Module Descriptor

Title	Financial Modelling and Data Analytics		
Session	2026/27	**Status**	Approved
Code	ACCT10020	**SCQF Level**	10
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Business and Creative Industries**		
Module Co-ordinator	Dr Gerry McPake		

Summary of Module

In today's data-driven world, financial professionals must go beyond traditional accounting techniques and harness the power of financial modelling and data analytics to drive strategic decision-making. This module equips students with the essential skills to build and interpret financial models, forecast financial performance, and apply data analytics to real-world financial problems.

Through a hands-on approach, students will explore key financial modelling techniques, including ratio analysis, company and share valuation, capital structure optimisation, and investment appraisal. Sensitivity and scenario testing will be key skills that are developed and incorporated within these financial models. Students will also develop expertise in financial statement forecasting and time series analysis, essential for understanding market trends and corporate performance.

On the data analytics side, students will learn to navigate the full analytics process—from descriptive insights to predictive and prescriptive modelling. Topics include data preparation, cleaning, transformation, and visualization techniques using pivot tables, charts, and interactive dashboards. The module also introduces big data concepts, equipping students with the ability to manage and extract insights from complex datasets.

A strong emphasis is placed on practical application, with students working extensively in Excel and Power BI to develop dynamic models and compelling data visualisations. Students will also consider how AI can be used to support financial modeling and data analytics processes. Delivered through workshops and labs, this module ensures that students gain hands-on experience with the tools and techniques used in modern finance and accounting roles.

By the end of the module, students will not only be proficient in financial modelling and data analytics but also be able to critically evaluate financial information, construct data-driven narratives, and support decision-making in corporate and investment settings.

Module Delivery Method	On-Campus[1] ☐	Hybrid[2] ☒	Online[3] ☐	Work -Based Learning[4] ☐
Campuses for Module Delivery	☐ Ayr ☐ Dumfries	☒ Lanarkshire ☐ London ☒ Paisley	☐ Online / Distance Learning ☐ Other (specify)	

Terms for Module Delivery	Term 1	☐	Term 2	☒	Term 3	☐
Long-thin Delivery over more than one Term	Term 1 – Term 2	☐	Term 2 – Term 3	☐	Term 3 – Term 1	☐

Learning Outcomes	
L1	Develop and apply advanced financial models for valuation, performance analysis, investment appraisal, and capital structures.
L2	Critically evaluate financial forecasting techniques, including financial statement modelling and time series analysis, to support strategic decision-making.
L3	Apply and interpret analytics techniques to extract insights from financial data, incorporating best practices in data cleaning, transformation, and visualisation.
L4	Design and construct dynamic, interactive dashboards and data-driven narratives to communicate financial insights effectively to stakeholders.
L5	

Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	**During completion of this module, there will be an opportunity to achieve core skills in:**
Knowledge and Understanding (K and U)	**SCQF 10** • Demonstrating a systematic understanding of financial modelling techniques and data analytics methodologies in the context of corporate finance and investment decision-making. • Critical evaluation of financial data, models, and analytical techniques, applying advanced quantitative methods to support strategic and operational decisions. • Integrating and applying financial modelling and data analytics tools to solve complex, real-world financial problems, considering risk and uncertainty.

[1] Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

[2] The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

[3] Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

[4] Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

	• Communicating and justifying data-driven financial insights using appropriate modelling techniques, visualization tools, and professional reporting standards.
Practice: Applied Knowledge and Understanding	**SCQF 10** • Designing and constructing financial models to evaluate corporate performance, conduct valuations, and support investment decision-making using advanced Excel techniques. • Applying data analytics methods to clean, transform, and analyse large financial datasets, extracting meaningful insights for business strategy. • Developing and presenting interactive dashboards and financial reports using software, effectively communicating analytical findings to stakeholders. • Critically assessing and refining financial models and data-driven solutions, ensuring robustness, accuracy, and relevance to complex real-world financial challenges.
Generic Cognitive skills	**SCQF 10** • Critically analysing complex financial and data-related problems, selecting and applying appropriate modelling and analytical techniques to develop well-reasoned solutions. • Evaluating and synthesing financial and data-driven insights from multiple sources, demonstrating logical reasoning and evidence-based decision-making. • Applying independent judgement to assess the validity and reliability of financial models and data analytics methods in addressing real-world financial challenges. • Reflecting on and refining analytical approaches, adapting financial models and data strategies in response to emerging trends, risks, and uncertainties.
Communication, ICT and Numeracy Skills	**SCQF 10** • Communicating complex financial insights effectively through written reports, presentations, and data visualisations tailored to diverse audiences. • Utilising advanced ICT tools, including Excel and Power BI, to develop financial models, perform data analysis, and present findings professionally. • Applying quantitative techniques to financial and data analytics problems, interpreting numerical results with accuracy and critical awareness. • Engaging in digital collaboration, using technology to share financial models, interactive dashboards, and analytical reports in a professional setting.
Autonomy, Accountability and Working with Others	**SCQF 10** • Taking responsibility for independently managing financial modelling and data analytics projects, demonstrating initiative and self-direction. • Exercising professional accountability in the ethical application of financial data, ensuring accuracy, transparency, and integrity in decision-making.

	• Collaborating effectively in teams, contributing financial and analytical expertise to solve complex problems and develop strategic insights. • Reflecting on personal and professional development, seeking and responding to feedback to enhance financial modelling and data analytics skills.

Prerequisites	**Module Code**	**Module Title**
	Other a previous module substantially covering financial accounting, finance or financial management at Level 8 or Level 9	
Co-requisites	**Module Code**	**Module Title**

Learning and Teaching	
In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours.	
Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Note: Learning hours include both contact hours and hours spent on other learning activities)
Laboratory / Practical Demonstration / Workshop	36
Asynchronous Class Activity	24
Independent Study	140
Please select	
Please select	
Please select	
TOTAL	200

Indicative Resources
The following materials form essential underpinning for the module content and ultimately for the learning outcomes: Fairhurst, D. Using Excel for Business and Financial Modelling, Wiley-Blackwell (latest edition available via UWS online library) Evans, J.R, Business Analytics, Pearson Education (latest edition available via UWS online library) Bucki, L.A. Excel Portable Genius, Wiley-Blackwell (latest edition available via UWS online library) Watson, D. & Head, A. Corporate Finance Principles and Practice, Pearson Education (latest edition available via UWS online library)
(N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Attendance and Engagement Requirements
In line with the Student Attendance and Engagement Procedure, Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time. **For the purposes of this module, academic engagement equates to the following:** As per statement above.

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. Students will be required to use standard business software, with Excel being a fundamental part of their course- individual circumstances can be assessed and support provided where students face difficulties in using such software (as below).
(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	**Accounting Finance Law**
Overall Assessment Results	☐ **Pass / Fail** ☒ **Graded**
Module Eligible for Compensation	☐ **Yes** ☒ **No** **If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.**
School Assessment Board	School of Business & Creative Industries (Undergrad)
Moderator	Mohammed Sahadat Hossain
External Examiner	Jamie Carrahar
Accreditation Details	This module does not contribute towards accreditations.
Module Appears in CPD catalogue	☒ **Yes** ☐ **No**
Changes / Version Number	MD Version 1

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Financial Modelling scenarios & problems (60%): A lab or software-based, open-book assessment where students will construct, apply, refine, and interpret financial models. This practical evaluation tests student ability to develop accurate models and derive meaningful financial insights.
Assessment 2
Data Analytics project & presentation (40%): Students will take on the role of a data analyst, working with a large dataset to perform in-depth analysis. They will develop an analytical

model and present key data insights to an audience, demonstrating their ability to analyse and interpret complex data, and communicate their findings effectively.
Assessment 3
(N.B. (i) Assessment Outcomes Grids for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed. (ii) An indicative schedule listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.)

Component 1							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Lab-based practical	☒	☒	☐	☐	☐	60	2

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Presentation	☐	☐	☒	☒	☐	40	0.5

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		
Combined total for all components						100%	2.5 hours

Change Control

What	**When**	**Who**
A New Module!	27/02/25	Dr Gerry McPake