AN UNCONVENTIONAL CAREER:

Why IT is a Smarter Choice for Students
• 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!
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)
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

THE FUTURE IN IT

Employment projections for the 5 years to November 2025*

Australian Government Labour Market Insights report - 2022

<table>
<thead>
<tr>
<th>Industry</th>
<th>Change</th>
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<tbody>
<tr>
<td>Professional, Scientific and Technical Services Sector (includes Information Technology)</td>
<td>11%</td>
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<tr>
<td>Computer System Design and Related Services</td>
<td>315,000</td>
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<tr>
<td>Market Research and Statistical Services</td>
<td>50,300</td>
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</tbody>
</table>

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!

Average Australian Information Technology Salary - $125,504*
Source: Adzuna IT jobs in Australia, Sept, 2020

THE INFORMATION TECHNOLOGY INDUSTRY OFFERS ONE OF THE HIGHEST SALARY AVERAGES IN AUSTRALIA*
Source: Graduate Careers Australia
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)

Bachelor of Computer Science Advanced (Honours)
(4 Years duration)
Bachelor of Software Engineering (Honours)
(4 Years duration)
BACHELOR OF INFORMATION TECHNOLOGY

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

ATAR 80.05
IB 28
3 Years

Choice and Flexibility
A second major, or one or two minors, or electives
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

Advanced Computer Science
- Specialist Programmer
- Technical Analyst
- Database Administrator
- Research Scientist
- IT Consultant

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

ATAR 84.15
IB 29
3 Years
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)

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
<table>
<thead>
<tr>
<th><strong>DOUBLE DEGREE COMBINATIONS</strong></th>
<th>Arts</th>
<th>Business</th>
<th>Commerce</th>
<th>Criminology</th>
<th>Design</th>
<th>Engineering</th>
<th>Fine Art</th>
<th>Global Studies</th>
<th>Law</th>
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<td><strong>Games Development</strong></td>
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<td><strong>Software Engineering</strong></td>
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## 2022 ENTRY REQUIREMENTS

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

- PwC
- Linfox
- Arthur J. Gallagher & Co
- Ernst & Young
- Commonwealth Bank
- NAB
- Cyara
- MYOB
- Transurban
- Unico
- Telstra
- Deloitte
- MYER
- Grant Thornton
- Reece
- ANZ
- ExxonMobil
- InfoCentric
- Origin
- Monash University
- WSP
- Oxfam International
- PageUp
- KPMG
- Experian
- QR International
- Simplot Australia
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
“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
“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
“... 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
“One of the biggest positives is to challenge our team 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're 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
Bachelor of Information Technology/
Bachelor of Science

ERIK VO
Student Ambassador
Bachelor of Computer Science/
Bachelor of Commerce
Questions?

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