

Course Outline (Higher Education)

School:	School of Engineering, Information Technology and Physical Sciences
Course Title:	BUSINESS ANALYTICS AND DECISION SUPPORT
Course ID:	ITECH3101
Credit Points:	15.00
Prerequisite(s):	(ITECH1103)
Co-requisite(s):	Nil
Exclusion(s):	Nil
ASCED:	020307

Description of the Course:

Data analytics has become the technology driver of this decade. Organisations are creating new units focused on analytics for business to become more effective and efficient. Further, consumers are also using business analytics tools to make decisions on routine activities such as shopping, healthcare, and entertainment. The field of business analytics and decision support systems has evolved rapidly to become focused on innovative applications of data streams that were not even captured some time back, much less analysed in any significant way. This course introduces students to business analytics and decision making that focuses on using business analytics as computerized support for managerial decision making. It concentrates on both the theoretical and conceptual foundations decision support and the commercial tools and techniques that are available. Topics in this course may include foundations and technologies for decision making, modern business analysis and AI, visual analytics, data mining, social network, AI, IoT and decision making, big data and business analytics, and emerging trends in business analytics and decision making, etc

Grade Scheme: Graded (HD, D, C, P, MF, F, XF)

Work Experience:

No work experience: Student is not undertaking work experience in industry.

Placement Component: No

Supplementary Assessment: Yes

Where supplementary assessment is available a student must have failed overall in the course but gained a

final mark of 45 per cent or above and submitted all major assessment tasks.

Program Level:

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
Introductory	■	■	■	■	■	■
Intermediate	■	■	■	■	■	■
Advanced	■	■	✓	■	■	■

Learning Outcomes:

Knowledge:

- K1.** Build further on different analytics types: descriptive, predictive and prescriptive.
- K2.** Identify appropriate decision making support technologies, and data foundations to address business requirements.
- K3.** Differentiate the complexities of predictive analysis including data mining, modelling, visual analytics.
- K4.** Investigate AI, IoT for business analytics and decision making and related applications.
- K5.** Debate and reflect on big data and future directions of business analytics including emerging trends and future directions.

Skills:

- S1.** Critically evaluate the keys to successful business analysis and implementation.
- S2.** Analyse and evaluate the effectiveness of data analysis, data mining and data foundations.
- S3.** Investigate data mining, visual analytics, and AI in business scenario.
- S4.** Research emerging trends of big data and future issues facing business analytics and decision support in a global context.
- S5.** Distinguish the business governance needs, roles and responsibilities.

Application of knowledge and skills:

- A1.** Communicate professionally to present a coordinated, coherent and independent exposition of knowledge and ideas in dealing with business analytics for IS in general and ES in particular.
- A2.** Analyse and audit an information system implementation that incorporates a business system analysis and decision support.
- A3.** Utilise analytical tools to analyses and comprehend business scenario.

Course Content:

Topics may include:

- Overview of business analytics and decision support.
- Foundations and technologies for decision making.
- Modern business analysis and AI.
- Visual analytics - 1 for business.
- Visual analytics - 2 for business.
- Data mining and business analytics - 1.
- Data mining and business analytics - 2.
- Advanced data mining and business analytics.

- Social network, AI, IoT and decision making.
- Big data and business analytics.
- Emerging trends in business analytics and decision making.
- Course review.

Values:

- V1.** Appreciate the contribution of tools and techniques of information technology and information systems to business analytics, modelling and implementation.
- V2.** Appreciate the strategic importance of business analysis and decision support.
- V3.** Appreciate the role of information systems in general and enterprise systems in particular, in supporting the business analysis and decision support.
- V4.** Appreciate the importance and benefits of business analytics and implementation methodologies.

Graduate Attributes

The Federation University FedUni graduate attributes (GA) are entrenched in the [Higher Education Graduate Attributes Policy](#) (LT1228). FedUni graduates develop these graduate attributes through their engagement in explicit learning and teaching and assessment tasks that are embedded in all FedUni programs. Graduate attribute attainment typically follows an incremental development process mapped through program progression. **One or more graduate attributes must be evident in the specified learning outcomes and assessment for each FedUni course, and all attributes must be directly assessed in each program**

Graduate attribute and descriptor		Development and acquisition of GAs in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
GA 1 Thinkers	Our graduates are curious, reflective and critical. Able to analyse the world in a way that generates valued insights, they are change makers seeking and creating new solutions.	K1, K2, K3, K4, S1, S2, S3, S4, A1, A2	AT 1, AT2, AT4
GA 2 Innovators	Our graduates have ideas and are able to realise their dreams. They think and act creatively to achieve and inspire positive change.	S1, S2, A1, A3	AT2, AT3,
GA 3 Citizens	Our graduates engage in socially and culturally appropriate ways to advance individual, community and global well-being. They are socially and environmentally aware, acting ethically, equitably and compassionately.	K5	AT3
GA 4 Communicators	Our graduates create, exchange, impart and convey information, ideas, and concepts effectively. They are respectful, inclusive and empathetic towards their audience, and express thoughts, feelings and information in ways that help others to understand.	A1, A2	AT1, AT3, AT4
GA 5 Leaders	Our graduates display and promote positive behaviours, and aspire to make a difference. They act with integrity, are receptive to alternatives and foster sustainable and resilient practices.	S5	AT3, AT4

Learning Task and Assessment:

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1, K4, K5, S1, S3, A1, A2	Develop skills in the analysis and practical application of content introduced.	Assignments / Tests	70%- 80%
K2,K3, S2, S4, S5, A1,A3	Study course material, participate in labs/tutorials, read and summarise theoretical and practical aspects of the course.	Test(s)/Examination(s)	20%- 30%

Adopted Reference Style:

APA

Refer to the [library website](#) for more information

Fed Cite - [referencing tool](#)