Module Database Search

MODULE DESCRIPTOR

Module Title

Data Science Group Project

Reference	CM2603	Version	3
Created	February 2024	SCQF Level	SCQF 8
Approved	July 2020	SCQF Points	30
Amended	April 2024	ECTS Points	15

Aims of Module

To provide a broad range of technical and non-technical knowledge and skills needed for the role of a data scientist in the computing and IT industries.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Compare contemporary software development methodologies, project management methodologies, quality assurance standards and methodologies related to innovation and marketing for producing Data Science software.
2	Use a suitable software development methodology to meet a designated set of requirements using appropriate languages and tools.
3	Use skills necessary to collaborate within a team on a software development project.
4	Show an analysis of the user centred design process, cognitive aspects, research methods, modelling and prototyping used to produce applications related to Data Science with a reflection on legal, ethical, professional and social issues.

Indicative Module Content

Requirements Engineering Process: elicitation, modeling, analysis and negotiation, documentation, validation and management. Analysis and Modeling: Use-case analysis; requirements classification; requirements prioritization. UML based analysis and design. Software development methodologies. HCI: User Centered Design Process. Prototyping (low and high fidelity). The project management process, including configuration and version control systems, planning, and software documentation. Practical work will include engagement with current project management tools. Group Project Development and Reflection. Project management. Software Testing and Quality Assurance. Innovation and Entrepreneurship: Startup Mechanics and Startup processes - Prototype to Market - scaling the Manufacturing Process. Branding and Public Relations, Marketing. Financial Aspects. Risk assessment. Legal Aspects with Patents and Intellectual Property.

Module Delivery

The module will be delivered online through a mixture of lectures, workshops and tutorial feedback sessions. Each week there will be a 2-hour theoretical lecture session, 2 hours of tutorial feedback session. Students will work in groups with an assigned mentor; with whom they will discuss progress with assignments.

Indicative Student Workload	Full Time	Part Time
Contact Hours	96	N/A
Non-Contact Hours	204	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	300	N/A
Actual Placement hours for professional, statutory or regulatory body		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Coursework	Weighting:	30%	Outcomes Assessed:	1, 2
Description:	Group collaborative Coursework that will produce a Project Proposal document and a Requirement Specification Prototype document which Requirements Elicitation and Design components.				

Component 2

Type:	Coursework	Weighting:	70%	Outcomes Assessed:	3, 4
Description:	Group collaborative Coursework that will comprise of the following deliverables; * Prototype * Group Report with; test results, reflection on LEPSI and an Individual Logbook, Individual review and a reflective statement. The coursework will be evaluated via a Group presentation where the students need to demonstrate a Minimum Viable Product (MVP).				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The calculation of the overall grade for this module is based on a 30% weighting for Component 1 (Coursework) and a 70% weighting for Component 2 (Coursework). An overall minimum grade D is required to pass the module.

		Coursework:						
		A	B	C	D	E	F	NS
Coursework:	A	A	A	B	B	B	E	
	B	B	B	B	C	C	E	
	C	B	C	C	C	D	E	
	D	C	C	D	D	D	E	
	E	D	D	D	E	E	E	
	F	E	E	E	E	F	F	
	NS	Non-submission of work by published deadline or non-attendance for examination						

Module Requirements

Prerequisites for Module	CM1601 or equivalent, CM1602 or equivalent, CM1605 or equivalent and CM1603 or equivalent.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY	
1	BESSANT, J. and TIDD, J., 2015. Innovation and Entrepreneurship. 3rd ed. John Wiley and Sons.
2	Seidl, M., Scholz, M., Huemer, C., Kappel, G. 2015. UML @ Classroom, An Introduction to Object-Oriented Modeling, 11th Edition, Springer.
3	Andrew Stellman. Jennifer Greene, 2013, Learning Agile: Understanding Scrum, XP, Lean, and Kanban 1st Edition, O'Reilly Media, 1st Edition.
4	Martin Fowler, 2018, Refactoring: Improving the Design of Existing Code (2nd Edition) Addison-Wesley Signature Series.
5	Shan C., Chen W., Wang H., Song M., 2015, The Data Science Handbook: Advice and Insights from 25 Amazing Data Scientists.
6	Felderer, M., Travassos, G. H., 2020. Contemporary Empirical Methods in Software Engineering, Springer.