Unit of Study: BIS3001 Data Analytics for Business

Overview:

In the contemporary organisational environment, decisions are best made on evidence derived from the widest data sources available. This unit considers the creation, manipulation and interpretation of big data, how to organise it, and how to optimally manage it to enable rapid and accurate decision-making. Aspects of platform design, systems integration, systems security and compatibility are examined, along with statistical analysis for big data. Students are also equipped with skills for identifying "fake data". On completion of this unit, students will have an integrated knowledge of organisational data collation, analysis and interpretation that they can apply to real-world organisational problems.

Course(s)	Bachelor of Business Information Systems Bachelor of Information Technology
Credit Points	6 credit points
Duration	12 weeks (10 teaching weeks; 1 revision week; 1 final assessment week)
Level	Undergraduate Advanced
Student Workload	Students should expect to spend approximately 10 hours per week over 12 weeks (totalling approximately 120 hours) on learning activities for this unit.
Mode(s) of Delivery	On campus, Blended
Pre-Requisites	BIS1002 Data and Information Management
Unit Coordinator	As per current timetable
Contact Information	Consultation: 1 hour scheduled session

Unit Learning Outcomes

On successful completion of this unit, students will be able to:

ULO-1: Review current algorithms, methodologies and modelling techniques for Information System business analytics.

ULO-2: Evaluate business analytic tools and techniques and their utility to support different types of business decisions.

ULO-3: Critically review modern data mining methods and tools

ULO-4: Analyse the features, tools and applications of data visualisation.

Weekly Schedule

Detailed information for each week's activities can be found on Unit's Weekly Modules in Canvas.

Week	Topic
Week 1	Introduction to Business Analytics
Week 2	Database Analytics
Week 3	Descriptive Analytics I: Nature of Data and Statistical Modeling
Week 4	Descriptive Analytics II: Data Business Intelligence and Warehousing
Week 5	Data Visualization
Week 6	Big Data Concepts and Tools
Week 7	Predictive Analytics I: Data Mining Concepts and Process
Week 8	Predictive Analytics II: Data Mining Methods and Algorithms
Week 9	Forecasting Techniques
Week 10	Future Trends, Privacy Considerations in Analytics
Week 11	REVISION
Week 12	FINAL ASSESSMENT

Assessments

1. All assessments are compulsory.
2. To pass the unit students must:
    - achieve a total of 50% or more of marks offered; and
    - pass all individual invigilated assessments; and
    - have attempted all assessments.

    Where one or more of these requirements are not met, the Board of Examiners will consider a student's overall progress towards meeting the unit learning outcomes and any special circumstances before reaching a decision.
3. The Board of Examiners may grant a supplementary assessment where a student:
    - achieves a total of 45% or more; and
    - has passed all individual invigilated assessments in the unit; and
    - has attempted all assessments; and
    - has a recommendation for supplementary assessment by the Unit Coordinator and the Head of Discipline.

    Where one or more of these requirements are not met, the Board of Examiners will consider a student's overall progress towards meeting the unit learning outcomes and any special circumstances before reaching a decision. Attendance and engagement in class will be considered.
4. APIC awards common result grades as set out in the Award of Grade Policy.

5. Detailed information for each assessment can be found on the Unit's Home Page and in the Assessment Brief.

Assessment Task	Type	Weighting	Due	Length	ULO
Assessment 1: Report Write a report to discuss the techniques and tools used to analyse the growing volume, velocity and variety of data.	Individual	30%	Week 6	2500 words	ULO-1 ULO-2
Assessment 2: Quizzes Quizzes assess students' ability to understand theoretical materials. The quiz will be either multiple choice questions or short questions which are relevant to the lecture materials.	Individual Invigilated	30%	Week 3, 4, 6, 8, 10	15 mins (Equiv. 1250 words)	ULO-1 ULO-2 ULO-3 ULO-4
Assessment 3: Laboratory Practicum weekly lab activities and exercises assess students' ability to understand theoretical materials.	Individual	10%	Weekly	equiv. 2300 words	ULO-1 ULO-2 ULO-3 ULO-4
Assessment 4: Applied Project Analyse set of data related to a selected organisation to extract useful information and use different techniques for virtualisation	Group	30%	Week 12	2500 words	ULO-1 ULO-2 ULO-3 ULO-4

equiv. – equivalent word count based on the Assessment Load Equivalence Guide. It means this assessment is equivalent to the normally expected time requirement for a written submission containing the specified number of words.

Course Reserve

Course Reserve includes all required resources and reading material for the unit of study. You can access Course Reserve via APIC Library or via the Course Reserve link on the unit's homepage.

Prescribed text(s):

Sharda, R, Delen, D & Turban, E 2019, *Analytics, Data Science, & Artificial Intelligence: Systems for Decision Support*, 11th edn, Pearson, Australia.

Recommended Readings:

AICPA 2018, *Guide to data analytics*. John Wiley & Sons, Australia.

Baesens, B 2014, *Analytics in a big data world : the essential guide to data science and its applications*, Wiley, Australia.

Loshin, D 2013, *Big data analytics : from strategic planning to enterprise integration with tools, techniques, nosql, and graph*. Elsevier/Morgan Kaufmann, UK.

Other Recommended Resources:

Guide to data analytics and the Australian Privacy Principles: https://www.oaic.gov.au/privacy/guidance-and-advice/guide-to-data-analytics-and-the-australian-privacy-principles/

SourceForge/Weka software: https://sourceforge.net/projects/weka/

Academic integrity

Ethical conduct and academic integrity and honesty are fundamental to the mission of APIC and academic misconduct will not be tolerated by the College. It is the responsibility of every student to make sure that they understand what constitutes academic misconduct and to refrain from engaging in it. Please refer to APIC's Academic Integrity Policy for further details.

Other Important Information and Links

Special consideration If your academic work is impacted by significant documented illness, hardship, or other adverse circumstances beyond your control, you may make an application for Special Consideration. Please refer to the Assessment Policy for further details.	**Late submission** Penalties apply when work is submitted after the due date without approval. Please refer to the Assessment Policy for information about late submission.
Assessment appeals If you are concerned about a mark you have received for an assessment or final grade, you may apply to formally appeal the grade. Please see the Assessment Policy for further details.	**Award of grades** APIC awards common result grades, set out in the Award of Grade Policy.
Expectations of student conduct Students are expected to conduct themselves in a manner that is consistent with a safe and respectful study environment. More information can be found in the Student Code of Conduct.	**Study resources** APIC Library and Student Learning Support resources and services can be accessed via the Student Lounge or your Dashboard on the OLS (Canvas).
Student Services The Student Services team provides administrative support for students and handles enquiries about enrolment, timetables, important dates and submitting forms. More information can be found on the Student Services page on the OLS (Canvas).	**Key dates** Key dates through the academic year, including teaching periods, census, payment deadlines and exams can be found on the Academic Calendar section of the APIC website.

Changes and Updates to the Unit of Study Guide

This Unit of Study Guide may be updated and amended from time to time. Students will be notified of any changes to the unit via the Online Learning System (Canvas) space for the unit.

This Unit of Study Guide was last modified on 31st August 2022.