Undergraduate Programme Specification
BSc (Hons) AI and Data Science

This specification provides a summary of the main features of the programme and learning outcomes that a student might reasonably be expected to achieve and demonstrate where full advantage is taken of all learning opportunities offered. Further details on the learning, teaching and assessment approach for the programme and modules can be accessed on the University website and Virtual Learning Environment, GCU Learn. All programmes of the University are subject to the University's Quality Assurance processes.

GENERAL INFORMATION	
Programme Title	BSc (Hons) AI and Data Science
Final Award	BSc (Hons) AI and Data Science BSc (Hons) AI and Data Science (Sandwich)
Awarding Body	Glasgow Caledonian University
School	School of Computing, Engineering and Built Environment
Department	Computing
Mode of Study	Full-time
Location of Delivery	Glasgow Campus
UCAS Code	
Accreditations (PSRB)	
Period of Approval	From: September 2023 To: August 2028

EDUCATIONAL AIMS OF PROGRAMME

GENERAL INTRODUCTION

The BSc/BSc (Hons) AI and Data Science programme has been developed to provide students with the knowledge, understanding and skills needed to become effective Data Science professionals capable of working on the development of the software, data analysis and AI systems required by modern industry.

The programme provides a specialised route for students who which to become technical experts in the field of AI and Data Science. The programme offers a 2 + 2 pathway.

The broad educational aims of the programme are to:
• Provide students with the necessary specialist computing knowledge and skills to equip them for a career in the development and support of computer-based information systems with a focus on AI and Data Science.
• Provide students with a specific understanding of the concepts, processes, methods and tools, and their application, to their selected specialist area
• Enable students to develop a cultural understanding of computing applications and the computing and data science industry
• Develop the ability to apply sound design principles and practical skills
• Enable students to acquire good analytical, synthetic and communication skills

- Enable students to take responsibility for their own learning as they progress through the programme.
- Assist the student in developing the skills required in adapting to changing technological and organisational developments and learning new skills
- Provide articulation opportunities to access the programme for students with appropriate prior accredited learning experiences
- Provide education and training which is accredited by the British Computer Society

Expected Levels of Attainment

- On successful completion of year 1 a student should have a basic knowledge of the software and hardware concepts which underpin modern computing systems.
- On successful completion of year 2 a student should have a sound knowledge of software design and development and show competence in applying this to a range of software development domains.
- On successful completion of year 3 a student should be able to plan, specify, design, implement and support components of a software system in response to a business need in accordance with fundamental principles and methods, using appropriate techniques and tools.
- On successful completion of year 4 (honours) a student will, in addition, be able to critically evaluate alternative approaches to software solutions and be able to use advanced knowledge and techniques in the construction of a software solution.

PROGRAMME STRUCTURE AND AVAILABLE AND FINAL EXIT AWARDS[1]

The following modules are delivered as part of this programme:

Module Code	Module Title	Core or Optional	SCQF Level	Credit Size	Coursework %	Examination %	Practical %
M1I325623	Fundamentals of Computer Systems	Core	7	10	100%		
M1I326709	Fundamentals of Software Engineering	Core	7	20	100%		
M1I326719	Programming 0	Core	7	20	100%		
M1I325851	Maths for Computing	Core	7	20	40%	60%	
M1I325624	Fundamentals of Network and Cloud Computing	Core	7	10	100%		
M1I325625	Database Development	Core	7	20	100%		
M1I326724	Practical Computing	Core	7	20	100%		
M2I326721	Programming 1	Core	8	20	100%		
M2I322952	Object Oriented Analysis & Design	Core	8	20	100%		
M2I625666	Human Computer Interaction	Core	8	20	100%		
M2I326729	Programming 2	Core	8	20	100%		
M2I326713	Web Application Development 1	Core	8	20	100%		
M2I226701	Software Processes and Practices	Core	8	20	100%		
M3I325687	DevOps	Core	9	20	100%		
M3W226703	Group Project	Core	9	20	100%		
M3I326697	Introduction to Data Science	Core	9	20	100%		
M3I326184	Research Skills & Professional Issues	Core	9	20	100%		
M3I326696	Programming 3 (DS & A/AP)	Core	9	20	100%		
M3I326700	Data Visualisation	Core	9	20	100%		
MHW225671	Honours Project	Core	10	40	100%		
MHI226694	Big Data and IoT	Core	10	20	100%		
MHI226699	Advanced Data Science	Core	10	20	100%		
MHI326725	Cloud Platform Development	Core	10	20	50%	50%	
MHI226720	Machine Learning	Core	10	20	100%		

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[1] Periodically, programmes and modules may be subject to change or cancellation. Further information on this can be found on the GCU website here:
www.gcu.ac.uk/currentstudents/essentials/policiesandprocedures/changesandcancellationtoprogrammes

Students undertaking the programme on a full-time basis commencing in September of each year will undertake the modules in the order presented above. This may be subject to variation for students commencing the programme at other times of year (e.g. January) and/or undertaking the programme on a part-time or distance learning mode of delivery.

The following final and early Exit Awards are available from this programme[2]:

Certificate of Higher Education in AI and Data Science - *achieved upon successful completion of 120 credits*

Diploma of Higher Education in AI and Data Science - *achieved upon successful completion of 240 credits*

Bachelor of Science in AI and Data Science - *achieved upon successful completion of 360 credits*

Bachelor of Science with Honours in AI and Data Science - *achieved upon successful completion of 480 credits*

Industrial Placement Year (Optional) Exit Award
Students opting to undertake placement do so in the academic session after level 3 studies. Assessment is via the additional 60 SCQF credit level 9 module, M3I323077 Industrial Placement. Successful completion of that module gives (Sandwich) in the final exit award obtained by the student. Students to follow the 2+2 pathway also have this option.

ASSESSMENT REGULATIONS

Students should expect to complete their programme of study under the GCU Assessment Regulations that were in place at the commencement of their studies on that programme, unless proposed changes to University Regulations are advantageous to students. These can be found at: www.gcu.ac.uk/aboutgcu/supportservices/qualityassuranceandenhancement/regulationsandpolicies

In addition to the GCU Assessment Regulations noted above, this programme is subject to Programme Specific Regulations in line with the following approved Exceptions:

> To ensure that the Industrial Placement module is not included within the Honours Classification calculation, the following exception to the Assessment Regulations is required for BSc (Hons) Computing, BSc (Hons) Software Development, BSc (Hons) Artificial Intelligence and Data Science.

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[2] Please refer to the GCU Qualifications Framework for the minimum credits required for each level of award and the Programme Handbook for requirements on any specified or prohibited module combinations for each award.

Exception to Undergraduate Assessment Regulations, Sub-sections 19.4; 19.7.1; 19.8.2 Classification of Honours Award: *that the Level 3 Industrial Placement module is excluded from the Honours Classification Calculation Set*.

This was presented and accepted at the exceptions committee on 19TH October 2020 **Case 216.**

In line with the Engineering Council and as such the British Computer Society compensation related requirements for Accreditation specifically that a maximum of 30 credits in a Bachelors or integrated Masters degree programme can be compensated, and a maximum of 20 credits in a Masters degree other than the integrated Masters degree.

Exception to Undergraduate Assessment Regulations, Sub-section 13.2.1: Compensation

This was presented and accepted at the exceptions committee on 8TH October 2020 **Case 215**

VERSION CONTROL (to be completed in line with AQPP processes)			
Any changes to the PSP must be recorded below by the programme team to ensure accuracy of the programme of study being offered.			
Version Number	*Changes/Updates*	*Date Changes/Updates made*	*Date Effective From*
1.0			