University of the West of Scotland

Postgraduate Programme Specification

Session: 2022/23
Last Modified: 23/02/24
Status: **Published**

1	**Named Award Title:**	**MSc Information Technology**
2	**Award Title for Each Award: [1]**	**MSc Information Technology** **PG Cert Information Technology** **PG Dip Information Technology**
3	**Date of Validation / Approval:**	
4	**Details of Cohorts Applies to:**	All students entering or progressing on the programme from September 2022
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 (BCS)
9a	**Maximum Period of Registration:**	3 years Full Time, up to 4 years Part Time
10	**Mode of Study:**	Full Time, Part Time
11	**Campus:**	London Paisley Distance/Online Learning
12	**School:**	Computing, Engineering and Physical Sciences
13	**Programme Board:**	Business and Applied Computing
14	**Programme Leader:**	**Costas Iliopoulos**

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:

Appropriate Undergraduate Qualifications:

[1] Include main award and all exit awards e.g. PgD, MSc

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

Applicants will typically possess a degree or equivalent. In the absence of a degree, where entry requirements do not conform to the general entry requirements, other evidence can be considered on an individual basis in line with Regulations 2.13 – 2.36 (Recognition of Prior Learning – RPL / Recognition of Credit).

a) A Bachelors Honours degree from a UK University or an equivalent qualification from an overseas institution in a non-IT or computing related subject, or a modest academic background in IT or computing; or b) A professional qualification recognised as being equivalent to a Bachelors Honours Degree; or c) Have gained equivalent experience in business or industry. Applicants with an Honours BSc or BA degree in the following (or related) disciplines are encouraged to apply: Business, Engineering, Applied Sciences, Pure/Formal Sciences, Social Sciences, Medical & Health Sciences, Life Sciences, Sports Science, Humanities.

Other Required Qualifications/Experience

Applicants may also be considered with other academic, vocational or professional qualifications and experience deemed to be equivalent. This will be at the discretion of the Postgraduate Admissions Officer.

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

None

16	**General Overview** The Postgraduate Programme in IT is designed to develop undergraduates primarily from disciplines other than IT/Computing, and to prepare and assist them to embark on a career in business IT. The IT programme is also suited to business and technology professionals who desire to equip themselves with fresh technology expertise and business capabilities. Graduate careers may involve working with SMEs or large employers, adding value to their operations and helping them to achieve business objectives through the use of technology. Alternatively, some undergraduates will acquire new IT skills and systems development, acquisition, deployment and integration knowledge and competencies that will enable them to successfully pursue a career in their first discipline. The IT programme examines issues, trends, current practices and technological alternatives in the field of business Information Technology and provides students with up-to-date technological and business skills, and specialist knowledge to help them design and/or implement appropriate, IT driven solutions in ways that address the needs of modern business organisations.

	The programme is designed to provide a common first trimester experience that will enable the developing postgraduate student to make a more informed choice of second trimester options in either a technical domain (for example Web Development, Database Development, Web Development or Networking) or a more IT Business oriented theme (eBusiness, Management or Analytics). A key feature of the IT Business oriented themes is the integration of theory with the use of appropriate, current and specialist IT software, such as MS Project, Oracle, QlikView, Agilian and others. On graduation, the postgraduate students of the IT Programme take up posts with large employers both private and public or are able to work within the SME domain. The skill set and specialist knowledge provided enables the successful postgraduate student to work in a direct IT systems development and deployment capacity or in a more management-oriented role within a project team. Typical job titles include Technology Manager, IT Consultant, Business Analyst, Database Developer, and eBusiness Developer. Further studies on the area of Information Technology can be undertaken through research degrees (MPhil/PhD.) Additionally, the IT Academy of the School of Computing offers a progression route for developing further industry specific technical skills though agreed programmes with Microsoft, Cisco, Oracle, SAP and others. Teaching & Learning (T&L) will employ face to face large and small group delivery and activities supported by the use of a Virtual Learning Environment (VLE), in this instance Aula. Small group tutorials are favoured as they are key to the development of behavioural and effective competencies needed by employers, to develop reflective IT practitioners engaging in purposeful activity for the benefit of the business or organisation. The programme designers recognise the need to maintain a focus on technological developments and the creation of modules of study and development to provide for the latest set of technological skills but also recognise the need for the business context within which these skills and competencies can develop. Case studies are employed throughout the programme to provide such context. Effective team working is a critical theme. Assessment is geared towards assessing (and developing) not just the technical skills but also the types of competencies discussed above. Modules will make use of instruments of assessment aimed at the individual and at the group level. Courseworks, class tests, and formal examinations will be employed. Delivery modes This programme is delivered in F/T and P/T. Many of the modules are available in D/L format and available remotely to P/T students.
17	**Graduate Attributes, Employability & Personal Development Planning**
	Graduates of the programme will be **U**niversal, **W**ork ready and **S**uccessful across three dimensions (academic, personal and professional) which encapsulate the breadth of the learning experience at University level.

	The Postgraduate Programme in IT is designed to develop undergraduates primarily from disciplines other than IT/Computing, and to prepare and assist them to embark on a career in business IT. The IT programme is also suited to business and technology professionals who desire to equip themselves with fresh technology expertise and business capabilities. This career may involve working with SMEs or large employers adding value to their operations and helping them to achieve business objectives through the use of technology. Alternatively, some undergraduates will add IT skills and systems development and deployment knowledge and competencies that will enable them to successfully pursue a career in their first discipline. The IT programme examines issues, trends, current practices and technological alternatives in the field of business Information Technology and provides students with up-to-date technological and business skills and specialist knowledge to help them design and/or implement appropriate, IT driven solutions in ways that address the needs of modern business organisations. On graduation, postgraduate students of the IT Programme take up posts with large employers both private and public or are able to work within the SME domain. The skill set and specialist knowledge provided enables the successful postgraduate student to work in a direct IT systems development and deployment capacity or in a more management-oriented role within a project team. Typical job titles include Technology Manager, IT Consultant, IT Project Manager, Business Analytics specialist, eBusiness Developer, Database Developer, Web Developer and Network Infrastructure & Services specialist.
18	**Work Based Learning/Placement Details**
	Placements could be available at the MSc stage although there is no formal provision in the form of a module. There is a history of postgraduate students picking up projects through the University's industrial contacts and more recently the IT Academy. Several postgraduate students have become F/T employees of the University recognising not only the worth of this programme in engendering valuable IT skills and knowledge but also the project work that they have undertaken. The programme team will examine the possibility of offering a more formal placement scheme following on from the diploma stage.
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. For the purposes of this programme, academic engagement equates to the following: In line with the Academic 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 relevant learning platform, 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. Please ensure that Learning Outcomes are appropriate for the level of study. Further information is available via SCQF: https://scqf.org.uk/support/support-for-educators-and-advisers/support-for-colleges-heis/ and a Level Descriptors tool is available (SCQF Level Descriptors Tool | Scottish Credit and Qualifications Framework) and ensure appropriate cognisance of Chapter 1, Regulatory Framework. https://www.uws.ac.uk/media/6514/regulatory-framework-2023-2024.pdf

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	SCQF LEVEL 11 - Postgraduate Certificate (PgCert) Learning Outcomes (Maximum of 5 per heading)
Knowledge and Understanding	
A1	Demonstrate knowledge and critical understanding of modern methods as regards the development, introduction and management of IT systems to support and enhance management and business functions
A2	Be able to apply a critical awareness of the role of pervasive and persistent database technologies or networking technologies as platforms for developing and deploying centralised and non-centralised IT-based business systems
Practice - Applied Knowledge and Understanding	
B1	Critically analyse and evaluate theoretical and technological developments in the subject of Information Technology
B2	Critically analyse and evaluate IT techniques, technologies and services as used in modern business
Communication, ICT and Numeracy Skills	
C1	Communicate effectively using a range of print and electronic communication methods for senior academic and professional audiences.

C2	Effectively use a range of module related software tools.
Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	
D1	Effectively employ problem solving skills for problem identification, analysis, generation of options / solutions, selection of appropriate option / solution in the chosen subject/discipline.
D2	Evaluate information from a variety of sources including printed and online academic journals on technology-based Information Systems and Computing, to enhance the quality of the learning experience and performance.
Autonomy, Accountability and Working With Others	
E1	Demonstrate an ability to manage and work autonomously with a range of self-directed learning resources.
E2	Demonstrate an ability to work on a common project with other members in a team.

Learning Outcomes – Postgraduate Certificate (PgCert) Core Modules

SCQF Level	Module Code	Module Name	Credit	Term			Footnotes
				1	2	3	
11	COMP11043	Business Computer Networks	20	✓			
11	COMP11007	Database Design	20	✓			
11	COMP11032	Object Oriented Analysis & Design	10	✓			

Footnotes for Core Modules:

Learning Outcomes - Postgraduate Certificate (PgCert) Optional Modules

SCQF Level	Module Code	Module Name	Credit	Term			Footnotes
				1	2	3	
		Students may also choose optional modules from the ones offered in the Postgraduate IT programme, to accumulate the necessary credits for					

		the PgCert Information Technology exit award.					

Footnotes for option modules

Optional modules offered by the School will be subject to availability and viable numbers of student enrolments. Distance learning students will be offered optional modules from those modules that are available in distance learning format. Further, January intake students will be offered optional modules that have no pre-requisites and appropriate core modules to begin their studies.

22a	**Level 11 – Postgraduate Certificate (PgCert)** **Criteria for Progression and Award**
	The criteria for the Award of Postgraduate Certificate are defined in the University Regulatory Framework. For a PgCert Information Technology exit award, at least 60 credits are required, including 30 credits or more from the above core modules. A minimum of 40 credits must be attained at SCQF Level 11. Other modules can be selected where there is up to a 20-credit deficit of optional modules, where the programme learning outcomes can be met, and in discussion with the Programme Leader.

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	Level 11 – Postgraduate Diploma (PgDip) **Learning Outcomes (Maximum of 5 per heading)**
Knowledge and Understanding	
A1	Demonstrate knowledge and critical understanding of modern methods as regards the development, introduction and management of IT systems to support and enhance management and business functions.
A2	Be able to apply a critical awareness of the role of pervasive and persistent database technologies as a platform for developing and deploying centralised and non-centralised IT-based business systems.
A3	Demonstrate a reflective and critical awareness of the design and deployment of networking technologies in modern organisations.

A4	Acquire skills and a critical understanding of the application of these skills introduced in the selected theme of study.
Practice - Applied Knowledge and Understanding	
B1	Critically analyse and evaluate theoretical and technological developments in the subject of Information Technology.
B2	Systematically develop and deploy distributed IT systems to meet business aims.
B3	Critically analyse and evaluate IT techniques, technologies and services as used in modern business developed for IT platforms in the context of the chosen theme of study.
B4	An ability to develop the knowledge, skills and understanding associated with the chosen theme of study.
Communication, ICT and Numeracy Skills	
C1	Communicate effectively using a range of print and electronic communication methods for senior academic and professional audiences.
C2	Effectively use a range of module related software tools.
Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	
D1	Effectively employ problem solving skills for problem identification, analysis, generation of options / solutions, selection of appropriate option / solution in the chosen theme of study.
D2	Evaluate information from a variety of sources including printed and online academic journals on technology-based Information Systems and Computing, to enhance the quality of the learning experience and performance.
D3	Apply a critical ability in using methods, techniques and technologies to support organisational analysis and IT systems provision.
D4	Be able to critically reflect on the relationship between theory and practice in developing IT and business solutions to address organisational problems.
Autonomy, Accountability and Working With Others	
E1	Demonstrate an ability to manage and work autonomously with a range of self-directed learning resources.
E2	Demonstrate an ability to work on a common project with other members in a team.
E3	Demonstrate an ability to define and carry out tasks autonomously, demonstrating critical enquiry in producing quality work underpinned by rigorous relevant research and investigation.
E4	Demonstrate a substantial ability to adopt reflective practices that enable critical analysis and reflection on own work and that carried out by others.

Learning Outcomes – Postgraduate Diploma (PgD) Core Modules

SCQF Level	Module Code	Module Name	Credit	Term			Footnotes
				1	2	3	
11	COMP11043	Business Computer Networks	20	✓			
11	COMP11007	Database Design	20	✓			
11	COMP11032	Object Oriented Analysis & Design	10	✓			

Footnotes for Core Modules:

Learning Outcomes - Postgraduate Diploma (PgD) Optional Modules

SCQF Level	Module Code	Module Name	Credit	Term			Footnotes
				1	2	3	
11	COMP11012	Oracle Database Development	20		✓		Database & Analytics
11	COMP11013	Technologies for Business Intelligence	10		✓		Database & Analytics
10	COMP10002	Data Warehouse Environment	20		✓		Database & Analytics
11	COMP11008	Web Development	20	✓			Web
11	COMP11005	Dynamic Web Applications	20		✓		Web
10	COMP10023	Wireless Networking	20		✓		Networking
11	COMP11061	Internet of Things (IoT) and Applications	20		✓		Networking
11	COMP11051	Mobile Business Technology and Design	20		✓		eBusiness
11	COMP11015	Interactive Design for Smart Devices	10		✓		Modern Computing
11	COMP11060	Emerging Topics in Computing	10		✓		Modern Computing

11	QUAL11013	Project Management Fundamentals	20	✓		✓	London Only
11	COMP11001	Ethics for the IT Professional	10	✓	✓	✓	Recommended Option
11	COMP11017	Research Design and Methods	10	✓	✓	✓	Recommended Option

Footnotes for option modules

Optional modules offered by the School will be subject to availability and viable numbers of student enrolments.

Students should select 70 points from the above options. Students can take at maximum one L10 module.

The association of a module to one of the themes of study is shown in the tables above.

Research Design and Methods and Ethics for the IT Professional are the recommended options for the MSc Information Technology programme.

Other modules can be selected where there is up to a 20-credit deficit of optional modules, where the programme learning outcomes can be met, and in discussion with the Programme Leader.

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22b	**Level 11 - PgDip** **Criteria for Progression and Award**
	Award - PgD Information Technology The criteria for the Award of Postgraduate Diploma are defined in the University Regulatory Framework. To gain the PgD IT award a student must achieve University Regulatory requirements and include the specified core modules as listed for the PgC IT. To gain the PgD IT award a student should achieve at least 120 credit points with a minimum of 90 credit points attained at SCQF Level 11.

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	SCQF LEVEL 11 - MASTERS **Learning Outcomes (Maximum of 5 per heading)**
Knowledge and Understanding	

A1	Demonstrate knowledge and critical understanding of modern methods as regards the development, introduction and management of IT systems to support and enhance management and business functions.
A2	Be able to apply a critical awareness of the role of pervasive and persistent database technologies as a platform for developing and deploying centralised and non-centralised IT-based business systems.
A3	Demonstrate a reflective and critical awareness of the design and deployment of networking technologies in modern organisations.
A4	Acquire skills and a critical understanding of the application of these skills introduced in the selected theme of study.
A5	Demonstrate knowledge and deep understanding of research methods and approaches in the context of Information Technology, relevant to the programme of Masters level research.
Practice - Applied Knowledge and Understanding	
B1	Critically analyse and evaluate theoretical and technological developments in the subject of Information Technology.
B2	Systematically develop and deploy distributed IT systems to meet business aims.
B3	Critically analyse and evaluate IT techniques, technologies and services as used in modern business developed for IT platforms in the context of the chosen theme of study.
B4	An ability to develop the knowledge, skills and understanding associated with the chosen theme of study.
B5	Undertake valid research using appropriate research methods within the selected research domain.
Communication, ICT and Numeracy Skills	
C1	Communicate effectively using a range of print and electronic communication methods for senior academic and professional audiences.
C2	Effectively use a range of module related software tools.
C3	Develop the ability to communicate effectively with professional agencies in undertaking valid research.
C4	Develop a critical understanding and an ability to communicate using relevant and specific print and electronic communication methods for senior academic and professional audiences in conducting primary research at Masters level.
C5	Demonstrate a critical understanding and application of quantitative and qualitative research methods and analysis techniques and technologies within the context of a Masters level programme of research.
Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	

D1	Effectively employ problem solving skills for problem identification, analysis, generation of options / solutions, selection of appropriate option / solution in the chosen theme of study.
D2	Evaluate information from a variety of sources including printed and online academic journals on technology-based Information Systems and Computing, to enhance the quality of the learning experience and performance.
D3	Apply a critical ability in using methods, techniques and technologies to support organisational analysis and IT systems provision.
D4	Be able to critically reflect on the relationship between theory and practice in developing IT and business solutions to address organisational problems.
D5	Develop a critical understanding of the planning, conducting and reflecting and reporting on a programme of Masters level of research relating to the areas of IT.
Autonomy, Accountability and Working With Others	
E1	Demonstrate an ability to manage and work autonomously with a range of self-directed learning resources.
E2	Demonstrate an ability to work on a common project with other members in a team.
E3	Demonstrate an ability to define and carry out tasks autonomously, demonstrating critical enquiry in producing quality work underpinned by rigorous relevant research and investigation.
E4	Demonstrate a substantial ability to adopt reflective practices that enable critical analysis and reflection on own work and that carried out by others.
E5	Demonstrate a substantial ability to carry out autonomous research and thorough critical and ethical inquiry to produce a substantial dissertation at Masters level.

Learning Outcomes - MASTERS Core Modules

SCQF Level	Module Code	Module Name	Credit	Term			Footnotes
				1	2	3	
11	COMP11043	Business Computer Networks	20	✓			
11	COMP11007	Database Design	20	✓			
11	COMP11032	Object Oriented Analysis & Design	10	✓			
11	COMP11024	Masters Project	60	✓	✓	✓	

Footnotes for Core Modules:

The choice of topic for the MSc Project is made by the student in consultation with the MSc Project coordinator and academic staff that the student may have consulted with. The topic is normally related to the subjects and content covered during the PgC/PgD stage of the programme. At the start of the MSc Project the student will be allocated a specific supervisor and moderator with experience and expertise in the student's chosen topic for the duration of the MSc project module.

A student is expected to reach three specific milestones during the MSc project:

1. To produce an MSc Project Specification that meets the approval of supervisor and moderator.

2. To produce an interim report approximately at the half-way point of the project, containing an early draft of the literature review as well as comprehensive description of the project methodology to be used, and forward plan for the completion of the project.

3. To submit a dissertation up to 18,000 words in which the following areas are typically expected to be addressed: subject literature is critically reviewed, full project methodology is described, collected data and results are published, or prototype systems are developed and evaluated, and a critique incorporating recommendations suggested by the research results, a self-assessment and recommendations for further work on the topic are included.

Learning Outcomes - MASTERS Optional Modules

SCQF Level	Module Code	Module Name	Credit	Term			Footnotes
				1	2	3	
11	COMP11012	Oracle Database Development	20		✓		
11	COMP11013	Technologies for Business Intelligence	10		✓		
10	COMP10002	Data Warehouse Environment	20		✓		
11	COMP11008	Web Development	20	✓			
11	COMP11005	Dynamic Web Applications	20		✓		
10	COMP10023	Wireless Networking	20		✓		
11	COMP11061	Internet of Things (IoT) and Applications	20		✓		
11	COMP11051	Mobile Business Technology and Design	20		✓		

11	COMP11015	Interactive Design for Smart Devices	10		✓		
11	COMP11060	Emerging Topics in Computing	10		✓		
11	QUAL11013	Project Management Fundamentals	20	✓		✓	
11	COMP11001	Ethics for the IT Professional	10	✓	✓	✓	
11	COMP11017	Research Design and Methods	10	✓	✓	✓	

Footnotes for option modules

Optional modules offered by the School will be subject to availability and viable numbers of student enrolments. Students should select 70 points from the above options. Students can take at maximum one L10 module. The association of a module to one of the themes of study is shown in the tables above. Research Design and Methods and Ethics for the IT Professional are the recommended options for the MSc Information Technology programme. Other modules can be selected where there is up to a 20-credit deficit of optional modules, where the programme learning outcomes can be met, and in discussion with the Programme Leader.

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22c	**Level 11 MASTERS** **Criteria for Award**
	MSc Information Technology. The criteria for the Award of Masters are defined in the University Regulatory Framework. To gain the MSc IT award a student must achieve at least 180 credit points with a minimum of 150 credit points attained at SCQF level 11.

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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 an exit award of PgCert/ PgDip in Combined Studies.

Change/Version Control

Changes made to the programme since it was last published:

What	When	Who
Produced Specification	23/02/2024	Costas Iliopoulos

Version Number: PG 1 (2023-24)