Subject Outline

Subject Name	Data and Information: Management, Security, Privacy and Ethics
Subject Code	CP5806
Study Period	SP84
Study Mode	EXT
Campus	JCU Online
Subject Coordinator	Prof. Ickjai Lee

We acknowledge the Traditional Owners of the lands and waters where our University is located and actively seek to contribute and support the JCU Reconciliation Statement, which exemplifies respect for Australian Aboriginal and Torres Strait cultures, heritage, knowledge and the valuing of justice and equity for all Australians.

Cairns
Singapore
Townsville

Pre-requisites

24 credit points of postgraduate subjects

Subject outline preparation

This subject outline has been prepared by Ickjai Lee for the College of Science & Engineering, Division of Tropical Environments & Societies, James Cook University. Updated on 11/5/2020.

Q1. This subject is offered across more than one campus and/or mode and/or teaching period within the one calendar year.	Yes ☒	No ☐
Q2. If yes (Q1), the design of all offerings of this subject ensure the same learning outcomes and assessment types and weightings.	Yes ☒	No ☐
Q3. If no (Q2), [Type here] has authorised any variations, in terms of equivalence.		

Subject outline peer reviewer

Name	Carla Ewels
Position	Course coordinator
Date reviewed	16/6/2020

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*Other consultation times by appointment only.

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1 Subject at a glance

1.1 Student participation requirements

The JCU Learning, Teaching and Assessment Policy (4.3) indicates that, "a **3 credit point subject** will require a **130 hour work load** of study-related participation including class attendance over the duration of the study period, **irrespective of mode of delivery"**. This work load comprises **timetabled hours** and **other attendance requirements**, as well as **personal study hours,** including completion of online learning activities and assessment requirements. Note that "attendance at specified classes will be a mandatory requirement for satisfactory completion of some subjects" (Learning, Teaching and Assessment Policy, 5.10); and that additional hours may be required per week for those students in need of **English language, numeracy** or **other learning support.**

External study is study that does not require on-campus attendance but does require online attendance and participation. All other rules, guidelines and expectations apply. Assessment due dates, learner responsibility in terms of participation and engagement and independent learning skills are necessary. Getting Started: Find out more at the JCU Off-Campus Student Information website: https://www.jcu.edu.au/off-campus-students

You are expected to participate in the Learn Ultra discussion boards. Discussion boards give you a place to interact with staff and other students about subject content and topics, and help you to clarify and extend their understanding of key content. These are a forum for you to present their thoughts/ideas in an online version of an in-person classroom discussion and therefore the same courtesy rules apply.

While attendance in the Collaborate sessions is not mandatory, it is highly recommended. These sessions will provide you with the opportunity to have synchronous (at the same time) conversations with your Subject Coordinator (or your tutor) and with your fellow students from across the subject, to have your questions answered and to receive further clarification about any concerns or questions you may have.

Key subject activities	Time	Day and date	Room/Location
O Week	Refer to JCU Timetable 2020		
Weekly topic materials	Self-directed	Weekly (Week 1 – Week 6)	Learn Ultra subject site
Online Collaborate sessions	See Ultra	Weekly (Week 1 – Week 6)	Blackboard Ultra Collaborate

For information regarding class registration, visit the Class Registration Schedule.

1.2 Key dates

Key dates	Date
Census date	See 2020 Study Period and Census Dates
Last date to withdraw without academic penalty	See 2020 Study Period and Census Dates

Key dates	Date
Assessment task 1 [Report] [25 %]	Sunday, 11:59PM on Week 3
Assessment task 2 [Report] [40 %]	Sunday, 11:59PM on Week 5
Assessment task 3 [Report] [35 %]	Wednesday, 11:59PM on Week 7

2 Subject details

2.1 Subject description

This subject covers a variety of important topics under the umbrella of data and information management. Students will learn concepts and techniques related to a varied spectrum of topics in this area, ranging from database management to data security, privacy and ethics. Core elements of this subject include: Data sources, data measurement, data storage (including principles of data warehousing and distributed database management systems), advanced data querying (basics on data cubes and OLAP), notions of data integrity, sharing, security, ethics and privacy in data management and analysis including essentials on privacy preserving techniques for data analysis.

2.2 Subject learning outcomes

Students who successfully complete this subject will be able to:

- Analyse and apply the principles of data warehousing and distributed database management systems;
- Construct and apply advanced data querying including data cubes and OLAP;
- Critically evaluate the principles of data integrity, sharing, security, ethics and privacy in data management and analysis including the implementation of the essentials on privacy preserving techniques for data analysis.

These outcomes will contribute to your overall achievement of **course learning outcomes.** Your course learning outcomes can be located in the entry for your course in the electronic JCU Course and Subject Handbook 2020 (click on 'Course Information' bar/ select 'Undergraduate Courses' or 'Postgraduate Courses'/ select relevant course/ scroll down to 'Academic Requirements for Course Completion', 'Course learning outcomes').

2.3 Learning and teaching in this subject

This subject uses a combination of approaches to teaching and learning, including both students centred and tutor (online) directed approaches. The content of the subject is disseminated using a variety of teaching strategies including main topic coverages, relevant lab activities, and readings. All teaching materials are available through online delivery.

The assessment activities in this subject aim to be authentic applications of the concepts/theory learned. Weekly learning activities might be less 'real world' but will be stepping stones towards the assessment items. Each weekly topic is subdivided into small mini-modules accompanied by corresponding mini hands-on practice materials. Because the practical aspects of database design are stressed, we cover design concepts and procedures in details by providing a number of end-of-module problems and cases so students can develop real and useful design skills.

In addition to main subject materials requiring students' self-direction, weekly collaborate sessions are run by tutor. These online sessions are the only real time source of communication in this subject. They provide the opportunity to consolidate and apply your knowledge and ask questions. Logging in to an online tutorial is through LearnJCU via the **link provided under 'Online Tutorials'** will open up **Blackboard Collaborate Ultra**. You will need the following in order to participate and fully benefit from the sessions.

- ✓ Decent and reliable broadband internet connection.
- ✓ Blackboard Collaborate Ultra is only supported in certain browsers, we currently recommend only using the latest version of *Google Chrome* browser a free download from: https://www.google.com.au/chrome/
- ✓ A USB connected headset with microphone. Noise cancelling capabilities optional but preferable.
- ✓ Webcam

2.4 Student feedback on subject and teaching

As part of our commitment at JCU to improving the quality of our courses and teaching, we regularly seek feedback on your learning experiences. Student feedback informs evaluation of subject and teaching strengths and areas that may need refinement or change. ***YourJCU Subject and Teaching Surveys*** provide a formal and confidential method for you to provide feedback about your subjects and the staff members teaching within them. These surveys are available to all students through LearnJCU. You will receive an email invitation when the survey opens. We value your feedback and ask that you provide constructive feedback about your learning experiences for each of your subjects, in accordance with responsibilities outlined in the Student Code of Conduct. Refrain from providing personal feedback on topics that do not affect your learning experiences. Malicious comments about staff are deemed unacceptable by the University.

In response to previous student feedback and other data, the following enhancements to this subject have been made:

- Additional help materials for assignment 2 are provided.

2.5 Subject resources and special requirements

All subject readings and resources, including journal articles, book chapters, websites, videos, print and eTextbooks, are available to view online from your *Readings list* via your LearnJCU subject site. Textbooks listed in your *Readings list* include links to Co-op Bookshop purchasing details and library holdings. The JCU Library has limited print copies of prescribed textbooks for two-day loans, and options for viewing available eTextbooks online.

Additionally, you can find the most appropriate library subject resources, including dedicated discipline libguides, relevant databases and access to library services and staff through the *Your Library* tool, in your LearnJCU subject site.

Textbook

The following textbooks are used for this subject. Hard copies are available from JCU library. Online students are required to buy a copy for the subject.

- Gordon, K. (2013). *Principles of Data Management: Facilitating information sharing*, second edition, BCS Learning & Development Limited Publisher. (http://ebookcentral.proquest.com/lib/jcu/reader.action?docID=1275337)
- Paulraj Ponniah (2010). *Data Warehousing Fundamentals for IT Professionals*, second edition, Wiley. (https://onlinelibrary-wiley-com.elibrary.jcu.edu.au/doi/pdf/10.1002/9780470604137)

- George W. Reynolds (2018). *Ethics in Information Technology*, Sixth Edition, Cengage Learning.

The following textbooks are partially used and main references for the subject.

- Pratt, P. J. and Adamski, J. J. (2008). *Concepts of Database Management*, 6th edition, Cengage. Chapter 7 only. (any later edition should be fine 7th or 8th edition) (https://search-proquest-com.elibrary.jcu.edu.au/docview/2120270307?pq-origsite=summon)
- Coronel, C. and Morris, S. (2016). *Database systems: Design, Implementation, & Management*, 12th edition, Cengage Learning. Chapter 12 only. (http://ebookcentral.proquest.com/lib/jcu/detail.action?docID=4794149).
- Han, J., Kamber, M. & Pei, J. (2012). *Data Mining: Concepts and Techniques* (3rd ed.). Amsterdam: Elsevier/Morgan Kaufmann.
- Productivity Commission (2017). Data Availability and Use, Report Number 82, Canberra. Retrieved from https://www.pc.gov.au/inquiries/completed/data-access/report/data-access.pdf

3 Assessment details

3.1 Requirements for successful completion of subject

In order to pass this subject, you must:

- Achieve an overall percentage of 50% or more;

Assessment items and final grades will be reviewed through moderation processes (Learning, Teaching and Assessment Policy, 5.13-5.18). It is important to be aware that assessment "is always subject to final ratification following the examination period and that no single result represents a final grade in a subject" (Learning, Teaching and Assessment Policy, 5.22.).

3.1.1 Inherent requirements

Inherent requirements are the fundamental abilities, attributes, skills and behaviours needed to achieve the learning outcomes of a course while preserving the academic integrity of the university's learning, assessment and accreditation processes. Students and prospective students must be able to demonstrate that they have acquired or have the ability to acquire the inherent requirements for their degree.

Reasonable adjustments may be made to assist students manage additional circumstances impacting on their studies provided these do not change the academic integrity of a degree. Reasonable adjustments do not alter the need to be able to demonstrate the inherent requirements of the course. Students who believe they will experience challenges completing their degree or course because of their disability, health condition or other reason should discuss their concerns with an AccessAbility Services team member or a member of College staff, such as the Course Coordinator. In the case where it is determined that inherent requirements cannot be met with reasonable adjustments, the University staff can provide guidance regarding other study options.

3.2 Feedback on student learning

This subject uses a combination of approaches to teaching and learning, including both students centred and teacher directed approaches. The content of the subject is disseminated using a variety of teaching strategies

including forums, discussions, case studies, and readings. All teaching materials are available on LearnJCU. At the beginning of each learning practice, you will be made aware of the expected learning outcomes. You are expected to be an active participant in the learning process and are encouraged to participate in learning practice. The learning practice will be unsupervised, there are specific tasks you need to complete during the unsupervised practicals. It is very important to complete the supervised tasks.

The marked assessment and feedback will be available online through LearnJCU no later than 21 days after the due date (click on My Grades in the subject site menu).

3.3 Assessment tasks

ASSESSMENT TASK 1: REPORT

Aligned subject learning outcomes	• Critically define and evaluate interrelationships between data, information, knowledge and wisdom; • Critically analyse the potential drawbacks of the DIKW hierarchy; • Apply the DIKW hierarchy to map various types of information systems;
Aligned professional standards/ competencies	• Critically evaluate the principles of data integrity, sharing, security, ethics and privacy in data management and analysis including the implementation of the essentials on privacy preserving techniques for data analysis;
Group or individual	Individual
Weighting	25%
Due date	Sunday, 11:59PM on Week 3

ASSESSMENT TASK 1: DESCRIPTION

In this assignment, you are asked to research literature (systematically building your own DIKW hierarchy to critically conduct the assignment) to make a decision to answer the following 5 tasks. You need to explicitly express your stand (whether or not `agree' or `disagree') for each task, and justify your stand. You need to collect your own data (articles), build information and knowledge from the data collected, and formulate your own wisdom to make a decision. There might not be an absolute answer for each of these tasks, but we will be looking at your stand and also how you logically justify your stand with solid references. You need to use in-text citation to support your justifications, and add all the references used at the end in the APA style.

The main aim of this assignment is to understand and evaluate these fundamental building blocks of data science, to critically review the potential drawbacks of the hierarchy, and to apply them to map various types of existing information systems.

ASSESSMENT TASK 1: CRITERIA SHEET

- Readability (5%)
- Citation/Referencing (5%)
- Justification (15%)

ASSESSMENT TASK 2: REPORT

Aligned subject learning outcomes	• Build a data warehouse for a given business scenario; • Distinguish between database and data warehouse; • Develop an appropriate set of fact and dimension tables for a given business scenario; • Aggregate fact table to efficiently answer OLAP queries and business questions; • Apply data cube computation and materialisation to efficiently implement data warehouses; • Build a lattice of cuboids for a given business scenario;
Aligned professional standards/ competencies	• Analyse and apply the principles of data warehousing and distributed database management systems; • Construct and apply advanced data querying including data cubes and OLAP;
Group or individual	Individual
Weighting	40%
Due date	Sunday, 11:59PM on Week 5

ASSESSMENT TASK 2: DESCRIPTION

You are required to write a report on building a data warehouse on hour business. Your report includes: 1) setting up your own business scenario; 2) constructing an information package diagram; 3) designing data; 4) applying dimensional modelling; 5) computing fact table size; 6) aggregating fact table; 7) computing a lattice of cuboids; 8) data cube computation practices. The report should include your answers to each of these steps, and it should be less than 15 A4 pages (12 font size) excluding references. Please feel free to include figures and tables to describe and illustrate your answer.

ASSESSMENT TASK 2: CRITERIA SHEET

- Step 1: Business scenario (5%)
- Step 2: Information package diagram phase (5%)
- Step 3: Data design phase (5%)
- Step 4: Dimensional modelling phase (5%)
- Step 5: The size of fact table phase (5%)
- Step 6: Aggregate fact table phase (5%)
- Step 7: A lattice of cuboids (5%)
- Step 8: Data cube computation phase (5%)

ASSESSMENT TASK 3: REPORT

Aligned subject learning outcomes	• Analyse an example of ethics or privacy scandals; • Apply codes of ethics to make ethical decisions; • Review a scandal and identify ethical or privacy issues; • Critically analyse justifications of both parties; • Produce a reflective viewpoint on third parties' opinions;
Aligned professional standards/ competencies	• Critically evaluate the principles of data integrity, sharing, security, ethics and privacy in data management and analysis including the implementation of the essentials on privacy preserving techniques for data analysis;
Group or individual	Individual
Weighting	35%
Due date	Wednesday, 11:59PM on Week 7

ASSESSMENT TASK 3: DESCRIPTION

In this assignment, you are required to investigate and research a case study in the area of ethics scandals and privacy disputes for one of those three different party relationship in the Pacific-Asia region. For instance, you can choose a privacy dispute between Telstra and its customers in Australia, a data breach instance in Australian Red Cross Blood Service, or a labor ethical scandal for 7-Eleven.

You are required to write a report on a case study describing an ethical or privacy scandal in the Asia-Pacific area. The report should include your answers to each of the following steps stated below, and it should be less than 10 A4 pages (12 font size) excluding references. The report should also include the subject code and name, your student ID and name at the top of the report.

ASSESSMENT TASK 3: CRITERIA SHEET

- Section 1: Description of case study (10%)
- Section 2: Justifications for the party who causes the problem (7.5%)
- Section 3: Justifications for the party who is affected by the problem (7.5%)
- Section 4: What would you do (10%)

4 Submission and return of assessment

4.1 Submission of assessment

All assessments are submitted through Learn Ultra.

Note that the Learning, Teaching and Assessment Policy (5.22.3) outlines a uniform formula of penalties that will be imposed for submission of an assessment task after the due date. **This formula is 5% of the total possible marks for the assessment item per day including part-days, weekends and public holidays**. After 20 days, the assessment item thus would be awarded 0 marks (i.e. 5% x 20 = 100% of total possible marks in penalties).

4.2 Return of assessment

Feedback on marked assessments will be available in the Gradebook in Learn Ultra.

Please see the Current Students web page for links to all student resources and support services to optimise your academic and personal success.

Please see the Learn Student Guide web page for general advice on plagiarism, referencing and examinations. Here, you can also access individual and group assessment task cover sheets. Note that cover sheets are only required for hard copy submissions.

5 Subject calendar

Please note, the sequence of some topics may change due to staff availability, resourcing, or due to unforeseen circumstances.

Week/Date/Module		Topics	Readings/Preparation	Relationship to Assessment
O	Orientation			
1		Introduction to data and information Introduction to metadata Data and information management Database management functions Distributed data and databases	**Books** • Gordon, K. (2013). *Principles of Data Management: Facilitating information sharing*, second edition, BCS Learning & Development Limited Publisher. (http://ebookcentral.proquest.com/lib/jcu/reader.action?docID=1275337) • Pratt, P. J. and Adamski, J. J. (2008). *Concepts of Database Management*, 6th edition, Cengage. Chapter 7 only. (any later edition should be fine 7th or 8th edition) (https://search-proquest-com.elibrary.jcu.edu.au/docview/2120270307?pq-origsite=summon) • Coronel, C. and Morris, S. (2016). *Database systems: Design, Implementation, & Management*, 12th edition, Cengage Learning. Chapter 12 only. (http://ebookcentral.proquest.com/lib/jcu/detail.action?docID=4794149). **Articles** • Dykes, B. (2012). *The Two Guiding Principles for Data Quality in Digital Analytics* (http://www.analyticshero.com/2012/09/19/the-two-guiding-principles-for-data-quality-in-digital-analytics/) • Rowley, J. (2007). The wisdom hierarchy: representations of the DIKW hierarchy, *Journal of Information Science*, 33(2): 163-180, Sage publisher. (http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.585.5962&rep=rep1&type=pdf)	Assignment 1

Week/Date/Module		Topics	Readings/Preparation	Relationship to Assessment
			• Ackoff, R. L. (1999) *Ackoff's Best*, John Wiley & Sons, pp: 170-172. (http://faculty.ung.edu/kmelton/documents/datawisdom.pdf). • Fisher, C. W. and Kingma, B. R. (2001) Criticality of data quality as exemplified in two disasters, *Information & Management*, 39(2): 109-116. (https://www.sciencedirect.com/science/article/pii/S0378720601000830) • Gilliland-Swetland, A. J. (2000). *Introduction to Metadata: Setting the Stage*. (http://marciazeng.slis.kent.edu/metadata/Gilland.pdf) • Zeng, M. L. *Metadata Basics*. (http://marciazeng.slis.kent.edu/metadatabasics/index.htm). • Terra, J. C. and Angeloni, T. (2003) Understanding the difference between Information Management and Knowledge Management, IAMOT conference, Nancy, France. (http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.549.9911&rep=rep1&type=pdf) • Leandro DalleMule and Thomas H. Davenport from the May-June 2017 issue in *Harvard Business Review.* (https://hbr.org/2017/05/whats-your-data-strategy) • Botha, J. and Grobler, M. and Eloff, M. Global Data Breaches Responsible for the Disclosure of Personal Information: 2015 & 2016 (https://www.researchgate.net/publication/318101204_Global_data_breaches_responsible_for_the_disclosure_of_personal_information_2015_2016) • Crosby, M. and Nachiappan, Pattanayak, P. and Verma, S. and Kalyanaraman, V. (2016), BlockChain Technology: Beyond Bitcoin, *Applied Innovation Review*. (http://scet.berkeley.edu/wp-content/uploads/AIR-2016-Blockchain.pdf)	
2		Need and background of data warehouse	**Book**	Assignment 2

Week/Date/Module		Topics	Readings/Preparation	Relationship to Assessment
		Data warehouse building blocks Data warehouse planning and project management Data warehouse architecture and infrastructure Metadata in data warehouse	• *Data Warehousing Fundamentals for IT Professionals*, Second Edition, Wiley, Paulraj Ponniah (https://onlinelibrary-wiley-com.elibrary.jcu.edu.au/doi/pdf/10.1002/9780470604137) **Article** • Why data warehouse projects fail? by Tim Mitchell, Data Solutions Architect (https://www.timmitchell.net/post/2017/01/10/why-data-warehouse-projects-fail/) • *Wal-Mart's Data Warehouse*, Patrick Ohlinger (http://derbaum.com/tu/WalMarts%20DWH.pdf) • *Walmart: Where Digital Meets Physical* (http://ebooks.capgemini-consulting.com/dm/Walmart.pdf) • Wal-Mart's next move against Amazon: More warehouses, faster shipping by Nandita Bose (https://www.reuters.com/article/us-walmart-ecommerce/wal-marts-next-move-against-amazon-more-warehouses-faster-shipping-idUSKCN12609P) • Read W. H. Inmon *What is a Data Warehouse?* • (http://repository.binus.ac.id/2009-2/content/M0584/M058459913.pdf)	
3		Dimensional modelling basics Star schema	**Article** • Watson, H.J., Annino, D.A., Wixom, B.H., Avery, K.L. & Rutherford, M. (2001). Current Practices in Data Warehousing, *Information Systems Management*, 18:1, 47-55.	Assignment 2

Week/Date/Module		Topics	Readings/Preparation	Relationship to Assessment
		Dimensional table updates Aggregate fact tables Extraction, transformation and loading	(https://www.tandfonline.com/doi/abs/10.1201/1078/43194.18.1.20010101/31264.6) • Kimball Group. Kimball dimensional Modeling Techniques (http://www.kimballgroup.com/wp-content/uploads/2013/08/2013.09-Kimball-Dimensional-Modeling-Techniques11.pdf)	
4		Data quality OLAP basics OLAP operations Data warehouse implementation Data cube technologies	**books** • Han, J., Kamber, M. & Pei, J. (2012). *Data Mining: Concepts and Techniques* (3rd ed.). Amsterdam: Elsevier/Morgan Kaufmann. (https://ebookcentral.proquest.com/lib/jcu/detail.action?docID=729031) **Article** • Dijcks, J.-P. (2004). Integrating Data Quality into Your Data Warehouse Architecture. Business Intelligence Journal, 9(2): 18-26. (JCU Library: https://search-proquest-com.elibrary.jcu.edu.au/docview/222639489/fulltextPDF/DFFC4F943DA34E7BPQ/1?accountid=16285 Web: http://www.bi-bestpractices.com/view-articles/5826) • Kimball, R. (2007). *An Architecture for Data Quality*. (available at: m http://www.kimballgroup.com/wp-content/uploads/2007/10/An-Architecture-for-Data-Quality1.pdf • Watson, H.J., Gerard, J.G., Gonzales, L.E., Haywood, M.E. and Fenton, D. (1999). Data Warehousing Failures: Case Studies and Findings. *Journal of Data Warehousing*, Spring, 44-55. (available at: https://brainmass.com/file/91954/DWHFailures%5B1%5D.pdf)	Assignment 2

Week/Date/Module		Topics	Readings/Preparation	Relationship to Assessment
			• O'Neil, E., O'Neil, P. and Wu, K. (2007). Bitmap Index Design Choices and Their Performance Implications. *IDEAS 2007.* (available at: https://sdm.lbl.gov/~kewu/ps/LBNL-62756.pdf) • Beyer, K. and Ramakrishnan, R. (1999). Bottom-up Computation of Sparse and Iceberg CUBE. *ACM SIGMOD, 28*(2), 359-370. (available at: https://dl.acm.org/citation.cfm?id=304214) • Xin, D., Han, J., Li, X. and Wah, B.W. (2003). Star-Cubing: Computing Iceberg Cubes by Top-Down and Bottom-Up Integration. In VLDB Staff (Ed.), *Proceedings 2003 VLDB Conference* (Pages 476-487). San Francisco, CA: Morgan Kaufmann. (available at: http://www.vldb.org/conf/2003/papers/S15P02.pdf	
5		Overview of ethics Ethics for IT workers and IT users Security and cybersecurity Privacy Freedom of expression and IP	**book** • **George W. Reynolds (2018). *Ethics in Information Technology*, Sixth Edition, Cengage Learning.** *http://dinus.ac.id/repository/docs/ajar/ethics_in_information_technology2c_5th_ed._0_.pdf (online available)* **articles** • ACM (1992). *ACM Code of Ethics and Professional Conduct* (https://www.acm.org/about-acm/acm-code-of-ethics-and-professional-conduct) • ACM (2018). Code 2018 Project (https://ethics.acm.org/)	Assignment 3

Week/Date/Module		Topics	Readings/Preparation	Relationship to Assessment
			• Bo Brinkman, Don Gotterbarn, Keith Miller, Marty J. Wolf (2016). Making a Positive Impact: Updating the ACM Code of Ethics, *Communications of the ACM*, Vol. 59(12): 7-13 (https://cacm.acm.org/magazines/2016/12/210367-making-a-positive-impact/fulltext) • ACS (2014). *ACS Code of Professional Conduct* (https://www.acs.org.au/content/dam/acs/rules-and-regulations/Code-of-Professional-Conduct_v2.1.pdf) • Shirley Wheeler (2003). Comparing Three IS Codes of Ethics – ACM, ACS and BCS, *Proceedings of the 7th Pacific Asia Conference on Information Systems*, 10-13 July 2003, Adelaide, South Australia, pp: 1576-1589. (http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.522.6084) • Wei Fang, Xue Zhi Wen, Yu Zheng & Ming Zhou (2017) A Survey of Big Data Security and Privacy Preserving, *IETE Technical Review*, 34:5, 544-560 (https://www.tandfonline.com/doi/abs/10.1080/02564602.2016.1215269?needAccess=true#aHR0cHM6Ly93d3cudGFuZGZvbmxpbmUuY29tL2RvaS9wZGYvMTAuMTA4MC8wMjU2NDYwMi4yMDE2LjEyMTUyNjk/bmVlZEFjY2Vzcz10cnVlQEBAMA)	
6		Data landscape in Australia Australia's legislative and policy frameworks for data sharing and use	**Article** • Productivity Commission (2017). Data Availability and Use, Report Number 82, Canberra. Retrieved from https://www.pc.gov.au/inquiries/completed/data-access/report/data-access.pdf	Assignment 3

Week/Date/Module		Topics	Readings/Preparation	Relationship to Assessment
		Opportunities enabled by data What holds us back?		