Module Descriptor

Title	Business Intelligence (Comp)		
Session	2025/26	**Status**	Published
Code	COMP09003	**SCQF Level**	9
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Computing, Engineering and Physical Sciences**		
Module Co-ordinator	J Feng		

Summary of Module

This module begins by defining what business intelligence (BI) represents and then continues to consider how the requirement for business intelligence has evolved. Business intelligence is now recognized as a core requirement for businesses surviving in a dynamic and competitive environment. Most modern businesses are equipped with online transaction processing (OLTP) systems capable of efficiently supporting business applications such as stock control and customer ordering; however this technology was never designed to easily provide business intelligence.

This module looks at the range of technologies associated with business intelligence from traditional relational reporting and spreadsheets to data warehousing, online analytical processing (OLAP) and data mining. Data mining covers Clustering (as an example of unsupervised machine learning), Classification (as an example of supervised machine learning) and Association Rule mining/learning, among others. The relationship between these technologies in forming a typical BI environment and the type of decision-support provided by each is discussed. This module also includes consideration of methodologies and techniques associated with the developing business intelligence applications.

Practical sessions provide students with an opportunity to use the advanced query of a Database Management System (DBMS) such as Microsoft SQL Server to analyse/present data/information with the purpose of providing business intelligence. In addition, students will be provided with awareness of contemporary BI software and Data Mining tools such as R, Jupyter Notebook and the Orange Data Mining tool.

- The intended audience for this module is students already knowledgeable about the fundamentals of database systems and for those interested in technologies that are emerging into the world of business to support corporate decision-makers.

- This module will work to develop a number of the key 'I am UWS' Graduate Attributes to make those who complete this module: Universal (Critical Thinker,

Ethically-minded, Research-minded), Work Ready (Problem-Solver, Effective Communicator, Ambitious) and Successful (Autonomous, Resilient, Driven).

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	Demonstrate a broad and integrated knowledge and understanding of the concepts, technologies, and issues associated with business intelligence.
L2	Use a range of routine and specialist skills and techniques to design and implement an application capable of providing business intelligence.
L3	Evaluate the opportunities and implications of introducing business intelligence technologies for a given case study.
L4	N/A
L5	N/A

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 9** A broad and integrated knowledge and understanding of the scope and main areas associated with business intelligence (BI). Knowledge and understanding of what BI represents and how the requirement for BI has evolved.

[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

	Knowledge and understanding of what constitutes BI from a technical and functional perspective. Knowledge and understanding of the stages of the business dimensional lifecycle and the associated techniques such as dimensionality modelling.
Practice: Applied Knowledge and Understanding	**SCQF 9** Use a selection of principal skills, techniques and practices associated with the business dimensional lifecycle to facilitate the development of BI applications.
Generic Cognitive skills	**SCQF 9** Undertake critical analysis, evaluation and synthesis of ideas, concepts, information and issues relating to the emergence of business intelligence technologies into the business world.
Communication, ICT and Numeracy Skills	**SCQF 9** Analyse, interpret and evaluate case study data and graphs to achieve goals and targets associated with the delivery of business intelligence.
Autonomy, Accountability and Working with Others	**SCQF 9** Take some responsibility for the work of others and for a range of resources in undertaking the necessary activities to complete the case study coursework.

Prerequisites	**Module Code** COMP08002	**Module Title** Database Development
	Other Similar Module	
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. This module is mostly taught using the traditional approach of lecturing to groups of students. However, lectures are periodically supplemented with tutorials to allow for the re-visiting of the more complex aspects of the syllabus. Lab (PC)-based classes complement the lectures by providing an environment to support the learning of the more practical-based aspects of the syllabus.	
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)
Lecture / Core Content Delivery	20
Tutorial / Synchronous Support Activity	8
Laboratory / Practical Demonstration / Workshop	20
Independent Study	152

Please select	
Please select	
TOTAL	200

Indicative Resources
The following materials form essential underpinning for the module content and ultimately for the learning outcomes: ** Database Systems: A Practical Approach to the Design, Implementation and Management by Thomas Connolly and Carolyn Begg. Addison Wesley Publishing Company. Internet access to Aula to allow student access to all teaching material, including slides, labs, tutorials and coursework. DBMS such as Microsoft SQL Server.
(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:** The School of Computing, Engineering and Physical Sciences considers attendance and engagement to mean a commitment to attending, and engaging in, timetabled sessions. You will scan your attendance via the scanners each time you are on-campus and you will login to the VLE several times per week. Where you are unable to attend a timetabled learning session due to illness or other circumstance, you should notify the Programme Leader that you cannot attend. Across the School an 80% attendance threshold is set. If you fall below this, you will be referred to the Student Success Team to see how we can best support your studies.

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. Aligned with the University's commitment to equality and diversity, this module supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. This module complies with University regulations and guidance on inclusive learning and teaching practice. This module has lab-based teaching and as such you are advised to speak to the Module Co-ordinator to ensure that specialist assistive equipment, support provision and adjustment to assessment practice can be put in place, in accordance with the University's policies and regulations.
(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	**Computing**
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	Business & Applied Computing
Moderator	T Mahmood (TBC)
External Examiner	V Sharma
Accreditation Details	This module is accredited by BCS as part of the Business Technology programme.
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	2.16

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Formative assessment is available through completion of the practical labs - that allow students to test their progress and understanding of the practical aspects of the syllabus. The summative assessment is lab-based, group work coursework worth 50% which is undertaken in the second half of the module.
Assessment 2
Formative assessment is available using practice class tests via Aula - that allow students to test their progress and understanding of the syllabus. The first summative component of assessment is a class test worth 10% (individual) and this takes place approximately half way through the module and the third summative component of assessment is towards the end of the module and this class test is worth 40% (individual). The results for these two summative assessments are combined to give a total worth 50%.
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**
Dissertation/ Project report/ Thesis	☒	☒	☒	☐	☐	50	

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Class Test (Written)	☒	☒	☒	☐	☐	50	

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

Change Control

What	When	Who
Attendance and EDI Regulations	20/01/2025	L Cunningham