

Module specification

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Module Code	COM667
Module Title	Business Intelligent Systems
Level	6
Credit value	20
Faculty	FACE
HECoS Code	100962
Cost Code	GACP
Pre-requisite module	None

Programmes in which module to be offered

Programme title	Core/Optional/Standalone
BSc (Hons) Computing for Business	Core

Breakdown of module hours

Learning and teaching hours	12 hrs
Placement tutor support hours	0 hrs
Supervised learning hours e.g. practical classes, workshops	12 hrs
Project supervision hours	0 hrs
Active learning and teaching hours total	24 hrs
Placement hours	0 hrs
Guided independent study hours	170 hrs
Module duration (Total hours)	200 hrs

Module aims

This module aims to develop students' knowledge and practical skills in the principles, tools, and applications of business intelligence (BI). It will enable students to understand how data can be transformed into actionable insights that support strategic and operational decision-making within organisations. The module introduces core concepts such as data warehousing, data mining, data analytics, and reporting, alongside hands-on experience with industry-standard BI tools. Students will also explore the organisational, managerial, and ethical considerations of implementing BI systems, critically evaluating their role in driving innovation, efficiency, and competitive advantage in modern business environments.

Module Learning Outcomes

At the end of this module, students will be able to:

1	Critically analyse and evaluate the fundamental principles, concepts, and architectures of business intelligence systems.
2	Analyse business requirements and datasets to identify patterns, trends, and insights that support informed decision-making
3	Evaluate the effectiveness and limitations of BI solutions in organisational contexts, considering technical, managerial, and ethical factors
4	Apply industry-standard BI tools and techniques to collect, process, and visualise business data

Assessment

Indicative Assessment Tasks:

The assessment for this module will be portfolio-based, designed to evaluate both the technical and business-oriented aspects of business intelligence. Students will complete a series of tasks that demonstrate their ability to apply BI tools, analyse datasets, and communicate insights effectively. Assessments will enable students to show progression from understanding core BI concepts to designing and justifying solutions that support organisational decision-making.

Typical activities may include practical exercises using BI software, case study analysis, critical evaluations of BI strategies, written reports, and presentations of data-driven insights. These tasks will provide opportunities for students to demonstrate technical proficiency in BI tools as well as the ability to interpret, communicate, and reflect on findings within business contexts.

Portfolio assessments may comprise multiple pieces of work that collectively demonstrate a student's knowledge and skills developed throughout the module. These may take the form of one or two substantial tasks, or a series of smaller tasks, typically ranging from one to eight across the duration of the module.

Assessment number	Learning Outcomes to be met	Type of assessment	Duration/Word Count	Weighting (%)	Alternative assessment, if applicable
1	1, 2, 3,4	Portfolio	4000 Words or Equivalent	100%	N/A

Derogations

N/A



Learning and Teaching Strategies

In line with the Active Learning Framework, this module will be blended digitally with both a VLE and online community. Content will be available for students to access synchronously and asynchronously and may indicatively include first and third-party tutorials and videos, supporting files, online activities any additional content that supports their learning. As this module progresses, the strategies will change to best support a diverse learning environment. For each week, a topic will be started with tutor-led demonstrations, and practical-based sessions will be given to ensure that the students get to practice what they have been taught in relevant concepts. Sessions will be intertwined between instructional explanation and practical depending on the specific indicated syllabus necessities.

Welsh Elements

This module is designed to support Welsh-speaking students in line with the Welsh Language Standards. While the primary delivery will be in English, students will have the opportunity to submit assessments, including coursework and projects, in Welsh if preferred. Relevant module materials, such as reading lists, key texts, and guidance, will be available bilingually upon request, ensuring accessibility for all students. Additionally, where possible, guest speakers, case studies, or examples may include references to the Welsh business context, especially in areas such as data use in local industries and Welsh public sector organisations.

The department encourages students to develop bilingual digital skills by incorporating Welsh-language datasets, tools, and resources where appropriate, offering an inclusive learning environment. We also support the development of bilingual visualisation techniques, enabling students to create digital outputs that reflect the Welsh language, should they wish to do so.

Indicative Syllabus Outline

- Foundations of Business Intelligence: Concepts, architectures, and role of BI in organisations.
- Data Warehousing and Integration: Data sources, ETL processes, and data quality.
- BI Tools and Techniques: Practical use of industry-standard BI software for querying, reporting, and visualisation.
- Analytics and Decision Support: Data mining, dashboards, KPIs, and performance measurement.
- User-Centred BI Design: Effective presentation of data insights; usability and accessibility considerations.
- Evaluation and Critical Perspectives: Assessing the effectiveness and limitations of BI systems; ethical and legal implications.
- Emerging Trends: Big data, predictive analytics, AI-driven BI, and the future of decision support systems.

Indicative Bibliography

Please note the essential reads and other indicative reading are subject to annual review and update.

Essential Reads:

There are no essential texts; the module will use relevant online reference material.

Other indicative reading:

- Microsoft, 2023. Power BI Documentation. [online] Available at: <https://learn.microsoft.com/en-us/power-bi/>
- Tableau, 2023. Tableau Learning Resources. [online] Available at: <https://www.tableau.com/learn/training>
- NIST, 2018. Framework for Improving Critical Infrastructure Cybersecurity. [online] Available at: <https://www.nist.gov/cyberframework>
- Gartner, 2023. Business Intelligence and Analytics Research. [online] Available at: <https://www.gartner.com/en/information-technology>

Administrative Information

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