Course Outline (Higher Education)

Institute / School: Institute of Innovation, Science & Sustainability

Course Title: REAL TIME ANALYTICS

Course ID: ITECH7407

Credit Points: 15.00

Prerequisite(s): (ITECH1103 or ITECH5103 or ITECH5402)

Co-requisite(s): Nil

Exclusion(s): Nil

ASCED: 029999

Description of the Course:
This course introduces you to the principles, methodologies, applications and management of real time big data sets. You will obtain the knowledge of big data and related data analytical methods. You will also get skills of applying predicative and real time analytics to big data sets to achieve business meaningful insights into the data.

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

Work Experience:

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

Does Recognition of Prior Learning apply to this course? No

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						

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
Advanced					✔	

Learning Outcomes:

Knowledge:

K1. Apply the principles, methodologies and applications of real time systems in diverse domains.

K2. Identify and explain the architecture components of real time systems.

K3. Communicate the key drivers for big data in terms of efficiency, productivity, revenue and profitability to global organisations.

K4. Identify and describe types of big data, and analyse its differences from other types of data.

K5. Investigate and critique various technologies use to support real time systems, big data analytics including mobile specific data.

Skills:

S1. Integrate data warehouse and business intelligence techniques when using big data.

S2. Create flexible analytical models based on real time data, and use connectivity interfaces and tools for reporting purposes.

S3. Use real time performance analysis techniques to monitor data, and identify shifts or events occurring in data, as a basis for organisational decision making.

Application of knowledge and skills:

A1. Communicate security, compliance, auditing and protection of real time big data systems.

A2. Evaluate and implement problem solving and decision making strategies, to communicate solutions to organisational problems with key stakeholders, based on analysis of big data, in real time settings.

Course Content:

Topics may include:

- Real time systems and technologies.
- Big data basics.
- Industry examples of big data.
- Big data technologies.
- Information management.
- Business analytics.
- Real time analytics.

- Security, compliance, auditing and protection of big data.
- New trends in the area of real time analytics

FEDTASKS

Federation University Federation recognises that students require key transferable employability skills to prepare them for their future workplace and society. FEDTASKS (**T**ransferable **A**ttributes **S**kills and **K**nowledge) provide a targeted focus on five key transferable Attributes, Skills, and Knowledge that are be embedded within curriculum, developed gradually towards successful measures and interlinked with cross-discipline and Co-operative Learning opportunities. *One or more FEDTASK, transferable Attributes, Skills or Knowledge must be evident in the specified learning outcomes and assessment for each FedUni course, and all must be directly assessed in each program.*

FEDTASK attribute and descriptor		**Development and acquisition of FEDTASKS in the course**	
		Learning Outcomes (KSA)	**Assessment task (AT#)**
FEDTASK 1 Interpersonal	Students at this level will demonstrate an advanced ability in a range of contexts to effectively communicate, interact and work with others both individually and in groups. Students will be required to display high level skills in-person and/or online in: • Using and demonstrating a high level of verbal and non-verbal communication • Demonstrating a mastery of listening for meaning and influencing via active listening • Demonstrating and showing empathy for others • High order skills in negotiating and conflict resolution skills • Demonstrating mastery of working respectfully in cross-cultural and diverse teams.	Not applicable	Not applicable
FEDTASK 2 Leadership	Students at this level will demonstrate a mastery in professional skills and behaviours in leading others. • Creating and sustaining a collegial environment • Demonstrating a high level of self -awareness and the ability to self-reflect and justify decisions • Inspiring and initiating opportunities to lead others • Making informed professional decisions • Demonstrating initiative in new professional situations	Not applicable	Not applicable
FEDTASK 3 Critical Thinking and Creativity	Students at this level will demonstrate high level skills in working in complexity and ambiguity using the imagination to create new ideas. Students will be required to display skills in: • Reflecting critically to generate and consider complex ideas and concepts at an abstract level • Analysing complex and abstract ideas, concepts and information • Communicate alternative perspectives to justify complex ideas • Demonstrate a mastery of challenging conventional thinking to clarify complex concepts • Forming creative solutions in problem solving to new situations for further learning	K5, A2	AT1

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 4 Digital Literacy	Students at this level will demonstrate the ability to work competently across a wide range of tools, platforms and applications to achieve a range of tasks. Students will be required to display skills in: • Mastering, exploring, evaluating, managing, curating, organising and sharing digital information professionally • Collating, managing complex data, accessing and using digital data securely • Receiving and responding professionally to messages in a range of professional digital media • Contributing competently and professionally to digital teams and working groups • Participating at a high level in digital learning opportunities	Not applicable	Not applicable
FEDTASK 5 sustainable and Ethical Mindset	Students at this level will demonstrate a mastery of considering and assessing the consequences and impact of ideas and actions in enacting professional ethical and sustainable decisions. Students will be required to display skills in: • Demonstrate informed judgment making that considers the impact of devising complex solutions in ambiguous global economic environmental and societal contexts • Professionally committing to the promulgation of social responsibility • Demonstrate the ability to evaluate ethical, socially responsible and/or sustainable challenges and generating and articulating responses • Communicating lifelong, life-wide and life-deep learning to be open to the diverse professional others • Generating, leading and implementing required actions to foster sustainability in their professional and personal life.	Not applicable	Not applicable

Learning Task and Assessment:

This course is delivered in the form of directed learning activities, lectures and labs/tutorials. Students are encouraged to work independently and in teams to complete tasks. Learning tasks will be comprised of written evaluations as well as practical problem based activities.

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, K2, K3, K4, K5, S1, S2, S3, A1, A2	Students will work in groups to research topics related to real time analytics, analyse a data set, visualise the analysis results, and summarise the recommendations to the related stakeholders according to the analysis.	Assignment(s)	30%-50%
A1 and A2	Students will present their research work to the related stakeholders in a simulated workplace context. Students will self reflect their learning journey, achievements, lessons learnt, and other relevant aspects.	Presentation and self reflection	20%-30%
S1, S2, K1, K2, K3, K4	Review and practice of skills and knowledge.	Examination and test	30%-50%

Alignment to the Minimum Co-Operative Standards (MiCS)

The Minimum Co-Operative Standards (MiCS) are an integral part of the Co-Operative University Model. Seven criteria inform the MiCS alignment at a program level. Although courses must undertake MiCS mapping, there is NO expectation that courses will meet all seven criteria. The criteria are as follows:

1. Co-design with industry and students
2. Co-develop with industry and students
3. Co-deliver with industry
4. FedTASK alignment
5. Workplace learning and career preparation
6. Authentic assessment
7. Industry-link/Industry facing experience

MiCS program level reporting highlights how each program embraces the principals and practices associated with the Co-Operative Model. Evidence of program alignment with the MiCS, can be captured in the Program Modification Form.

MICS Mapping has been undertaken for this course No

Date:

Adopted Reference Style:

APA

Refer to the library website for more information

Fed Cite - referencing tool