

2024 / 25

School of Science and Computing

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Module Descriptor

Business Intelligence Visualisation (Computing and Mathematics)

Business Intelligence Visualisation (A13425)

Short Title: BI Visualisation
Department: Computing and Mathematics
Credits: 5
Level: Advanced

Description of Module / Aims

The fundamental area of Business Intelligence (BI) is the skill to effectively communicate analysis, supporting a firm's decision makers. The aim of this module is how BI visualises and analyses a firm's data. It builds on the skills learnt in a previous module from the creation of insights from structured and unstructured data. Visualization will facilitate the understanding of data and publish required metrics and key performance indicators (KPIs) relevant to a business. The approach of this module will enable visualisation for accessing, analysing, managing and interacting with data.

Programmes

stage/semester/status		
COMP-0652	BSc (Hons) in Information Technology Management (WD_KITMA_B)	1 / 8 / E
COMP-0652	BSc (Hons) in Information Technology (WD_KINTE_B)	4 / 2 / E
COMP-0652	Higher Diploma in Science in Agri-Food ICT Systems (WD_18AFICT_G)	1 / 4 / M
COMP-0652	HDip in Science in Agri-Food ICT Systems (WD_SAFICT_G)	6 / 4 / M
COMP-0652	HDip in Science in Data Analytics (WD_KDAAN_G)	1 / 2 / M

Indicative Content

- BI techniques and solutions
- Information integration for the purpose of information presentation
- Understand the steps in verifying and accuracy of analysis
- Different types of data visualisation techniques and tools for communicating the discovery of data
- Business Performance Management (BPM) processes, methodologies, metrics and systems
- Operation metrics and Key Performance Indicators (KPIs) relevant to decision makers in firms
- Creation and use of visualisation tools for information delivery – reports using online analytical processing (OLAP) techniques and Dashboards for operations and executives
- Visual analytics and future trends in BI

Learning Outcomes

On successful completion of this module, a student will be able to:

1. Justify the importance of data quality to achieve successful BI solutions.
2. Assess principles of Data Graphics.
3. Compare the different capabilities of data visualisation techniques and tools and how they support and identify an organization's specific BI program.
4. Demonstrate OLAP methodologies and techniques for the analysis of enterprise data in order to produce organised reports.
5. Appraise BPM processes, metrics, technologies and tools.
6. Prepare and produce visual representations using Dashboards.

Learning and Teaching Methods

- This module will be presented using a combination of formal lectures and practical classes. Lectures will introduce concepts and an emphasis will be placed on interaction, discussions and in-class exercises.
- In practical classes, students will engage with visualisation software and will work on case studies and exercises.

Learning Modes

Learning Type	F/T Hours	P/T Hours
Lecture	24	
Practical	24	
Independent Learning	87	

Assessment Methods

	Weighting	Outcomes Assessed
Final Written Examination	50%	1,2,3,4,5
Continuous Assessment Project	50%	4,6

Assessment Criteria

<40%: Unable to interpret and describe key concepts of BI Visualisation.

40%–49%: Be able to interpret and describe key concepts of BI Visualisation.

50%–59%: Ability to discuss key concepts of BI Visualisation and the ability to discover and integrate related knowledge in other data and information system modules.

60%–69%: Be able to solve problems within BI Visualisation by experimenting with the appropriate skills and tools.

70%–100%: All the above to an excellent level. Be able to analyse and design solutions to a high standard for a range of both complex and unforeseen problems through the use and modification of appropriate skills and tools.

Supplementary Material(s)

- Eckerson, W. *Performance Dashboards: Measuring, Monitoring, and Managing Your Business*. 1st ed.. New York: Wiley, 2010.
- Few, S. *Information Dashboard Design: The Effective Visual Communication of Data*. 2nd ed.. New York: O'Reilly Media, 2006.
- Iliinsky, N. and J. Steele. *Designing Data Visualizations*. New York: O'Reilly Media, 2011.
- Sharda, R., D. Delen and E. Turban. *Business Intelligence*. 3rd ed.. England: Pearson, 2014.

Requested Resources

- Room Type: Computer Lab