Identify and apply current professional and/or ethical codes or practices in the discipline of computing under guidance from Work Place Mentor.

Learning Outcomes - Level 8 Core Modules

SCQF Level	Module Code	Module Name	Credit	Term			Footnotes
				1	2	3	
8	WRKB08001	WBL 2 - Work based Learning (40 Point)	40	✓	✓		
8	GRLA08002	GA - Software Engineering	40	✓	✓		
8	COMP08002	Database Development	20	✓			

Footnotes for Core Modules:

Learning Outcomes - Level 8 Optional Modules

SCQF Level	Module Code	Module Name	Credit	Term			Footnotes
				1	2	3	
		Select ONE module (20 credits) or other module approved by the Programme Leader:					
8	COMP08068	Programming for Mobile Devices	20		✓		

Footnotes for option modules

22b	Level 8 Criteria for Progression and Award
	Standard UWS progression rules will apply. Students who have achieve 240 credits, at least 90 credits at SCQF-8 comprising the core modules above, will be eligible for the exit award: Diploma of Higher Education (Dip HE) in IT Software Development Students who achieve 240 credits, at least 90 credits at SCQF-8 or above, but do not achieve all the core credits for the programme may be eligible for the Diploma of Higher Education (DipHE) in IT.

	Links: [UWS Regulatory Framework](UWS%20Regulatory%20Framework)

	SCQF LEVEL 9 **Learning Outcomes (Maximum of 5 per heading)**
	Knowledge and Understanding
A1	Demonstrate a critical understanding of relevant software engineering principles and practice.
A2	Demonstrate a critical understanding of the scope, main areas and boundaries of the studied computing theme(s).
A3	Analyse theories, principles, concepts and terminology associated with software development applicable to the individual's work place.
	Practice - Applied Knowledge and Understanding
B1	Apply project management techniques to control and monitor a software or IT project in the work place.
B2	Practise routine methods of enquiry and research associated with one or more branches of computing.
B3	Apply the principal skills, techniques, practices and/or materials associated with the computing theme(s) studied.
B4	Practise routine methods of enquiry and/or research associated with software development.
	Communication, ICT and Numeracy Skills
C1	Use a range of software tools to support development techniques and project management in the work place.
	Generic Cognitive Skills - Problem Solving, Analysis, Evaluation
D1	Understand and apply a range of computing concepts, principles and practices in the context of well specified scenarios, exercising judgement in the selection of tools and techniques.
D2	Draw on a range of sources in making judgements.
	Autonomy, Accountability and Working With Others
E1	Recognise and deal with the professional, economic, social, environmental, moral and ethical issues involved in the sustainable exploitation of computer technology, and be guided by the adoption of appropriate professional, ethical and legal practices in the work place.

E2	Use initiative in managing ethical and professional issues in accordance with current professional and/or ethical codes or practices, seeking guidance where appropriate from work place Mentor.

Learning Outcomes - Level 9 Core Modules

SCQF Level	Module Code	Module Name	Credit	Term 1	Term 2	Term 3	Footnotes
9	WRKB09001	Work-Based Learning 3	40	✓	✓		
9	GRLA09003	GA - Software Engineering Practice	40	✓	✓		
9	GRLA09001	GA - Information Security Management	10		✓		
9	COMP09092	Research Methods in Computing	10		✓		

Footnotes for Core Modules:

Learning Outcomes - Level 9 Optional Modules

SCQF Level	Module Code	Module Name	Credit	Term 1	Term 2	Term 3	Footnotes
		Select ONE module (20 credits) from the list below or other module in consultation with the Programme leader:					
9	COMP09007	Project Management for IT		✓			
9	COMP09050	Database Applications		✓			
9	COMP09078	Advanced Programming for Mobile Devices		✓			

Footnotes for option modules

Modules COMP09007 Project Management for IT and COMP09078 Advanced Programming for Mobile Devices have been withdrawn from delivery at the Lanarkshire campus. Both modules are delivered from the Paisley campus.

22c	Level 9 Criteria for Progression and Award
	Standard UWS progression regulations will apply. In particular, students may not progress to the Honours level of the programme until they have met the requirements for BSc. Students who have completed 360 credits, including at least 190 at SCQF-8 or above, and at least 100 credits at SCQF-9 comprising the core modules above will be eligible for the award: BSc IT Software Development Students who achieve 360 credits (including at least 180 credits at SCQF-8 or above and at least 90 credits at SCQF-9), but do not achieve all the core credits for the programme may be eligible for the BSc in IT. Progression to SCQF Level 10 is subject to academic advice, to module prerequisites and to timetable constraints. Links: UWS Regulatory Framework

	SCQF LEVEL 10 Learning Outcomes (Maximum of 5 per heading)
	Knowledge and Understanding
A1	Demonstrate and work with a knowledge that covers and integrates most of the principal areas, features, boundaries, terminology and conventions within software development.
A2	Demonstrate a critical understanding of the principal theories, concepts and principles conventions within the selected theme(s) of study, some of which are informed by or at the forefront of the selected theme(s) of study.
A3	Demonstrate knowledge and understanding of software development including a range of established techniques of enquiry or research methodologies.
	Practice - Applied Knowledge and Understanding
B1	Execute a defined project of research, development or investigation within computing and identify and implement relevant outcomes.
B2	Critically review and assess contributions to the research literature of software development.
B3	Use a range of the principal skills, practices and/or materials associated within the selected theme(s) of study in a project linked to the work place.
B4	Use and integrate skills, practices and/or materials which are specialised, advanced, or at the forefront of software development.
	Communication, ICT and Numeracy Skills
C1	Deliver a coherent and reflective presentation of an extended piece of project work to an informed audience.
C2	Produce a critical and evaluative written report of a development project.
C3	Use a wide range of routine and specialised skills in support of established practices within the selected theme(s) of study - for example: - make formal presentations about specialised topics to informed audiences

	- use a range of software to support and enhance work at this level and specify refinements/ improvements to software to increase effectiveness, - interpret, use and evaluate a range of numerical and graphical data to set and achieve goals/ targets.
Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	
D1	Critically analyse and apply a range of computing concepts, principles and practices in the context of loosely defined problems where information is limited and/or comes from a range of sources, exercising judgement in the selection of tools and techniques.
D2	Critically review and consolidate knowledge, skills and practices and thinking within the selected theme(s) of study.
D3	Demonstrate originality and creativity in dealing with professional level computing issues.
Autonomy, Accountability and Working With Others	
E1	Practise in ways which show a clear awareness of own and others' roles and responsibilities in the work place.
E2	Deal with complex ethical and professional issues in accordance with current professional and/or ethical codes or practices in the work place.

Learning Outcomes - Level 10 Core Modules

SCQF Level	Module Code	Module Name	Credit	Term 1	Term 2	Term 3	Footnotes
10	COMP10034	Computing Honours Project	40	✓	✓		
10	WRKB10001	WBL 4 - Industrial Project (40 Point)	40	✓	✓		

Footnotes for Core Modules:

Learning Outcomes - Level 10 Optional Modules

SCQF Level	Module Code	Module Name	Credit	Term 1	Term 2	Term 3	Footnotes
		Select TWO modules (40 credits) from the list below or ONE module AND a L9 option from above OR other modules in consultation with the Programme Leader:					

10	COMP10002	Data Warehouse Environment	20		✓	
10	COMP10066	HCI & User Experience Design (UXD)	20	✓		
10	COMP10068	Secure Programming	20		✓	

Footnotes for option modules

X

22d	Level 10 Criteria for Award
	Students who have completed 480 credits, including at least 300 at SCQF-8 or above, at least, at least 210 at SCQF-9 or above, and at least 120 at SCQF-10 comprising core modules as outlined above, will be eligible for the award: BSc (Hons) IT Software Development Students who achieve 480 credits (including at least 270 at SCQF-8 or above, at least 180 at SCQF-9 or above, and at least 90 at SCQF-10 or above) but do not achieve all the core credits for the programme may be eligible for the BSc (Hons) in IT.

23	Regulations of Assessment

Candidates will be bound by the general assessment regulations of the University as specified in the [University Regulatory Framework](#) .

An overview of the assessment details is provided in the Student Handbook and the assessment criteria for each module is provided in the module descriptor which forms part of the module pack issued to students. For further details on assessment please refer to Chapter 3 of the Regulatory Framework.

To qualify for an award of the University, students must complete all the programme requirements and must meet the credit minima detailed in Chapter 1 of the Regulatory Framework.

24	Combined Studies

There may be instances where a student has been unsuccessful in meeting the award criteria for the named award and for other more generic named awards existing within the School. Provided that they have met the credit requirements in line with the SCQF credit minima (please see Regulation 1.21), they will be eligible for a Combined Studies award (please see Regulation 1.61).

For students studying BA, BAcc, or BD awards the award will be BA Combined Studies.

For students studying BEng or BSc awards, the award will be BSc Combined Studies.

<u>Change/Version Control</u>

Changes made to the programme since it was last published:

What	When	Who
Withdrawal of two level 9 optional modules from Lanarkshire delivery.	08/11/21	
Updates to integrate new PSP guidance and documentation of changes for delivery terms of optional L10 modules	05/02/24	J Koenig

Version Number: 1.04