

FIT1049: IT professional practice

Week 1: Introduction to the unit



Things to cover today...

At the end of the first hour of this lecture, you will:

- Broadly understand the unit's objectives, its structure and assessment tasks
- Understand why 'professional practice' matters for IT professionals

At the end of the second hour of this lecture, you will understand what mindfulness is, and how one can benefit from the mindfulness training.

FIT1049 Teaching Team (S2, 2018)

Clayton: Chris Messom (Chief Examiner/Lecturer); Noriaki Sato (Lecturer); Pamela Spink (Admin. TA); Russel ABM; Zaheeruddin Asif; Jamie Clark; Damian Gleeson; Andrew Junor; Harsha Perera; Jayantha Rajapakse; Daniel Scott; Swami Swaminathan; Silva Wei (TAs); Sherelle Connaughton; Asha Padiseti; Angela Pym (Mindfulness TAs)

Malaysia: Nik Nailah Binti Abdullah (Lecturer); TBA (TAs)

South Africa: Braam Van Der Vyver (Lecturer); Helman Manuel Januario; Tinotenda Ndaona (TAs)

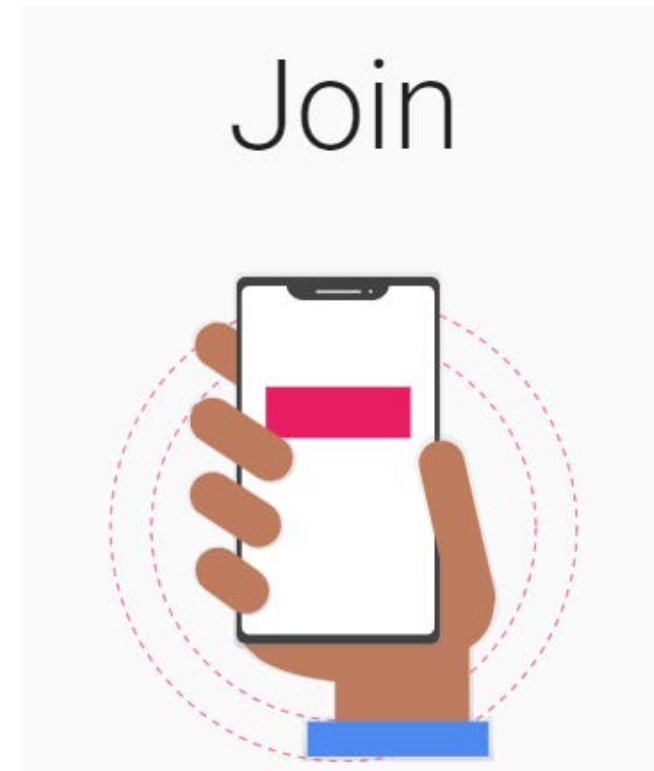
A question for you...

To get to know you as a group more,
...tell us **what kind of an IT job you wish to get in future?**

Please head to **<https://flux.qa>** and sign in with your Monash account (you should then stay logged in for the semester).

Hit the plus button in the top right and type in code **8JQJ4J** to join the FIT1049 group. The code is case sensitive.

*Please note that this is a Monash system, and your responses to questions are not anonymous.



The role of IT professionals...

1960s: Computer operators, programmers...

2018:

Learning designers

Educational technologist

Data librarian

System administrator

Data analyst

Usability consultant

Help desk officer

Business analyst

Visualisation specialist

Database designer

Hacker

Software quality assurance

Project manager

Game developer

Programmer

Systems analyst

Information manager

Software architect

Multimedia developer

Data integrity officer

Software engineer

Security advisor

Intelligence analyst

Network administrator

Some of the jobs that did not exist 10 years ago...

App developer
Social media manager
Uber driver
Driverless car engineer
Cloud computing specialist
Big data analyst/data scientist
Sustainability manager
YouTube content creators
Drone operators
Millennial generational expert

([World Economic Forum 2018a](#))

DATA

Data Scientist: The Sexiest Job of the 21st Century

by Thomas H. Davenport and D.J. Patil

FROM THE OCTOBER 2012 ISSUE

 SUMMARY  SAVE  SHARE  COMMENT  TEXT SIZE  PRINT **\$8.95** BUY COPIES

When Jonathan Goldman arrived for work in June 2006 at LinkedIn, the business networking site, the place still felt like a start-up. The company had just under 8 million accounts, and the number was growing quickly as existing members invited their friends and colleagues to join. But users weren't seeking out connections with the people who were already on the site at the rate executives had expected. Something was apparently missing in the social experience. As one LinkedIn manager put it, "It was like arriving at a conference reception and realizing you don't know anyone. So you just stand in the corner sipping your drink—and

([Davenport & Patil, 2012](#))

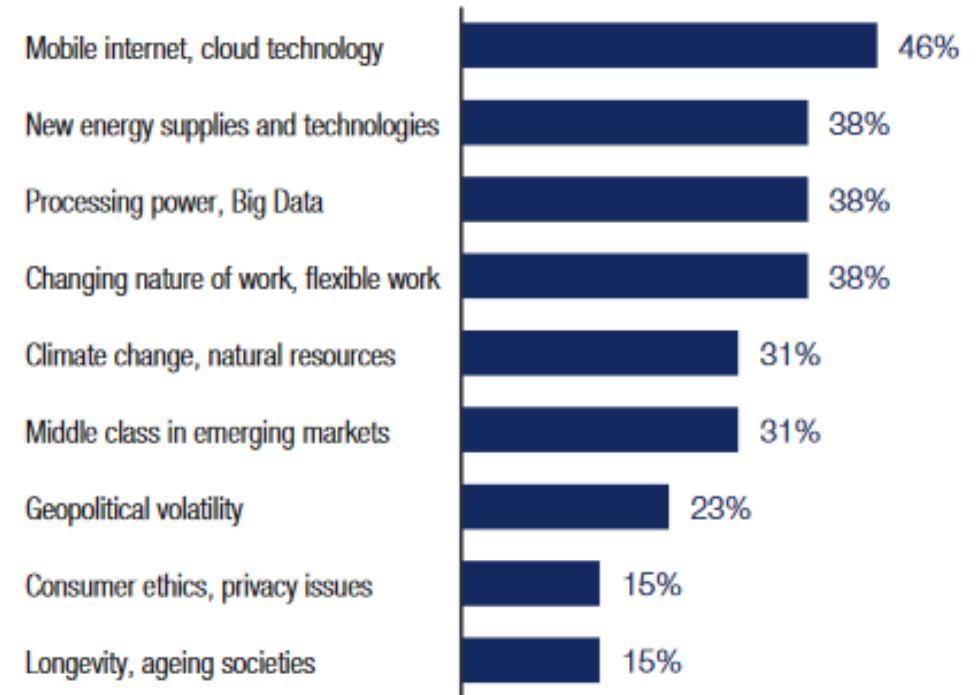
Jobs you will get...

“Jobs exist now that we’d never heard of a decade ago. One estimate suggests that 65% of children entering primary school today will ultimately end up working in completely new job types that aren’t on our radar yet.”

([World Economic Forum 2018a](#))

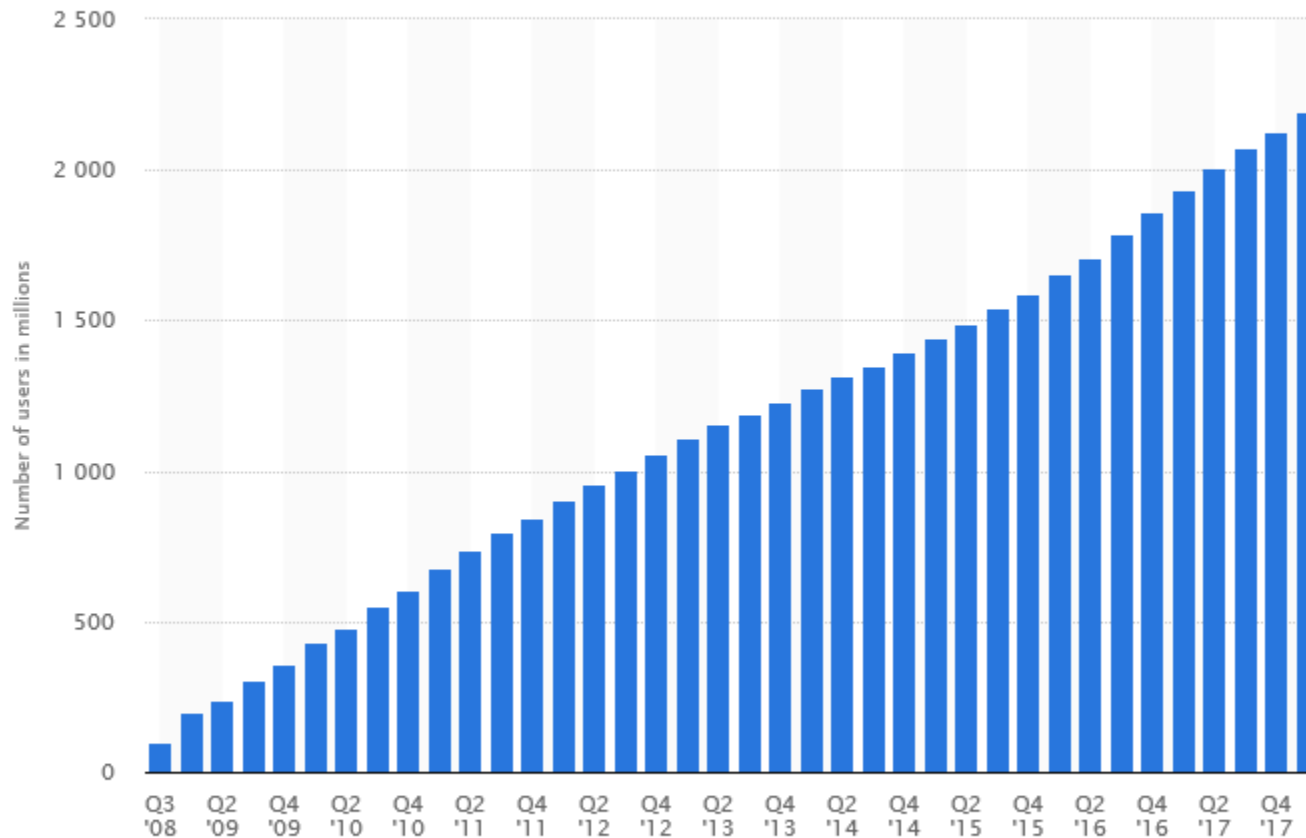
“If you look at almost any workplace – or almost any facet of your life, from phones and games to the Internet of Things – we are using information technology all the time. IT is also important in future developments like robotics and automation, and the capacity for that will grow.” ([CSU, 2018](#))

**Driver of change impacting industries
importance to ASEAN business leaders**



([World Economic Forum 2018b](#))

Number of monthly active Facebook users worldwide as of 1st quarter 2018 (in millions)



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DESCRIPTION SOURCE MORE INFORMATION

This statistic shows a timeline with the worldwide number of monthly active Facebook users from 2008 to 2018. As of the first quarter of 2018, Facebook had 2.19 billion monthly active users. In the third quarter of 2012, the number of active Facebook users had surpassed one billion, making it the first social network ever to do so. Active users are those which have logged in to Facebook during the last 30 days. Furthermore, as of the previous quarter the [social network had 1.74 billion mobile MAU](#). The platform is also the [most popular social network worldwide](#).

NEWS / UNITED STATES

Number of active Facebook users increased despite scandals

Company sees number of monthly active users reach 2.2 billion while facing scrutiny over data breach and harvesting.

26 Apr 2018



(Source: [Al Jazeera, 2018](#))



World Population

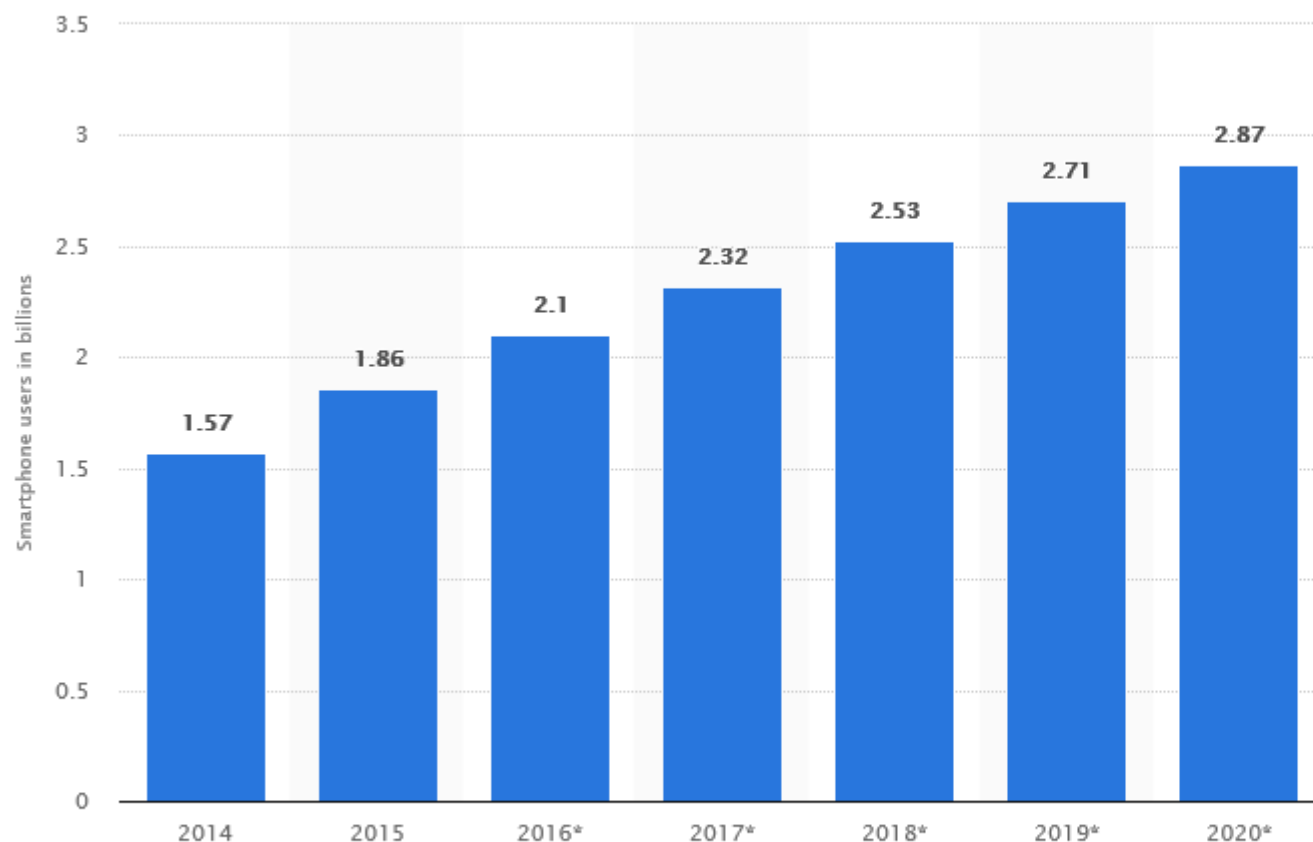
7,487,406,232


TOP 10 MOST POPULOUS COUNTRIES (July 1, 2018)

1. China	1,384,688,986	6. Pakistan	207,862,518
2. India	1,296,834,042	7. Nigeria	195,300,343
3. United States	329,256,465	8. Bangladesh	159,453,001
4. Indonesia	262,787,403	9. Russia	142,122,776
5. Brazil	208,846,892	10. Japan	126,168,156

(Source: [United States Census Bureau](#))

Number of smartphone users worldwide from 2014 to 2020 (in billions)



Advertisement Data visualized by  + a b | e o u

© Statista 2018

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DESCRIPTION

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MORE INFORMATION

The statistic depicts the total number of smartphone users worldwide from 2014 to 2020. For 2016, the number of smartphone users is forecast to reach 2.1 billion.

The number of [mobile phone users](#) in the world is expected to pass the five billion mark by 2019.

Smartphone users worldwide - additional information

The number of smartphone users is forecast to grow from 2.1 billion in 2016 to around 2.5 billion in 2019, with [smartphone penetration rates](#) increasing as well.

(Source: [Statista, 2018c](#))

INTERNATIONAL • DEVELOPING COUNTRIES

The World's Poorest Are More Likely to Have a Cellphone Than a Toilet



MONASH University

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PUBLISHED JUN 26 2018

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The PROTIC project: how mobile phones are changing the lives of Bangladeshi women



Larry Stillman

Senior Research Fellow,
Faculty of Information
Technology



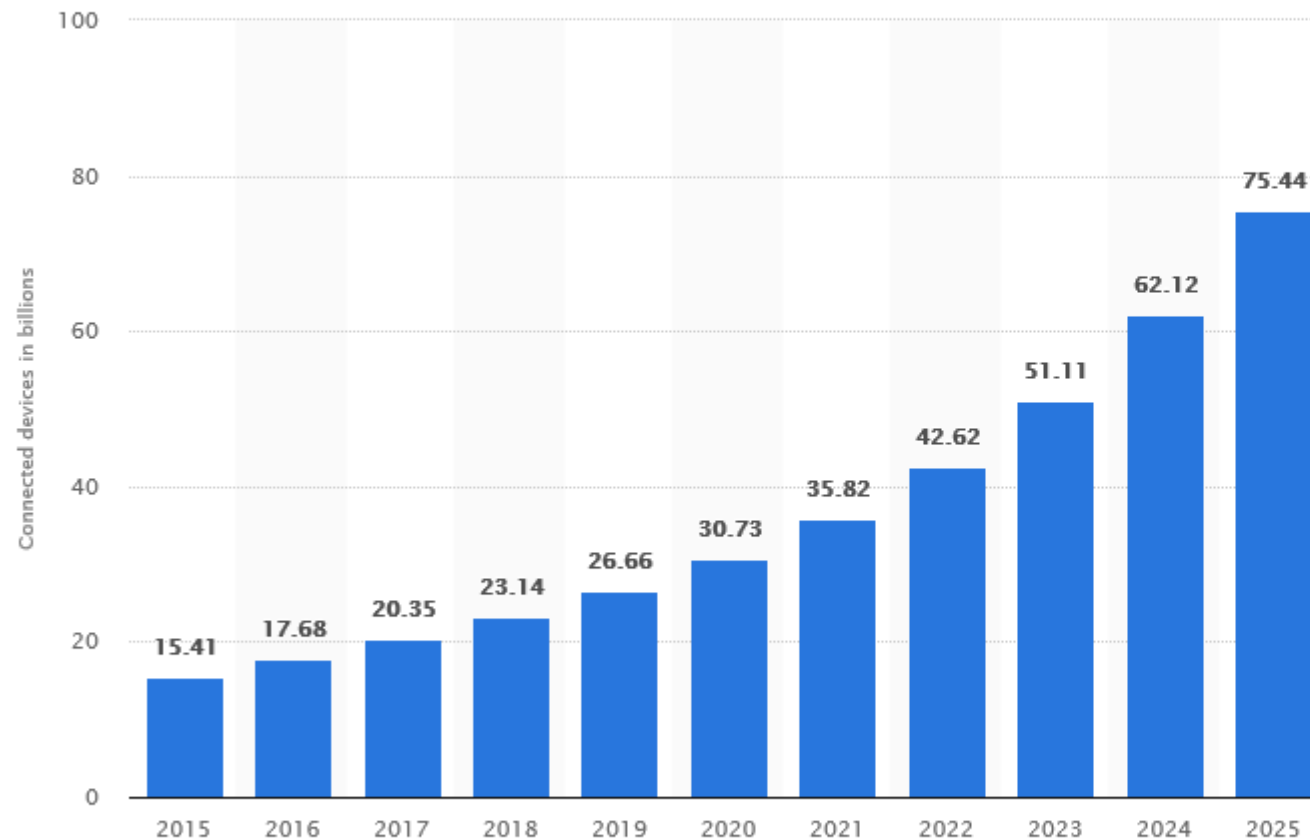
How smartphones are heating up the planet

March 26, 2018 8.03am AEDT

Smart phones are rarely recycled and that's just one reason tech devices are increasing our carbon footprints. Here Phil Schiller, Apple's senior vice president of worldwide marketing, is seen in 2018 talking about new iPhones. (AP Photo/Marcio Jose Sanchez, File)

(Source: [Belkhir, 2018](#))

Internet of Things (IoT) connected devices installed base worldwide from 2015 to 2025 (in billions)



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PPT



DESCRIPTION

SOURCE

MORE INFORMATION

This statistic shows the number of connected devices (Internet of Things; IoT) worldwide from 2015 to 2025. For 2020, the installed base of Internet of Things devices is forecast to grow to almost 31 billion worldwide. The [overall Internet of Things market](#) is projected to be worth more than one billion U.S. dollars annually from 2017 onwards.



The ‘Fourth Industrial Revolution’?

“By 2020, the Fourth Industrial Revolution will have brought us advanced robotics and autonomous transport, artificial intelligence and machine learning, advanced materials, biotechnology and genomics.” ([World Economic Forum, 2016c](#))

“[The Fourth Industrial Revolution] is characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres.” ([World Economic Forum, 2016d](#))

“These developments will transform the way we live, and the way we work. Some jobs will disappear, others will grow and jobs that don’t even exist today will become commonplace. What is certain is that the future workforce will need to align its skillset to keep pace.” ([World Economic Forum, 2016c](#))

Another question for you...

To enter such an industry environment,

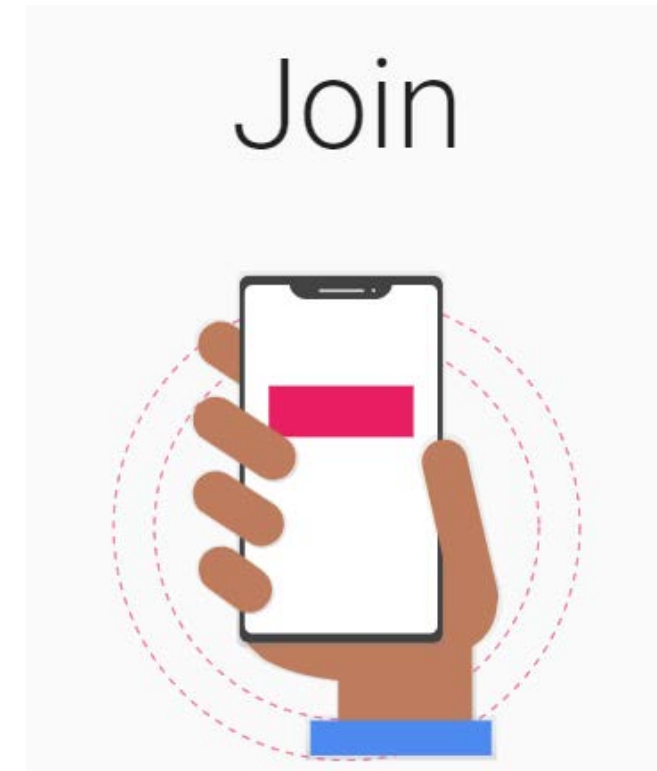
...aside from the technical skills,

what kind of skills do you think you still need to learn?

Please head to **<https://flux.qa>** and sign in with your Monash account (you should then stay logged in for the semester).

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Aside from the technical skills, what kind of skills do you think you still need to learn?
(Write your response in a word or two please.)



Comments: Thanks for the responses! It is great to see many of the topics covered in the unit appearing here, and we also appreciate some of the insightful responses, such as one that address language skills (other than English), or one's frame of mind. As we will learn from next week, it is very important for us to be able to apply these skills in a deliberate and systematic manner to be effective in any professional environments, and we shall discuss how we develop these 'skills' further...

Typical IT graduate attributes – a selection

Capacity to learn new skills

Capacity for enquiry and research

Capacity to analyse and solve problems

Capacity for co-operation and teamwork

Interpersonal skills with colleagues and clients

Effective use of information and communications technologies

Ability to operate in an international and multicultural context

Oral communication skills

Written communication skills

Numeracy and data literacy

IT graduate attributes – a view from a professional organization

1. Graduates will have broad and coherent knowledge and skills for ICT professional work and/or further learning in a global economy. This knowledge should extend to being innovative and entrepreneurial as appropriate to the ICT occupation they are pursuing.
2. Graduates will have broad and coherent theoretical and technical knowledge with depth in one or more disciplines or areas of practice in ICT.
3. Graduates will have well-developed cognitive, technical and communication skills to select and apply methods and technologies to:
 1. analyse and evaluate information to complete a range of activities in their ICT area of expertise
 2. analyse, generate and transmit solutions to unpredictable and sometimes complex ICT problems
 3. transmit knowledge, skills and ideas to others
4. Graduates at this level will apply knowledge and skills to demonstrate autonomy, well-developed judgement and
5. responsibility:
 1. in contexts that require self-directed work and learning
 2. within broad parameters to provide specialist advice and functions

([ACS, 2015](#))

The 'soft' skills?

One recent study polled 68 employers on the specific skills that they would like to see in future employees. Ranking the importance of the different skills on a scale of 1-5, 5 being most important.

The average rating for **all technical skills** (e.g. programming and software engineering, operating systems and network management, database management, web technologies) was **3.3**.

The average ranking for **general (soft) skills** (e.g. problem solving, communications and interpersonal skills) was **4.5**.

(Fernandez & Tedford, 2006)

The skills you need when you graduate?

Top 10 skills

in 2020

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility



Source: Future of Jobs Report, World Economic Forum

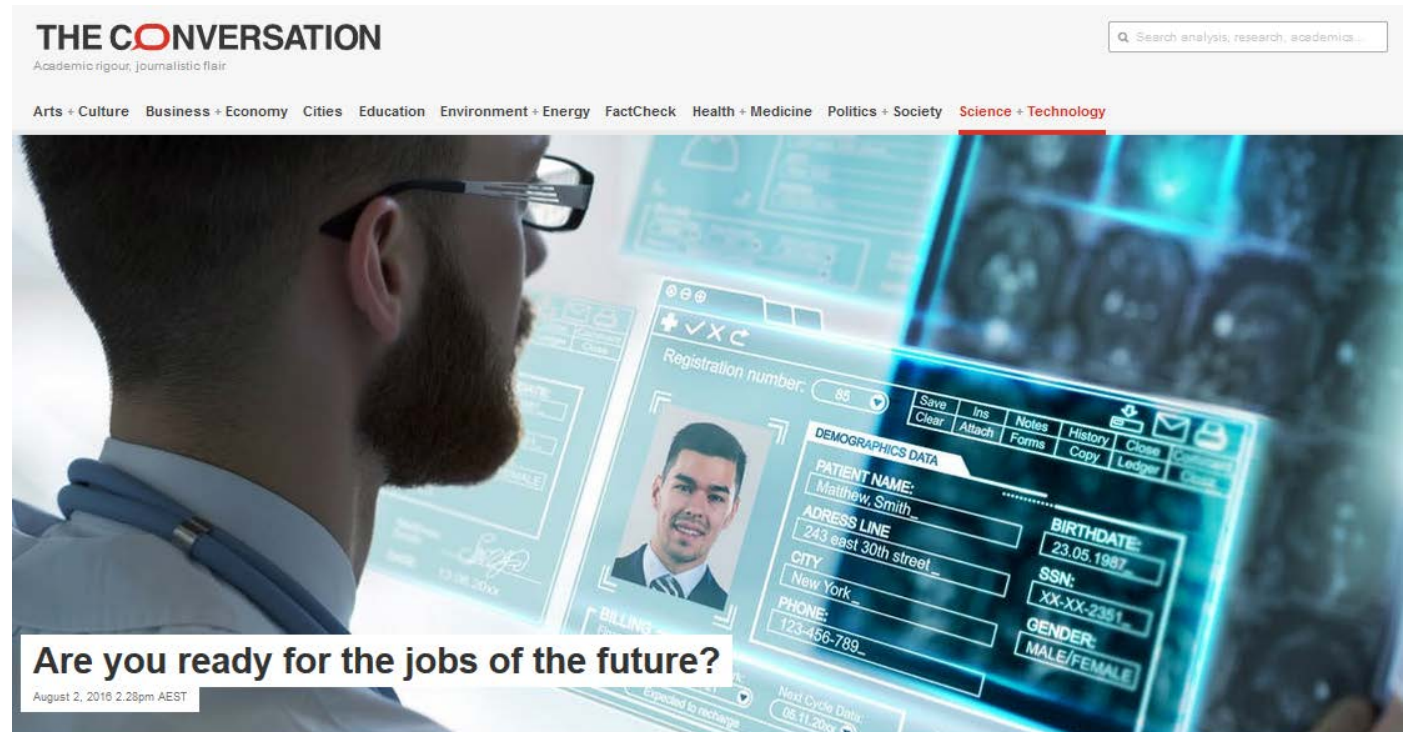
in 2015

1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgment and Decision Making
9. Active Listening
10. Creativity



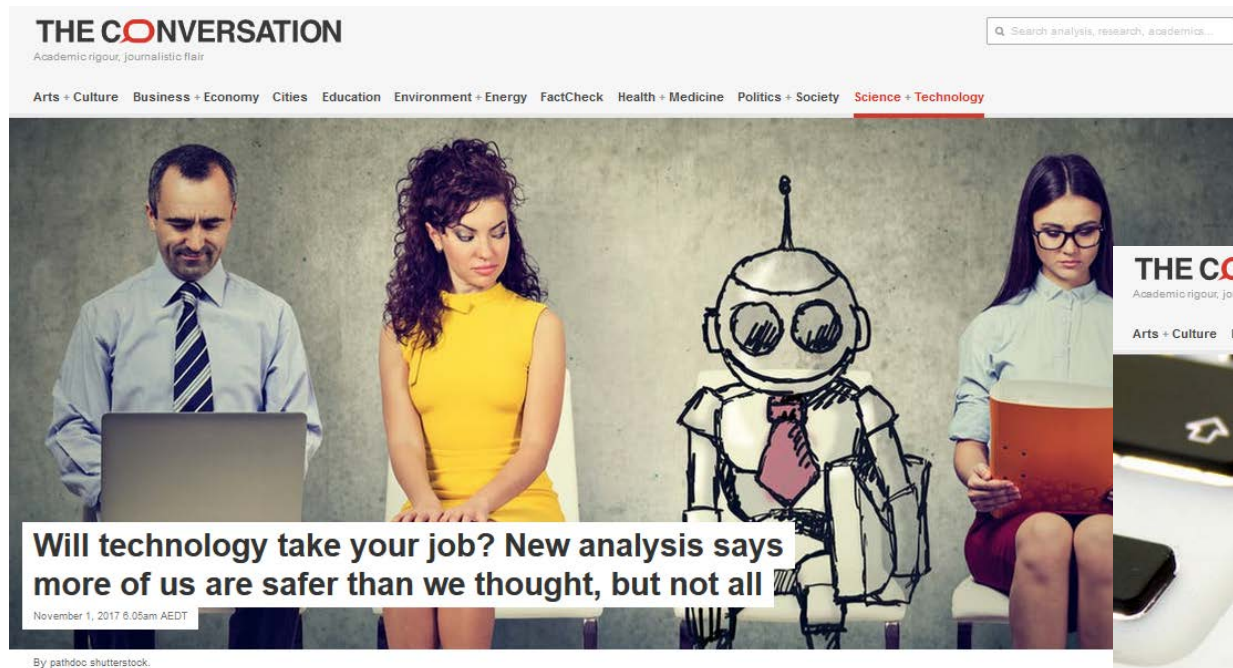
([World Economic Forum, 2016b](#))

([Jonston, 2016](#))

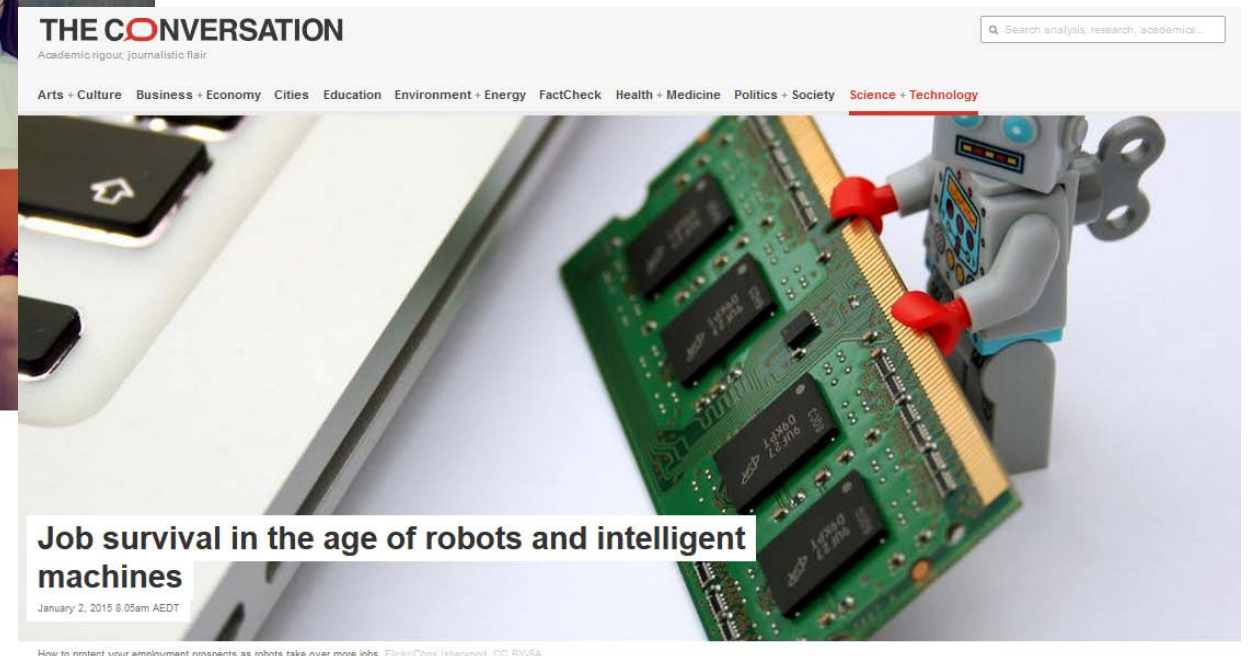
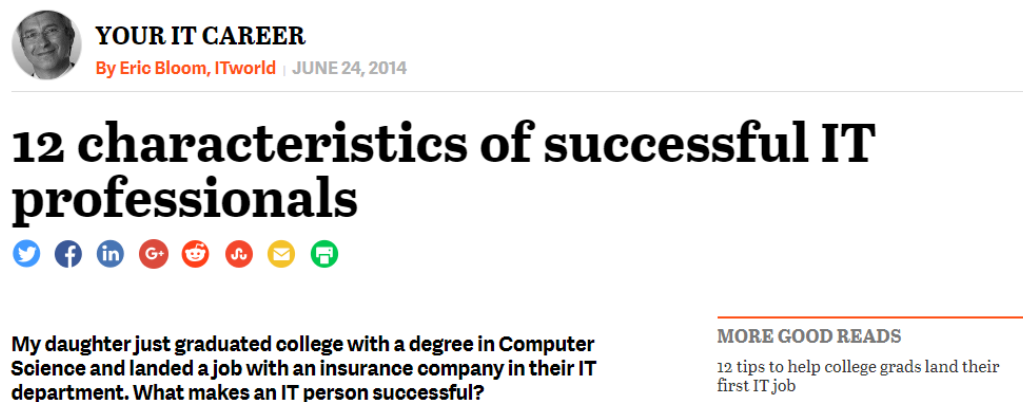


New jobs, such as big data doctor, might be just around the corner. Shutterstock

And it has been clearly a topic of interest for many...



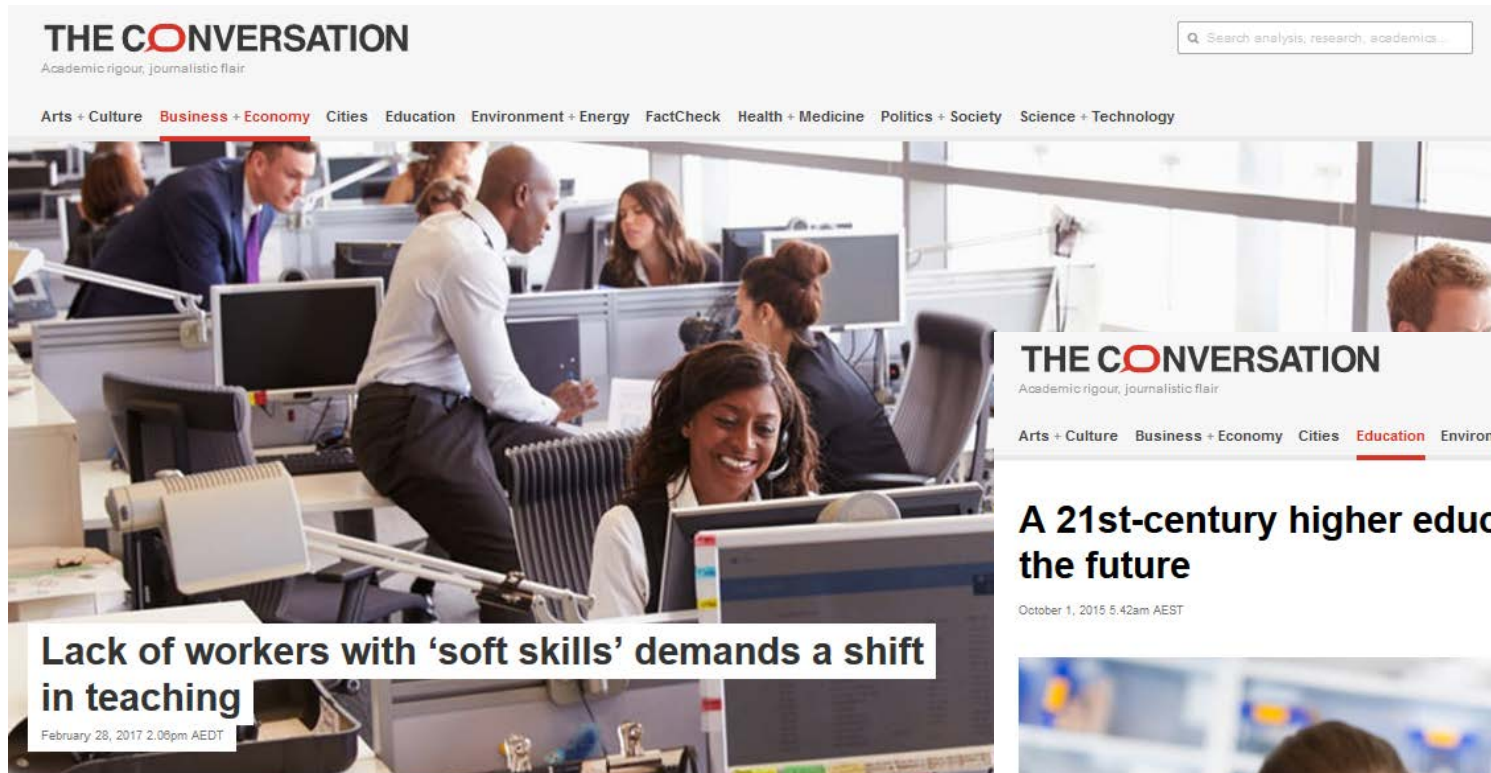
([Fagan, 2017](#))



([Tuffley, 2015](#))

([Bloom, 2014](#))

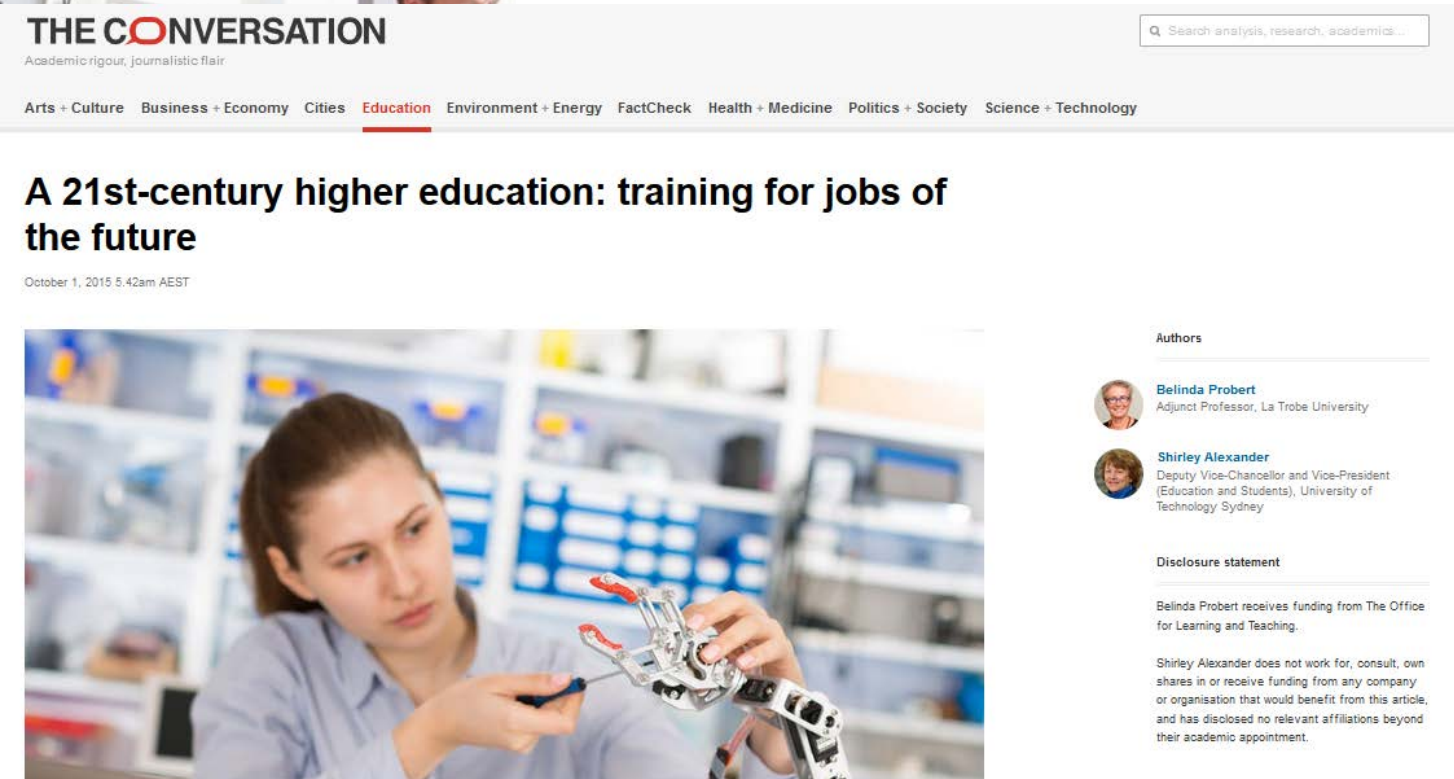
And the role of education is changing...



A shift to open-plan offices means interpersonal and influencing skills are more important than ever. shutterstock.

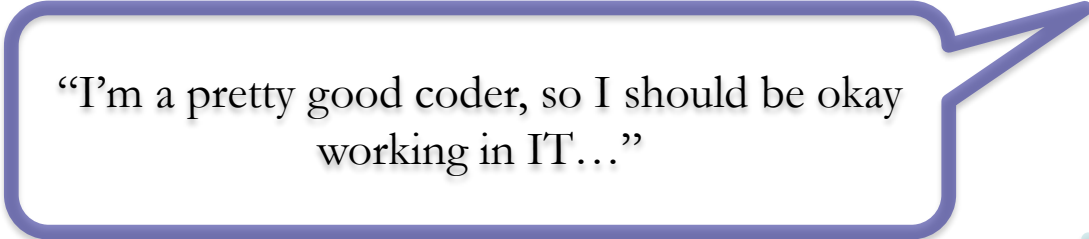
([Sander, 2017](#))

([Probert & Alexander, 2015](#))



The unit's learning outcomes

1. **Describe a variety of roles for IT professional and the personal, social, ethical and legal impacts arising from their work;**



“I’m a pretty good coder, so I should be okay working in IT...”



A ‘role’ is different from tasks...

The unit's structure

Week	Topics
1	Introduction
2	The basics of professional communications (with an emphasis on interpersonal communications)
3	Research skills (incl. information gathering, use and analysis)
4	Oral communications and presentations
5	Structured communications, e.g. meetings and interviews
6	Teamwork, leadership and reflective skills
7	Professional ethics
8	Issues in the contemporary IT professional practice 1: Intellectual property
9	Written communications 1: Traditional modes of written communication
10	Written communications 2: Online and emerging modes of written communication
11	Issues in the contemporary IT professional practice 2: Discrimination, harassment and bullying
12	Issues in the contemporary IT professional practice 3: Security and privacy

How this unit works – pre-lecture reading

1. Please read the ePub before you attend the lecture. This will take about 30 minutes.
2. If you really could not have read it, please at least read a 5-minutes version of it.

Pre-lecture activities (30 minutes)

Before you attend the Week 2 lecture, please read the following two chapters from the ePub, i.e. one that is an introduction to IT professional practice, and another on types of communication.


We understand that sometime your life may get in a way of these tasks, and just in case you could not have 30 minutes for reading the full chapters, we have also prepared a summary version for each of them, which can be read in approximately 5 minutes.

Please at least read these before you attend the lecture, thank you.


Please also note, that aside from its obvious purpose to prepare you for the lecture activities, reading the ePub in a timely manner will also help you prepare for the final examination, since all the contents in the ePub will be assessed as part of the final examination.

 [FIT1049 ePub Chapter 1: Introduction to IT professional practice](#)



 [FIT1049 ePub Chapter 1: 5 minutes version](#) 86.2KB PDF document



 [FIT1049 ePub Chapter 2: Types of Communication](#)



 [FIT1049 ePub Chapter 2: 5 minutes version](#) 107.2KB PDF document



How this unit works – lecture

1. ...and attend the lecture, which will (usually) consist of:
 1. Quizzes using Flux (not assessed)
 2. Lecture with a couple of activities
 3. Sample exam questions
2. We will finish each lecture around 11:40 (i.e. $100 \text{ min.} = 50 \text{ min.} + 50 \text{ min.} = 2 \text{ standard 1-hour lectures}$), unless we have a guest lecturer/lecturers

How this unit works – tutorial [Part 1]

1. ...and attend the tutorial where you apply the knowledge into practice.
2. These classes are held throughout the semester, i.e. from Week 1 to Week 12.
3. Some of the tutorial outcomes will be submitted as part of your 'eFolio' assessment, i.e. a Google Drive folder in which you keep eight (8) assessable items arising from the tutorials throughout the semester.

How this unit works – tutorial [Part 2]

1. ...and you also have mindfulness training sessions either in the first or second half of the semester.
2. These classes are held either between Week 2 and Week 6, or between Week 7 and Week 11, depending on your allocation. Please refer to *Allocate+* for details.
3. You will hear more details on this in the second half of this week's lecture.

The FIT1049 Moodle Site

1. **The site** is available for you to keep yourself up-to-date with the unit related information. The site will be progressively updated throughout the semester, and you will also find a range of resources as well.
2. **Discussion Forum** is to be used only for content-related queries of general interest (e.g. questions about the assessment tasks). Posts that would fall outside this will be deleted as per the Faculty's policies.
3. **Any other queries**, including those specific to your circumstance/situation, feedback, concerns, should be directed to your tutor and/or campus lecturer(s).

Assessment summary

1. eFolio Part A (10%): eight (8) assessable items arising from the tutorials, uploaded on a Google Folder that is shared with the tutor [due in Week 10, with provision of weekly feedback]
2. eFolio Part B (Mindfulness) (8%): weekly journals arising from the mindfulness training sessions [due each week]
3. Assignment 1 (20%): an individual oral presentation (10%) and a worksheet (10%), based on an analysis of a specified article [due in Week 6]
4. Assignment 2 (20%): a group presentation (10%) and an individual reflective report (12%), based on a research project on a selected topic on IT professional practice [due in Week 11 and 12 respectively]
5. Examination (40%): drawing upon all the materials covered in the unit.

Some rules to observe...

1. Please note that passing the unit requires:
 1. At least 50% for whole unit (of course!)
 2. Meeting hurdle requirements
 3. 40% for non-exam assessments
 4. 40% for exam
 5. **No breach of the University's academic integrity policies**

Support available

1. **Tutor (in class) and Lecturer(s):** Can be contacted either in person or by email. (See the 'Unit Information' page on the Moodle Site for their emails.
2. **Consultation hours:** To be arranged from Week 3; to be announced on the Moodle Site
3. **Special Consideration:** To be granted in case of an extraordinary circumstance, and conditions apply. A link to the University's form can be found under the 'Assessment' tab on the Moodle Site.

Support available (cont'd)

1. Disability Support Services provides a range of services for registered students including:
 - Notetakers and Auslan interpreters
 - Readings in alternative formats
 - Adaptive equipment and software
 - Alternative arrangements for exams

2. For further information and details about how to register:
 - Email: disabilitysupportservices@monash.edu
 - Phone: 03 9905 5704
 - Web: monash.edu/social-justice/disability

Things to do this week...

1. Attend your first Tutorial session this week
2. Read ePub for Week 2 before the lecture next week
3. You will see in the Week 2 tab on the Moodle Site a summary of what to come in Week 2