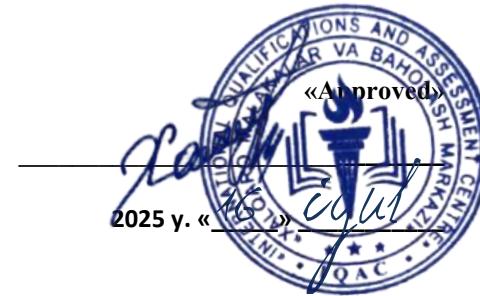




INTERNATIONAL QUALIFICATIONS AND ASSESSMENT CENTRE (IQAC)



Programme	LEVEL 5 EXTENDED DIPLOMA IN DATA SCIENCE		
Unit Number/ Unit Title	UNIT 12 PROFESSIONAL DEVELOPMENT IN DATA SCIENCE		
Cohort Code:	L05PDDS-U12		
Unit Level	Level 5		
Total GLH	Total qualification time 200/ Total Guided learning hours 90/ Self-guided learning hours 110		
Credits	20 CATS/ 10 ECTS		
Lecturer			
Start Date		End Date	

Unit Aims	<p>This module aims to prepare students for professional roles in data science, focusing on career skills and professional conduct.</p>
<p>Differentiation Strategies <i>(e.g. planned activities or support for individual learners according to their needs)</i></p>	<p>The total number of students to be in the lesson is approximately 20. This is a multicultural group of students predominantly between the ages of 24 – 45, with numerous ethnic, gender, and creed background. These are UK academic level 5 students; hence it is assumed that they have practical, theoretical, or technological knowledge and understanding of a subject or field of work to find ways forward in broadly defined, complex contexts. These students must be able to generate information, evaluate, synthesise the use information from a variety of sources. Various approaches to addressing the various identified students needs will be adopted throughout the lesson. Such will include:-</p> <ol style="list-style-type: none"> 1. Progressive tasks 2. Digital resources 3. Verbal support

	<ol style="list-style-type: none"> 4. Variable outcomes 5. Collaborative learning 6. Ongoing assessment 7. Flexible-pace learning
Equality & Diversity	Variety of teaching techniques will be employed to ensure that the needs of each individual learner are met.
Safeguarding & Prevent	Safeguarding policies and the Prevent duty are strictly observed to ensure the safety, well-being, and inclusivity of all students and staff.
Health & Safety	SIRM H&S policies will be maintained.
Learning Resources	<p style="text-align: center;">Teaching and Learning Materials</p> <ul style="list-style-type: none"> • Provost, F., & Fawcett, T. (2013). Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking. O'Reilly Media. • Cao, L. (2018). Data Science. MIT Press. • Davenport, T. H., & Patil, D. J. (2012). Data Scientist: The Sexiest Job of the 21st Century. Harvard Business Review Press.

Learning Outcome	Assessment Criteria
LO1. 1 Develop professional skills in data science.	<p>1.1 Demonstrate proficiency in using data science tools and technologies.</p> <p>1.2 Apply data science methodologies to solve practical problems</p>
LO2. 2. Enhance communication and teamwork skills.	<p>2.1 Communicate effectively in written and oral formats for professional audiences.</p> <p>2.2 Collaborate with team members to achieve project goals.</p>
LO3. 3. Prepare for career advancement in data science.	<p>3.1 Develop a professional portfolio showcasing data science projects and achievements.</p> <p>3.2 Reflect on personal development and identify areas for continuous improvement.</p>

No	Learning Outcome / Topic	Learning and Teaching Activities	Which assessment criteria does the session relate to?	Day/month/year/ signature
1.	Data Science Tool Mastery	Data Science Tool Mastery Python/R, SQL, Git, Jupyter, Tableau/Power BI	LO1: Technical Proficiency & Problem-Solving	
2.	Cloud Platforms for Data Science	Cloud Platforms for Data Science AWS SageMaker, Google Colab, Azure ML	LO1: Technical Proficiency & Problem-Solving	
3.	Agile & CRISP-DM Methodologies	Agile & CRISP-DM Methodologies Sprints, standups, iterative development	LO1: Technical Proficiency & Problem-Solving	
4.	Real-World Problem Framing	Real-World Problem Framing Business understanding, KPIs, success metrics	LO1: Technical Proficiency & Problem-Solving	
5.	Debugging & Optimization	Debugging & Optimization Code profiling, query optimization, model tuning	LO1: Technical Proficiency & Problem-Solving	
6.	Technical Writing for Data Science	Technical Writing for Data Science Reports, documentation, READMEs	LO2: Communication & Teamwork	
7.	Data Storytelling & Visualization	Data Storytelling & Visualization Tailoring visuals for executives vs. technical teams	LO2: Communication & Teamwork	
8.	Half-Term Exam	- Review of LO1 topics - Practice questions and mock assessment	LO1 LO2	

		<ul style="list-style-type: none"> - Half-term assessment based on LO1 (theory) 		
9.	Effective Presentations	Effective Presentations Slide design, storytelling, handling Q&A	LO2: Communication & Teamwork	
10.	Collaboration Tools	Collaboration Tools GitHub, Slack, Trello, Jira	LO2: Communication & Teamwork	
11.	Conflict Resolution in Teams	Conflict Resolution in Teams Active listening, feedback techniques	LO2: Communication & Teamwork	
12.	Building a Professional Portfolio	Building a Professional Portfolio GitHub, Kaggle, personal website (Streamlit, GitHub Pages)	LO3: Career Preparation	
13.	Resume & LinkedIn Optimization	Resume & LinkedIn Optimization ATS-friendly formatting, keyword optimization	LO3: Career Preparation	
14.	Final Exam Preparation & Review	<ul style="list-style-type: none"> - Comprehensive review of all learning outcomes - Practice questions and revision of key topics 		
15.	Final Exam	<ul style="list-style-type: none"> - Final-term assessment covering all learning outcomes (theory and practical elements) 		
16.	Feedback & Reflection	<ul style="list-style-type: none"> - Review of final exam - Individual feedback on performance - Reflective discussion on key learning points 		
17.	Interview Preparation	Interview Preparation Technical screenings (SQL, Python), case studies	LO3: Career Preparation	

18.	Networking Strategies	Networking Strategies Conferences, meetups, LinkedIn engagement	LO3: Career Preparation	
19.	Freelancing & Consulting	Freelancing & Consulting Upwork profiles, proposal writing	LO3: Career Preparation	
20.	Ethical Data Science Practices	Ethical Data Science Practices GDPR, bias mitigation, model cards	LO4: Ethics & Continuous Learning	
21.	Mentorship & Leadership	Mentorship & Leadership Peer reviews, leading projects	LO4: Ethics & Continuous Learning	
22.	Continuing Education	Continuing Education Certifications (AWS, Google), MOOCs, research papers	LO4: Ethics & Continuous Learning	
23.	Half-Term Exam	Portfolio Project Workshop End-to-end project with documentation		
24.	Time Management for Professionals	Time Management for Professionals Pomodoro, Eisenhower Matrix	LO4: Ethics & Continuous Learning	
25.	Stress Management & Burnout Prevention	Stress Management & Burnout Prevention Work-life balance, mindfulness	LO4: Ethics & Continuous Learning	
26.	Mock Interviews and Industry Panel Discussion	Mock Interviews Technical & behavioral practice Industry Panel Discussion Guest speakers from tech companies	LO5: Capstone & Reflection	
27.	Personal Development Plan	Personal Development Plan SWOT analysis, 1-year roadmap	LO5: Capstone & Reflection	
28.	Final Reflection & Peer Feedback	Final Reflection & Peer Feedback Lessons learned, peer evaluations	LO5: Capstone & Reflection	
29.	Final Exam Preparation & Review	LO1, LO2, LO3, LO4	LO1, LO2, LO3, LO4	
30.	Final Exam		LO1, LO2, LO3, LO4	