

Course Code:	1506LHS	
Course Name:	Fundamentals of Communication	
Trimester:	Trimester 1, 2019	
Program:	Diploma of Media & Communication	
Credit Points:	10	
Course Coordinator:	-Dr Kristy Seymour	
Document modified:	-11 February 2019	

Teaching Team

Your lecturer/tutor can be contacted via the email system on the portal.

Dr Kristy Seymour: kristy.seymour@staff.griffithcollege.edu.au

Staff Consultation

Your lecturer/tutor is available each week for consultation outside of normal class times. Times that your lecturer/tutor will be available for consultation will be given in the first week of lectures. A list of times and rooms will be published on the Griffith College Portal under the "myTimetable" link.

Prerequisites

There are no prerequisites for this course

Brief Course Description

Fundamentals of Communication is a 10 Credit Point course situated within the second trimester of the Diploma of Media and Communication. The Diploma of Media and Communication is designed to provide students with a pathway to:

- further university studies in the Media and Communication disciplines, or
- direct employment.

This course provides students with foundational skills and knowledge of communications theory and practice, including a range of interpersonal, group and mass communication theories as well as a range of written, verbal, and non-verbal communication skills.

Rationale

Together with the five other first-year courses offered by Griffith Humanities, Fundamentals of Communication will give students both the knowledge and skills needed for a satisfying and rewarding experience within the BA program. This course highlights the fact that success at both university and in the working world is often dependent on the mastery of basic communication skills.

This course offers insights into the 'how's' and 'whys' of communication. We look at the communication process itself (the construction and reception of 'messages'), the various ways we communicate (from face-to-face conversations to 'tweeting'), and the various media formats that allow us to connect with others in the 21st century. Most importantly, this course allows students to imagine how communication concepts and skills may be used effectively both throughout their university years and, also, once they embark on their own, unique career paths. Whether or not all first-year students are already thinking ahead to post-university professions, this course will nonetheless assist students in becoming more effective communicators with benefits that will extend far beyond the three years of their BA program.

After an introductory week that focuses specifically on communication norms and expectations at university, the course is divided into three topical units:

UNIT 1: Communication Basics

This unit provides an overview of what communication is, how critical thinking informs communication, the importance of making a good argument, and the realities of communication barriers such as communication anxiety.

UNIT 2: Communication in Everyday Life

This portion of the course will examine the history of communication media (from the printing press to the Internet), how visual signs and symbols convey information to others, the power of advertising, and how one might best communicate across cultural differences.

UNIT 3: Communication in Context

This final section will consider the various ways in which communication can be both challenging and rewarding in interpersonal and professional contexts. We examine how organizational structures make an impact on communication in the workplace, the ups and downs of using social media to connect with others, and the importance of presenting oneself well through verbal and non-verbal communication in professional settings.

Aims

Being an active, aware, and effective communicator is extremely useful both inside and outside of the classroom. This course aims to establish, if not advance, a set of knowledge and skills in communication. The 'Fundamentals' of communication as included in this course are: critical thinking skills, oral communication, and written communication.

Today's employers continue to rank excellent communication skills as the number one attribute they look for when hiring new recruits. It is important to consider some of the following questions when you think about your current level of 'communication competence':

Would you consider yourself a good communicator? Why?

Do you feel more comfortable tweeting or messaging your peers than speaking face-to-face with your university lecturers or potential employers?

Do you understand what critical thinking is and how such thinking informs how you communicate with others?

Fundamentals of Communication will inspire you to think about such questions and ask you to consider how being a successful communicator will pave the way for a rewarding experience at both university and in your post-university, future profession. Alongside weekly one-hour lectures that introduce students to the theories, histories, and the practical, 'everyday' contexts of communication, this newly acquired information will be explored through two-hour tutorials comprised of discussion and practical exercises relevant to that week's topic, and a one-hour workshop dedicated to activities and assessment development. The interactive learning environments will help students establish a solid set of communication skills that will guide them throughout the Bachelor of Arts program and beyond.

The content and assessment items for this course which include the demonstration of developing oral and written communication skills are intended to prepare students for second- and third-year courses across all BA majors.

Learning Outcomes

After successfully completing this course you should be able to:

- 1 Identify and analyse the role communication plays in culture; both at university and beyond.
- 2 Demonstrate interpersonal skills based in verbal and non-verbal communication.
- 3 Apply critical thinking to the analysis of a media message and support with evidence.
- 4 Deconstruct professional communication skills required to inform career choices.

Texts and Supporting Materials

Required Text:

Kossen, C., Kiernan, E. F., & Lawrence, J. E. (2018). *Communicating for success*, 2nd Edition. Pearson Australia.

Additional Materials will be made available on the portal

Organisation and Teaching Strategies

Class Contact Summary

Classes for Fundamentals of Communication include the following:

* Lectures: 1 hour per week (week 1 - 12)

* Workshops: 1 hour per week (week 1 - 12)

* Tutorials: 2 hours per week (week 1 - 12)

Attendance

100% attendance is expected for all classes. You are reminded that your attendance in class will be marked for all elements. To receive full attendance, you must be present in the classroom on all occasions. Your attendance will be essential to participate in the Tutorial Discussion assessment.

You are expected to bring work done at home to class for group and individual discussion. Further development of ideas is expected during tutorial time.

Preparation and Participation in Class

You are expected to read the required readings and the lecture notes plus attempt any tutorial/workshop exercises before class so that each week you can actively contribute to your learning and the learning of others in your classes. You are expected to ask and answer questions and to initiate discussions and stimulate debate in group and class situations.

Consultant Times

Attendance during consultation times is optional but you are encouraged to use this extra help to improve your learning outcomes.

Course Materials

Lecture notes will be made available to you on the Griffith College portal and you are advised to print these out and bring them to each class so that extra notes can be added.

Independent Study

Independent study requires that you spend time outside classes engaged in research necessary to complete your assignments. Research includes reading the required text books, using library and internet facilities. For this 10 CP course, you will need to spend at least 10 hours per week engaged in activities that will help your learning and fulfil the course objectives. Thus, provided you have well used the formal contact hours each week, you would then complete any remaining hours engaged in independent study.

Program Progression

You are reminded that satisfactory Program Progression requires that attendance in classes is maintained at equal to or greater than 80%, and that GPA is maintained at equal to or greater than 3.5 in any trimester [please see Griffith College Policy Library - Program Progression Policy - for more information].

Content Schedule

Weekly Teaching Schedule

Week	Topic	Activity
1	Introduction: Understanding 'Communication' at University & Beyond. Learning Outcomes: 1, 2	Lecture
	Introductory Tutorial - Go over organisation & activities of weekly tutorials; Introduce & review assessment items. Learning Outcomes: 1, 2 IMPORTANT: review of Discussion Assessment	Tutorial
2	The Communication Process We will examine the basic components of the communication process. This week's lecture will provide a foundation for all subsequent weeks' topics. Learning Outcomes: 1, 2	Lecture
	We will discuss the key components of the communication process as presented in the reading and lecture and we will provide you with fun & engaging activities. Learning Outcomes: 1, 2, 3	Tutorial
3	Communication Barriers This lecture looks at what gets in the way of communicating well with others and what might be done about it. Special attention will be paid to public speaking as something that prompts communication anxiety. Learning Outcomes: 1, 2	Lecture
	We will discuss & complete exercises that will consider the very real issue of communication anxiety. We will talk about how you	Tutorial

	might prepare for your media message analysis presentation to alleviate any unwanted anxiety surrounding it. Learning Outcomes: 1, 2, 3 IMPORTANT: review of the Media Message Analysis Assessment	
4	Critical Thinking: Argument This week's lecture will look at critical thinking and why it is part of good communication. Learning Outcomes: 1, 2	Lecture
	The discussion will focus on how critical thinking informs communication Learning Outcomes: 1, 2, 3	Tutorial
5	Constructing Good Arguments: How can we best construct good arguments? We will examine why 'argument' is an essential element of effective communication. Learning Outcomes: 1, 2	Lecture
	Discussion on argument; HOUR 2: Small group activity identifying the components of a good argument. Learning Outcomes: 1, 2	Tutorial
6	Mass Communication & Media: Key histories of communication media are examined in this lecture from the printing press to the Internet. Learning Outcomes: 1, 2	Lecture
	Discussion of media-facilitated communication, and activities in preparation for your media message analysis 'pitch.' Learning Outcomes: 1, 2	Tutorial
7	Advertising as Communication: Advertising is both pervasive and powerful in contemporary society. We examine the persuasive techniques which inform and/or comprise this mode of communication. <u>Learning Outcomes: 1, 2</u>	Lecture
	Discussion around advertising as persuasive communication IMPORTANT: MEDIA MESSAGE ANALYSIS PRESENTATIONS IN CLASS.	Tutorial
8	Non-Verbal: Communication It's not just the spoken or written word that allows us to communicate. Signs, symbols, and physical gestures also play active roles in how we communicate with others. Learning Outcomes: 1, 2	Lecture
	We will explore activities surrounding the importance of visual communication: from non-verbal gestures to fashion. Learning Outcomes: 1, 2, 3	Tutorial
9	Intercultural Communication: Successful communication in 21st century, multicultural Australia requires sensitivity and awareness of customs and perspectives that are different from those we have ourselves. Learning Outcomes: 1, 2	Lecture

	Discussion & activities relevant to intercultural communication in 21st century Australia. Learning Outcomes: 1, 2, 4 IMPORTANT: Review of the final assessment item, 'Communication on the Job'	Tutorial
10	Professional Communication: Thinking through communication in professional settings is especially important for today's university students. Learning Outcomes: 1, 2	Lecture
	Our discussion will look at the organizational structures that influence professional communication Learning Outcomes: 1, 2	Tutorial
11	Social Media: This week looks at how new media and, in particular, how social media are used for interpersonal communication. Learning Outcomes: 1, 2	Lecture
	Our discussion and activities will consider the impact of social media upon our everyday, interpersonal communication Learning Outcomes: 1, 2	Tutorial
12	Week 12 - Wrap-Up Lecture Given all the topics and themes covered in the course, this final lecture will wrap things up by focusing on how to best present yourself effectively to others. More of an interactive discussion than lecture. Learning Outcomes: 1, 2	Lecture
	Wrap-Up Discussion: This final discussion will consider the highlights of the trimester: What have you learned and how might you consider using these new ideas and skills in the future. Learning Outcomes: 1, 2 IMPORTANT: ESSAY DUE THIS WEEK.	Tutorial

Assessment

This section sets out the assessment requirements for this course.

Summary of Assessment

Item	Assessment Task	Weighting	Relevant Learning Outcomes	Due Date
1	Tutorial Discussion	20%	1,2	Weeks 2-11
2A	Media (Message) Influence Analysis: Pitch	20%	1, 3	Week 7

2B	Media (Message) Influence Analysis Essay	30%	1, 3	Week 8
3	Communication on the Job Essay	30%	1,4	Week 12

Assessment Details

Tutorial Discussion

Type: Guided discussion with peers Learning Outcomes Assessed: 1, 2

Due Date: Weeks 2-11

Weight: 20% Marked out of: 100 Task Description:

'Reading furnishes the mind only with materials of knowledge; it is thinking that makes what we read ours'. - John Locke (1632-1704)

What the Enlightenment philosopher John Locke said so long ago remains true today. While reading assigned texts and listening to the weekly lectures will provide you with information, a better understanding of course content will only be gained by thinking and 'talking through' these materials in a more in-depth way. Luckily, at university you are greatly helped in this process via guided discussions in your tutorials. After all, university is not just about reading and writing on your own at home: it is an interactive EXPERIENCE that asks you to be involved and engage in dialogue with your professors/lecturers, tutors, and fellow students.

Throughout the trimester, one hour of the tutorial will be dedicated to a large group discussion. To best participate, students will need to complete the week's readings and attend lecture. You will want to prepare notes based on the readings, so you can refer to the text when you make comments in class. This will communicate to both the tutor and your classmates that you have done the reading and are prepared to actively engage with that week's topic.

These tutor-led discussions will ask students to engage with and respond to issues and questions presented in the assigned weekly readings and during lectures. The discussion is intended to foster deeper understanding of the course content and as relevant to one's own everyday experiences as communicators in various environments and situations.

Alongside the weekly group discussion, the remaining tutorial time will provide another set of either large or small group activities relevant to the week's topic. As an exception, and as noted in the trimester's list of learning activities, week 7 will be devoted to '3 Minute Pitches' of your first written assessment item.

Criteria & Marking:

Due to the interactive and 'live' nature of any discussion, your weekly involvement in tutorials will play a substantial role in how well you do. Clearly, if you are being asked to contribute

comments and questions that are relevant to the weekly readings and lectures, it will be difficult for me to evaluate your engagement without regular participation. As a practical benefit to you, our discussion forums will provide a safe and supportive venue where you will be able to share and test out ideas while also sharpening your oral communication skills.

While weekly tutorials will provide you multiple opportunities to participate in discussion, the QUALITY of your participation during the entire trimester also will be evaluated as follows:

7 quality- Student clearly engages with the materials (both readings and lectures). This is demonstrated by: responding to questions posed by the tutor or classmates as relevant to the topic; asking questions about the week's readings and lecture that demonstrates engagement with both; showing leadership among the tutorial students by driving the discussion forward with engaging questions and ideas and/or sharing additional sources (YouTube clips, magazine articles, etc.) relevant to that week's topic. Students actively engage in tutorial activities beyond discussion and demonstrate leadership and support within group activities (i.e., into the 2nd hour of the tutorial).

6 quality- Student clearly engages in the materials presented during the readings and/or lecture. This is demonstrated by: often responding to questions posed by the tutor or classmates and asking questions about the week's readings and lecture that demonstrates engagement with both. The student demonstrates a dedicated level of engagement within all tutorial activities.

5 quality - Student usually engages with the materials presented during the readings and/or lecture, but it is not necessarily the case in every tutorial he/she attends. This is demonstrated by: responding to questions posed by the tutor or classmates semi-regularly and contributing to in-tutorial exercises.

4 quality - Student demonstrates a basic level of engagement during the tutorials. This is demonstrated by: only occasional input during tutorial discussions; comments and/or questions may not show that the student has read the assigned readings or attended lecture (i.e., someone not enrolled in the course could say the same things); participation in any post-discussion activity is at the most minimal level.

3-1 quality- Student rarely (or never) contributes to discussion and shows a low level of engagement or interest in the subject matter or course. There is no evidence given that the student read the assigned texts or attended lecture. The student fails to actively participate in any post-discussion activities or exercises.

Further guidelines, and suggestions for engaging in a thoughtful, respectful and supportive class discussion will be made available on the portal. All students will receive progress report from their tutors no later than week 6 of the trimester. Students will have the opportunity to improve their in-tutorial discussion marks based on this feedback.

This assessment item:

- is a school based activity
- is an individual activity
- does not include a self-assessment activity

Media Message Analysis – Pitch & Essay

Type: Creative Synthesis

Learning Outcomes Assessed: 1, 3

Due Date: Week 7

Weight: Part A – Pitch 20%, Part B – Essay 30% (Total of 50%) Marked out of: 100 (i.e. Essay out of 100, Pitch out of 100)

Task Description:

The contemporary world is constantly communicating ideas to us. These messages may enter our consciousness in the form of a news story, a popular song, or an Internet meme that has gone viral.

As one of the course goals is to make you more aware of what effective communication entails, this assessment item will ask you to critically think through a media message of your choice. This will be an assignment in two parts.

Part A of this assignment is a verbal '3 Minute pitch' of your paper. This will be shared with your classmates during week 7 of tutorial. This exercise is meant to challenge you into communicating the key idea of your paper in a short amount of time. Think about what the most important element of your paper is and how you could garner interest in this 'media message' among your peers.

Part B of the assignment will ask you to write a 1000-word paper that addresses the following:

- 1) **Describe** the piece of media you are examining (i.e., what is it? a song, a speech, a news story, a TV show, a meme?) What medium/technology is used to send out the message?
- 2) **Share** details of when and how it first appeared in the public domain. When were people first aware of this piece of media (media message)? Is this a historically significant message or something that has happened more recently?
- 3) **Think** about this piece of media (media message) in terms of: 1) Who has created the piece of media (media message)?; 2) What is the piece of media (media message) itself; and 3) How has the piece of media (media message) been received (for example, what do various sources say about it)?
- 4) **Use your new set of critical thinking skills** to argue why this has been an important piece of media (media message) in our culture: whether in the past or in the present. How is this a powerful piece of media (media message)?

Points 1 & 2 will require that you do a small amount of research to inform your paper (a minimum of 2 - 4 sources), while Points 3 & 4 will allow you to use terms and ideas that you will have learned from the readings and lectures during weeks 2-6 (such as - but not limited to - 'critical thinking,' 'constructing messages', and 'receiving messages').

Criteria & Marking:

Generally, the assessment item will be evaluated in the following way:

The written component:

- Organisation of ideas
- Content, i.e., does the written piece address the four points requested above?
- References: Sources help you best tell this story and make a particular argument
- Analysis: Critical thinking was used to communicate a key point/observation/discovery about this media message.

The verbal component:

- The pitch is 3 minutes in length (any pitches substantially over- or under time will be marked down).
- The pitch shows that the student understands how the message is created, sent, and received.
- The pitch clearly communicates the significance of this media message.
- The pitch shows care in (verbal & non-verbal) delivery and signs of practice prior to presentation in class.

Marking rubrics for both the paper and the oral presentation will be made available on the portal.

Submission: The Media Message analysis paper will be due no later than 5:00 pm on Friday, week 8. Please upload it via Turnitin. No documentation is handed in for your oral presentation.

This assessment item:

- is a school based activity
- is an individual activity
- does not include a self-assessment activity

Communication on the Job

Type: Assignment - Written Assignment Learning Outcomes Assessed: 1, 4

Due Date: Friday Week 12

Weight: 30%
Marked out of: 100
Task Description:

This final assessment piece, which is a 1500-word written assignment, asks you to think ahead and imagine how particular aspects of and/or skills in communication would play important roles in your post-university career.

To be more specific, this final assessment item will have you: 1) Propose an imagined career post-university and 2) analyse how and why three core concepts and/or skills learned during the trimester (any from weeks 2 -12) would be relevant to that career.

For instance, if you are someone who is thinking about working in a governmental position, you might refer to terms/ideas from "Constructing Messages: Knowing Your Audience", "Professional Communication", and "Intercultural Communication". This will show what you have learned from these weeks' topics and how you connect those ideas with an imagined future job. This project will require you to do a little bit of research on the type of job you are writing about. However, most references to course terms and ideas will just require reference to the course's assigned readings.

*** A list of BA-relevant careers will also be provided, as some of you will not have thought this far ahead. ***

This is an important exercise because it asks you to reflect on how communication skills might play out in various types of jobs. It also allows you to connect more personally and directly with the content. Finally, this assignment allows you to think about what level of communication you would feel most comfortable with on-the-job. For instance, are you someone who wants to work more independently and quietly and focus on written and digital

communication? Or, are you an outgoing person who thrives on giving presentations and lots of face-to-face communication? The 'communication environments' of particular jobs are important things to consider when thinking about your post-university careers.

Therefore, this assignment will comprise of three sections:

- 1) **INTRODUCTION:** A description of the career itself and an overview of what aspects of communication are used in this career. This is where you want to reflect on why this type of work and 'communication environment' is appealing to you.
- 2) **BODY:** This will be comprised of three sections that each address a topic of communication discussed this trimester. You will describe how you think each component or skill in communication plays a role in this career.
- 3) **CONCLUSION:** Wrap-up with some final thoughts about how this profession utilizes communication and why that aspect of the job would be appealing to you.

In-text citations to sources (either readings assigned this trimester - or those you have found independently) should be made throughout the paper where appropriate. Please also remember to include a reference list at the end of your paper.

The assignment must be uploaded to Turnitin by 5:00 pm Friday week 12.

Criteria & Marking:

A specific marking criteria sheet will be available online for you to review. We will go over it as a kind of 'checklist' but please look at it earlier in the trimester.

More generally, this written assignment will be evaluated based on the following:

- 1) Organisation of ideas (clear introduction, main points, conclusion).
- 2) The use of relevant references (both the textbook and beyond) to communicate your main points in the body of the essay.
- 3) Correct use of grammar and spelling.
- 4) A clear emphasis on three key aspects of communication and how they would be relevant to an imagined, future career.

Submission: This written assignment will be uploaded via Turnitin by 5pm Friday week 12.

This assessment item:

- is a school based activity
- is an individual activity
- does not include a self-assessment activity

Submission and Return of Assessment Items

All assessment is to be submitted at the date and time designated by your teacher. Normally you will be able to collect your assessment in class within fourteen [14] days of the due date for submission of the assessment.

Retention of Originals

Where practical, you must be able to produce a copy of all work submitted if so requested. Copies should be retained until after the release of final results for the course.

Please note: You may be required to submit assignments electronically to a collusion detection tool to allow the detection of possible instances of collusion/plagiarism. This will also involve Griffith College or its nominee storing your work on a secure database for use in testing assessment submitted by others in the future. For further information on Griffith College\'s Academic Integrity Policy refer to Griffith College\'s online Policy Library.

Extensions

To apply for an extension of time for an assignment, you must submit an Application for Extension of Assignment form to your teacher at least 24 hours before the date the assignment is due. Grounds for extensions are usually: serious illness, accident, disability, bereavement, or other compassionate circumstances and must be able to be substantiated with relevant documentation [e.g. Griffith College Medical Certificate]. Please refer to the Griffith College website - Policy Library - for guidelines regarding extensions and deferred assessment.

Assessment Feedback

Your assessment will be marked so that you can learn from your work. Feedback will be provided so that you can see the level you have reached in any skill. Your tutor will give you comments on your work and will be happy to discuss your assessment further, if you wish. You may see your tutor in his/her consultation time.

Marks awarded for assessment items will also be available on the on the Griffith College Student Portal within fourteen [14] of the due date for submission of the assessment.

Generic Skills

Griffith College aims to develop graduates who have an open and critical approach to learning and a capacity for lifelong learning. Through engagement in their studies, students are provided with opportunities to begin the development of these and other generic skills.

Studies in this course will give you opportunities to begin to develop the following skills:

Generic Skills	Taught	Practised	Assessed
Written Communication		Yes	Yes
Oral Communication		Yes	Yes
Information Literacy	Yes	Yes	Yes
Secondary Research	Yes	Yes	Yes
Critical and Innovative Thinking	Yes	Yes	Yes
Academic Integrity		Yes	Yes
Self-Directed Learning		Yes	Yes
Team Work	Yes	Yes	

Cultural Intelligence	Yes	Yes
English Language Proficiency	Yes	Yes

Additional Course Generic Skills

Additional Course Information

Your feedback is respected and valued by your lecturers and tutors. You are encouraged to provide your thoughts on the course and teaching, both positive and critical, directly to your lecturer and tutor or by completing course and lecturer evaluations on the Griffith College portal whenever these are available.

Student feedback on their courses can be found by going to 'Student Feedback' under Support in the Griffith College Student Portal.

Academic Integrity

Griffith College is committed to maintaining high academic standards to protect the value of its qualifications. Academic integrity means acting with the values of honesty, trust, fairness, respect, and responsibility in learning, teaching and research. It is important for students, teachers, researchers, and all staff to act in an honest way, be responsible for their actions, and show fairness in every part of their work. Academic integrity is important for an individual's and the College's reputation.

All staff and students of the College are responsible for academic integrity. As a student, you are expected to conduct your studies honestly, ethically and in accordance with accepted standards of academic conduct. Any form of academic conduct that is contrary to these standards is considered a breach of academic integrity and is unacceptable.

Some students deliberately breach academic integrity standards with intent to deceive. This conscious, pre-meditated form of cheating is considered to be one of the most serious forms of fraudulent academic behaviour, for which the College has zero tolerance and for which penalties, including exclusion from the College, will be applied.

However, Griffith College also recognises many students breach academic integrity standards without intent to deceive. In these cases, students may be required to undertake additional educational activities to remediate their behaviour and may also be provided appropriate advice by academic staff.

As you undertake your studies at Griffith College, your lecturers, tutors, and academic advisors will provide you with guidance to understand and maintain academic integrity; however, it is also your responsibility to seek out guidance if and when you are unsure about appropriate academic conduct.

In the case of a breach of academic integrity made against a student he or she may request the guidance and support of a Griffith College Student Learning Advisor or Student Counsellor.

Please ensure that you are familiar with the Griffith College Academic Integrity Policy; http://policy.griffithcollege.edu.au/print.php?vdoc=tree-Students/Assessment%20and%20Examinations/Academic%20Integrity; this policy provides an overview of some of the behaviours that are considered breaches of academic integrity, as well as the penalties and processes involved when a breach is identified.

For further information please refer to the Academic Integrity Policy on the Griffith College website – Policy Library.

Risk Assessment Statement

There are no out of the ordinary risks associated with this course.

Copyright © - Griffith College

Note: For all Diploma level programs, Griffith College acknowledges content derived from Griffith University.