

AN UNCONVENTIONAL CAREER:

# Why IT is a Smarter Choice for Students

FACULTY OF INFORMATION TECHNOLOGY  
MONASH UNIVERSITY



# PRESENTERS

- **DR MICHAEL WYBROW**

Director of Work Integrated Learning

- **DR PIERRE LE BODIC**

Senior Lecturer, Department of Data Science and AI

- **KATHARINE SMITH**

Senior Student Recruitment Coordinator

- **TING YAP**

Student Ambassador

Bachelor of Information Technology/

Bachelor of Science

- **ERIK VO**

Student Ambassador

Bachelor of Computer Science/

Bachelor of Commerce

# AGENDA

- **Why study IT?**
- **What can students study?**
- **Work Integrated Learning (WIL) opportunities**
- **Studying a first year unit at Monash**
- **Ask a student, Q&A session!**

# IT AT MONASH



World renowned academics and researchers



Accredited degrees (Australian Computer Society)



Teaching innovation



Industry experience opportunities



A dedicated faculty to teaching and learning



Ranked in the top 100 in the world for CS & IS  
(QS World University Rankings by Subject, 2021)





2022

# Jobs on the Rise

Australia



LinkedIn

1. Chief Human Resources Officer
2. **Machine Learning Engineer**
3. **Site Reliability Engineer**
4. Power System Engineer
5. **Data Engineer**
6. Talent Acquisition Specialist
7. Business Development Representative
8. **Content Designer**
9. **Cyber Security Specialist**
10. Client Partner
11. **Back End Developer**
12. Operations Support Officer
13. Workforce Specialist
14. **Head of Engineering**
15. **User Experience Researcher**

8 of the 15 '*Jobs on the Rise*'  
require an IT background

<https://www.linkedin.com/pulse/linkedin-jobs-rise-2022-15-australian-roles-growing/>

# THE FUTURE IN IT

## Employment projections for the 5 years to November 2025\*

Australian Government Labour  
Market Insights report - 2022

↑ **11%**

**Professional, Scientific and Technical  
Services Sector**  
(includes Information Technology)

↑ **315,000**

**Computer System Design and Related  
Services**

↑ **50,300**

**Market Research and Statistical Services**

### Top employing occupations

- **ICT Support Technicians - 70,500**
- **ICT Managers - 72,400**
- **Graphic and Web Designers - 54,300**
- **Software and Applications Programmers - 150,400**

Graduate salary is  
\$65,500

Source: Graduate Outcomes Survey 2021

3 Years after graduation:  
\$83,000

Source: Graduate Outcomes Survey 2020

\$8K above  
national  
average!

**THE INFORMATION  
TECHNOLOGY INDUSTRY  
OFFERS ONE OF THE  
HIGHEST SALARY  
AVERAGES IN AUSTRALIA\***

Source: Graduate Careers Australia

**Average Australian Information Technology Salary - \$125,504\***

Source: Adzuna IT jobs in Australia, Sept, 2020





# WHAT CAN STUDENTS STUDY AS A MONASH IT STUDENT?



# UNDERGRADUATE DEGREES

## COMPREHENSIVE

### Bachelor of Information Technology



Business Information Systems



Computer Networks & Security



Games Development



Interactive Media



Software Development

**(3 Years duration)**

## SPECIALIST

### Bachelor of Computer Science



Advanced Computer Science



Data Science

**(3 Years duration)**

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Bachelor of Computer Science Advanced (Honours)

**(4 Years duration)**

Bachelor of Software Engineering (Honours)

**(4 Years duration)**

# BACHELOR OF INFORMATION TECHNOLOGY

ATAR 80.05

IB 28

3 Years

Choice and Flexibility

A second major, or one or  
two minors, or electives



Business  
Information  
Systems



Computer  
Networks &  
Security



Games  
Development



Interactive  
Media



Software  
Development

## Career Outcomes

- Web Developer
- Network Manager
- Security Specialist
- Animator
- IT Consultant
- Business Analyst
- Cloud Architect
- Project Manager
- Computer Forensic Investigator

# BACHELOR OF INFORMATION TECHNOLOGY

CHOOSE FROM 14 MINORS IN YOUR BACHELOR OF INFORMATION TECHNOLOGY DEGREE!



Business Information Systems



Computer Networks & Security



Computer Science



Cybersecurity



Data Science



Games Design



Games Development



Interactive Media



IT for Business



Mobile Apps Development



Software Development



Software Engineering



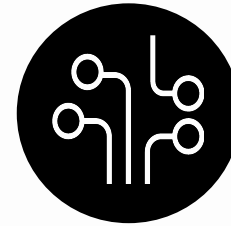
Web Development

# BACHELOR OF COMPUTER SCIENCE

ATAR 84.15

IB 29

3 Years

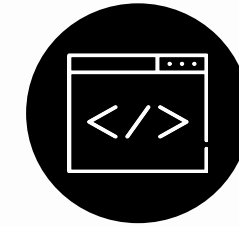


## Advanced Computer Science



### Career Outcomes

- Specialist Programmer
- Technical Analyst
- Database Administrator
- Research Scientist
- IT Consultant



## Data Science



### Career Outcomes

- Data Scientist
- Analytics Professional
- Information Visualisation Expert
- Chief Information Officer
- Business Analyst



# BACHELOR OF COMPUTER ADVANCED (HONOURS)

ATAR 95.7  
IB 37  
4 Years

Students can choose to do a 6  
month placement through:



IBL  
PROGRAM



RESEARCH  
PROJECT  
TEAM

## A research-focused degree

- More challenges
- Advanced classes
- Linked with the Faculty of Science
- Research and development programs
- Introduces students to innovation & research
- Studying alongside high-achieving, like minded peers
- From 2020, specialisation in Data Science available!

# BACHELOR OF SOFTWARE ENGINEERING (HONOURS)

ATAR 86

IB 31

4 Years

## Dual Accreditation

- Engineers Australia
- Australian Computer Society

## Career Outcomes

- Software Developer
- Software Engineer
- Software Architect
- Network Administrator
- User Interface Designer
- Business Analyst
- Software Tester
- Programmer Analyst
- Software Project Manager
- Configuration Control Manager

# DOUBLE DEGREE COMBINATIONS

	Arts	Business	Commerce	Criminology	Design	Engineering	Fine Art	Global Studies	Law	Science
Computer Science										
Advanced Computer Science										
Data Science										
Information Technology										
Business Information Systems										
Computer Networks and Security										
Games Development										
Interactive Media										
Software Development										
Software Engineering										

# 2022 ENTRY REQUIREMENTS

Courses	ATAR	Term	Subjects
<b>Bachelor of Information Technology</b>	80.05	3 years	Units 1 & 2: General Mathematics, Mathematical Methods or Specialist Mathematics
<b>Bachelor of Computer Science</b>	84.15	3 years	Units 3 & 4: at least 25 in either Mathematical Methods (any) or Specialist Mathematics
<b>Bachelor of Computer Science Advanced (Honours)</b>	95.7	4 years	Units 3 & 4: at least 25 in either Mathematical Methods (any) or Specialist Mathematics
<b>Bachelor of Software Engineering (Honours)</b>	86	4 years	Units 3 & 4: at least 25 in either Mathematical Methods (any) or Specialist Mathematics Units 3 & 4: at least 25 in either Chemistry or Physics



# Work Integrated Learning Opportunities in Monash IT degrees

**MICHAEL WYBROW**

Director of Work Integrated Learning  
Faculty of Information Technology



# Life as an IT Professional

## Previously — Isolated individuals



1. **Clients' complete requirements gathered**
2. **Software developed over several years with little client intervention**
  - Quiet coders coding in isolation, making decisions for the client in their absence
3. **Software delivered**
  - It's not what the client wants anymore, times have moved on

# Life as an IT Professional

Now — Noisy, dynamic team environment



1. **Clients' immediate requirements gathered**
2. **Build it in a 2-week "sprint", show client, get feedback**
  - Agile development: daily stand ups, pair programming, coders review other coders' code, coders implement individual user stories taken from a "Kanban" wall full of stories for this sprint, retrospective meetings for feedback on sprints, showcases to show off what has been done
3. **Modify according to client feedback**
4. **Go back to 1**

# The importance of WIL



- **Essential Skills for Employability in a Professional IT Setting**

- Problem Solving
- Teamwork
- Communication (written, oral, especially presentation)
- Interpersonal Skills
- Corporate Behaviour
- Networking and Establishing a Personal Brand
- Exposure to Potential Employers (show them what you can do)

- **University teaches theory and simulates practice**

- **Cannot simulate the scale and complexity of real practice or real corporate environment**



# Available WIL Experiences



- **Capstone Units**

- BIT: Industry Experience Studio Project
- BCS: Computer Science Project/Data Science Project
- BSE: Software Engineering Industry Experience Studio Project

- **Semester-long Internships with Scholarship**

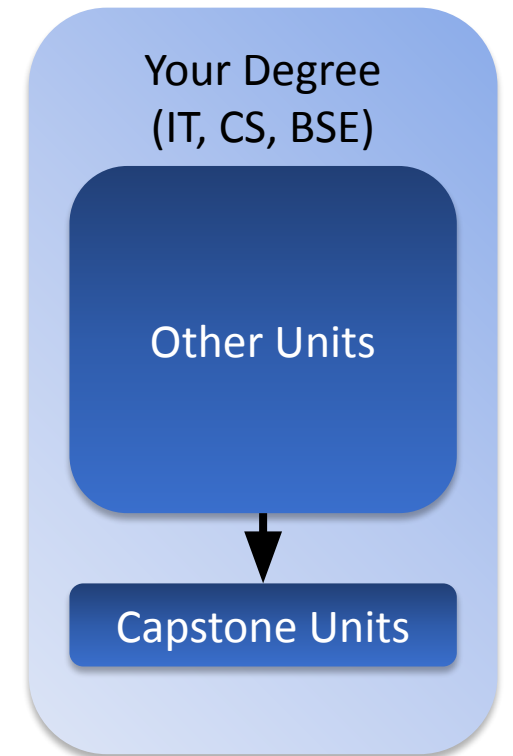
- IBL (Industry Based Learning Program)

- **Multi-disciplinary Summer Internships with Scholarship**

- MITI (Monash Industry Team Initiative)

# Capstone Units

- **University-based, final year (2 consecutive units)**
- **Group work in purpose-built studios**
  - Fosters collaboration, peer learning, responsibility
- **Develop software as specified by real-world client**
- **Using modern Agile development processes**
- **Students put into practice theory, tools and techniques learned in their degree**



# Capstone Unit Testimonials

*"I have so much confidence now. I can tackle anything. I know I think one of the main takeaways I want to keep from this unit is the importance of passion for what you are doing. Working with both the client and mentors I started to see what infectious passion is. In future I want to try and lead and guide as well as apply myself in a way that proves I like what I'm doing. A big part of that comes from finding the correct job for you and this unit has helped me to realise that working as business analyst, my future job direction, is fun to me. The problem solving and collaboration keeps me going and motivated. This unit has been a lot of fun, as well as stress, but very enjoyable and is certainly one of the best run units I've done."*

**— IE Student, 2021**

*A whole semester passed in a blink of an eye. The Industry experience learning of the whole year gave me a full understanding of the workplace. This is not only a unit but also a one-year internship. This unit allowed me to make many friends. We communicated together and made progress together. The IE Unit experience gave me a lot of things that I couldn't experience in class. It simulates how real companies and real project teams work, how to cooperate with each other, and how to achieve success. To grasp the moment, learn more, practise more. Let yourself be able to develop and change society in the future."*

**— IE Student, 2021**

# Capstone Unit Testimonials



*“Looking back at the unit as a whole I realise how useful and important it was to apply myself. The unit not only taught me how to manage myself but most importantly for me, gave me the reassurance that all my years of university has endowed me with the skills needed to succeed in my IT career.”*

**— IE Student, 2021**

*“Through taking these units and in developing a system with a team, I think was able to gain more confidence in myself and abilities. It allowed me to experience more parts of IT that I hadn’t encountered before and brought together my understanding of projects and previous theory I learnt.”*

**— IE Student, 2021**

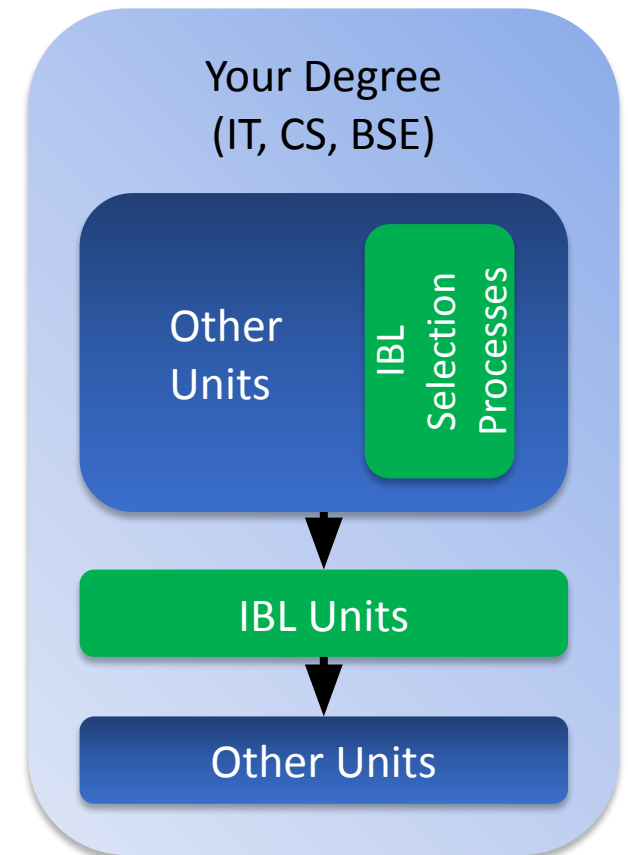
*“I just want to say thanks to all the teaching staff for running this unit and all the support. FIT3047 and FIT3048 are the most useful units I have taken in my university studies and I learned a lot during this process, also I have more confidence with my future career. the best units ever!”*

**— IE Student, 2021**



# Industry Based Learning Program

- **Scholarship (\$18,000)**
- **Embedded in Partner Company for a 23-week placement**
  - Student does not attend university for a semester
- **Supervision**
  - Partner Company supplies buddy, supervisor, life coach, etc.
  - Three visits by a supervising Monash Academic
- **Students learn by performing graduate-level real-world tasks**
- **Assessment**
  - 50% by industry, 50% by faculty
- **Students put into practice the theory, tools and techniques they have learned in their degree**



# Industry Based Learning Program

## Industry Placement Interviews

- Communication skills
- Energy and enthusiasm
- Maturity, independence, leadership potential
- Community activities
- Work experience, IT Industry awareness



You must pass your Entry Interview to be invited to the Placement Interviews



Student on average attend 40 speed interviews over 2 days!!!

# Industry Based Learning Program



- **Program is very well established — over 30 years old**
- **Around 120 students placed per semester (250/year)**
- **Great employment outcomes for IBL students**
  - 90% get employment offers before graduation
  - 70-80% are employed by our Industry Partners
  - Some employed part-time while they finish their degree



# Industry Based Learning Program

## Recent IBL Partner Companies





# IBL Testimonials

*“If you’re considering a career in the tech industry, the IBL Program is the single most useful experience you can have throughout your university degree. There is no better opportunity to assess your suitability and passion for industry and observe a workplace from the inside than by entering full-time work for six months.*”



*The fact that Monash offers this experience as part and parcel of the degree is a testament to its success for students looking to enter their professional career. This is the perfect chance for you to put in practice the skills you currently have, identify gaps in your knowledge, and develop yourself as a professional before even finishing your degree. In my case, IBL opened my eyes to a whole range of career options I had never considered, and I will be eternally grateful for this.”*

**— Draga Doncilla Pop**

# IBL Testimonials

*"I completed my IBL placement at KPMG as a consultant in their Lighthouse (Data and Analytics) Team. I've had an amazing time over the last five months, working in a field that I had never even considered before undertaking my IBL journey.*

*KPMG made me feel like a valued member of their team and the people I worked with really cared about my career development and giving me a chance to prove myself. I gained a much stronger confidence in myself as I honed both my soft skills and my technical skills in an authentic business setting.*

*The IBL program is a remarkable opportunity to gain real world experience, make long lasting connections and to take responsibility of your future by engaging in something meaningful. I would highly recommend the program to anyone who is eligible, as it gives you the chance to step outside your comfort zone and develop yourself in multiple ways without hindering the completion of your degree."*

**— Isaac Zakhari**





# IBL Testimonials

*“I am so grateful to have been given the opportunity to do an IBL placement through Monash at Transurban.”*

*I have had projects that I’ve worked on put into production across customer operations and road networks optimisation, showcased to the CTO and I’ve also learned a lot about myself and the world of data analytics.*

*Transurban has truly invested their time and effort in me, and both my technical and soft skills have grown considerably over the 23 weeks. I’m coming out of IBL well-rounded, confident and ready to join the workforce.”*

**— Isabel Shurlin**



# IBL Testimonials

*“... I have learnt more in the past 6 months than I have in my whole university degree. Practical work is in my opinion, the best way to learn.*

*I was placed at ANZ, in the Strategy, Influence and Policy tribe, and when first placed I had no idea I would experience as much as I did. I thought my IBL placement would consist of one role, in the same team, doing similar tasks, but I was very wrong.*

*I was lucky to experience three separate roles over my time at ANZ. All roles providing me with unique tasks, and different teams to work with.*

*Not only have I grown knowledge wise, I have also grown personality wise. I thought my personality was ready for becoming a grad, but I had a lot to learn and I am happy I learned it as a student. I came to realise quickly that I had a long way to go professionally, with how I communicate, present myself, and act. I am so thankful to be able to learn these skills before it is too late.”*

**— Charlotte Leonard-Brown**





# MITI (Monash Industry Team Initiative)

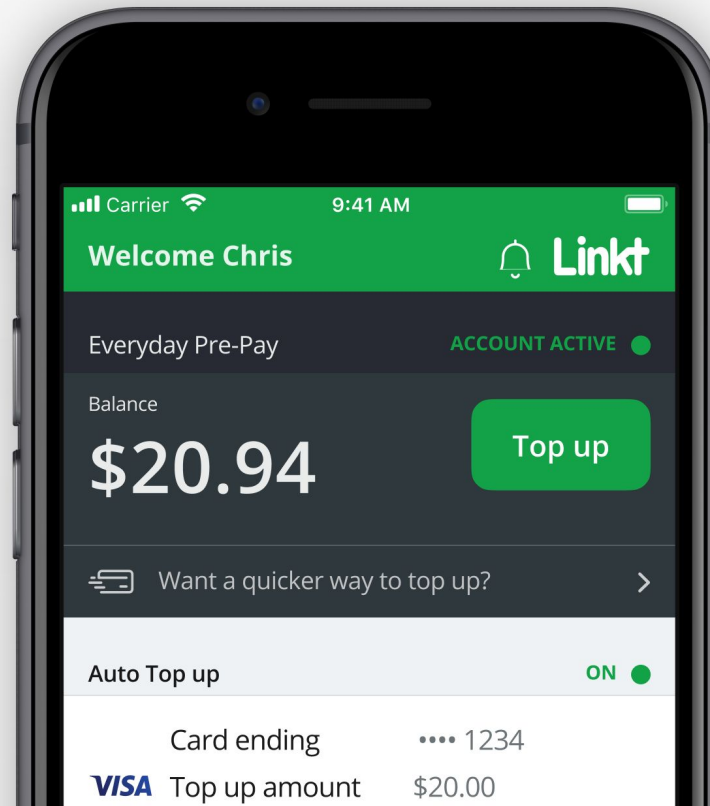
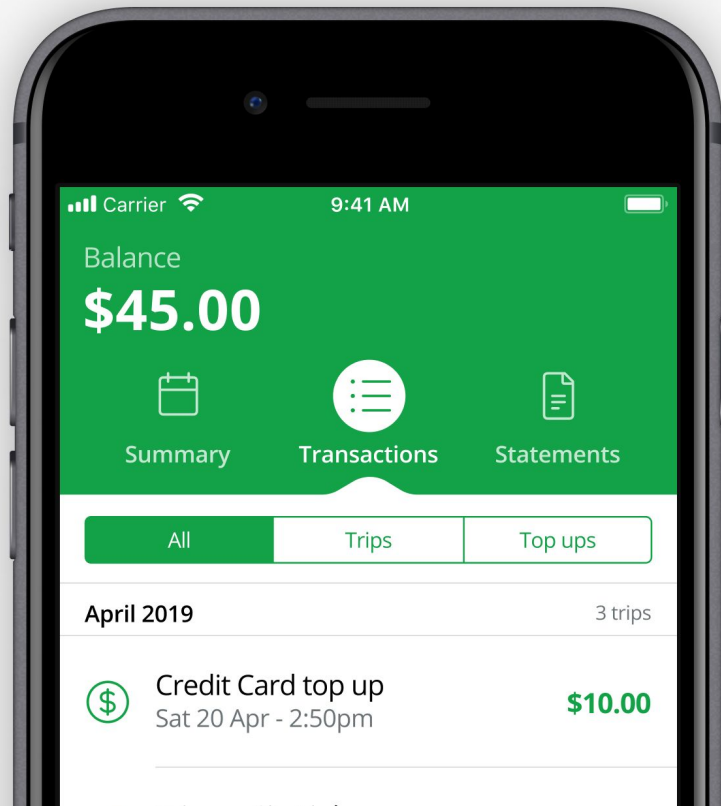


- **Paid Internship**
- **Embedded in Partner Company for a 12-week placement**
- **Students are competitively selected from a range of fields to form a multidisciplinary team, rather than participate as single interns**
  - Postgrads and later year undergrads only
- **Industry partners host teams of up to four students to undertake a specific project over 12 weeks from December to February**
- **Does not count towards degree**

# MITI (Monash Industry Team Initiative)

Transurban

- Linkt app built by two MITI teams involving FIT students



## MITI

*“One of the biggest positives is to challenge our teams thinking. You bring in very energetic, talented people without biases or background in the industry and they just think differently.”*

**— Scott Charlton, CEO, Transurban**



# Studying a first year unit at Monash

**PIERRE LE BODIC**

Senior Lecturer, Department of Data Science and AI  
Faculty of Information Technology

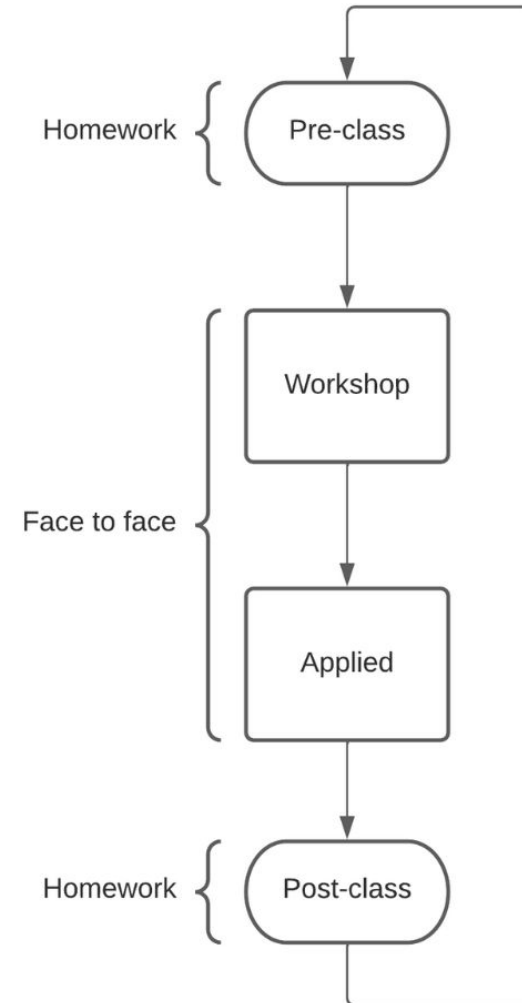




## Learning Objectives

- Find out about the unit and how things will work.
- Get familiar with ed.
- Start learning about programming.

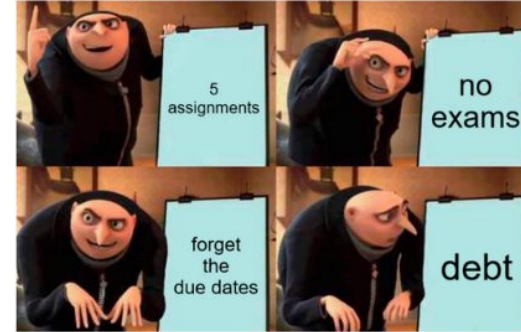
## Weekly activities



Every week:

- Pre-Class activities: **1 to 2 hours**
- Attend and participate in the workshop: **2 hours**
- Attend and participate in the applied session: **2 hours**
- Post-Class activities: **.5 hours**

## Assignments



## Workload

- 1 unit = 12 hours of work each week
- Each week you have 6 to 7 hours to dedicate to assignments

## Assignments

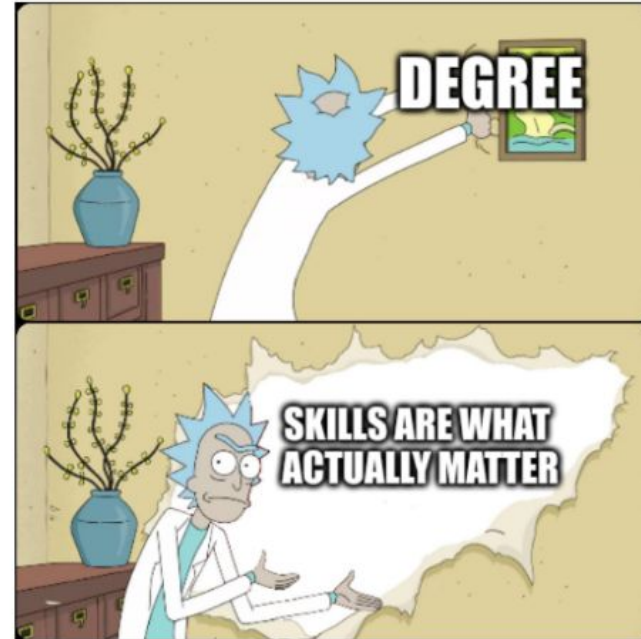
- 5 assignments, no exam
- The first and last assignments are individual
- The middle 3 assignments are in teams of 4
- Details on [Moodle](#) (Clayton) or [Moodle](#) (Malaysia) (some details are TBA)

## Details on team assignments

- You choose your team
- Teammates do not need to be in the same class
- Teams are dissolved after every assignment
- Mark breakdown:
  - 60% based on submission (common)
  - 35% based on interview (individual)
  - 5% if you submit feedback to team members (individual)



## Reality check (Pierre's advice)



- You are in charge of your own learning.
- The reason you are enrolled in this unit is to learn, not to pass the unit.
- If you don't pass, it's not the end of the world. Everyone fails sometimes. The best you can do is learn from it.
- Maybe you're not sure about IT/CS. Changing paths is fine. The earlier, the better.
- Your future employers will care about your actual skills (soft and technical), not your marks.
- If you get the same degree as everyone else, you will compete for the same boring jobs. Distinguish yourself.



## Your role in shaping the unit



All units, and even more so FIT1045, are in perpetual change. Indeed,

- The content is updated regularly
  - to better fit your future job requirements,
  - and to be more coherent with other units.
- All ways in which content is delivered to you is also changing
  - to adapt to new circumstances and technology,
  - and to **improve our students' learning and experience.**

We want to deliver the best experience to you, but we don't know what it's like to be a student in our unit. **We can only do this with your feedback.**

## Getting help



If you need help with the unit, we recommend you try this first.

- Ask your tutors and classmates during applied sessions.
- Ask on ed. There should be staff answering Monday-Friday.
- Go to a consultation. See [times on Moodle](#) (Clayton) or see [times on Moodle](#) (Malaysia)
- Sign up for PASS (see [here](#) for Clayton or [here](#) for Malaysia).
- Do not send emails for questions that are of interest to other students. Ask on ed instead!



## What is a workshop?



In this unit's workshop, we

- apply, broaden and deepen our understanding of the concepts covered in the **Pre-Class Activities**. You absolutely need to have prepared the Pre-Class Activities in order to follow during the workshop and the applied sessions!
- ask questions in the Zoom chat, on ed, or directly to tutors. Your tutors will answer or escalate to the lecturer.
- gently point out when the lecturers are mistaken, but making fun of the teaching team is encouraged if and only if with memes.

If you do not attend the workshop, a recording will be made available, typically within a day. You can then work on the workshop on your own time and at your own pace. Do what works best for you.

# ASK A STUDENT: Q&A PANEL



## **TING YAP**

Student Ambassador

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# Questions?

 @MonashInfotech

 @MonashInfoTech

 [monash.edu/it](http://monash.edu/it)

 [fit-student.recruitment@monash.edu](mailto:fit-student.recruitment@monash.edu)

