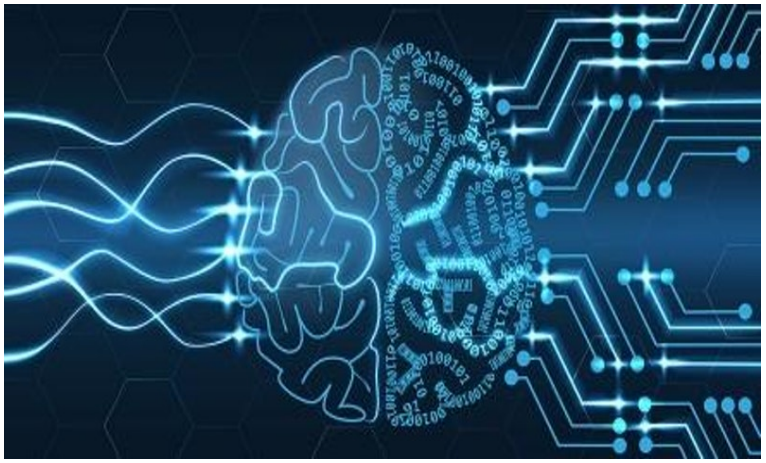
Your Bachelors and Beyond:
Transitioning to Postgraduate Computer Science Study
(GradDipComp and MComp, MComp(Adv))



Research School of Computer Science
ANU College of Engineering and Computer Science
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(slides available from http://cs.anu.edu.au/∼Peter.Strazdins/seminars)

Why Study Computing?

Jobs likely in 2030 (CBA Jobs & Skills of the Future report 2017:

- Bionic interface designers will help humans control robots and technology for physical tasks
- Emotional experience experts will work closely with technologies to design customer service experiences that are emotionally engaging
- Sense-makers will assist executives, customers and individuals to make decisions
- Health and fitness optimisers will focus on making everyone healthier including tracking health and predicting when advanced care will be needed, helping busy people keep fit at the office and motivating them to stick to personal health goals
- Data insights miners will uncover insights to help individuals and managers, presenting their findings so they can be readily understood and acted upon.

Source: https://www.businessinsider.com.au/the-emerging-jobs-being-created-in-artificial-intelligence-in-australia-2018-3#shfbuO2ljv55lfqc.99

The Graduate Diploma in Computing

- as stated on P&C page, for upskilling of CS or non-CS graduates in minimum time
- entry requirement: GPA ≥ 4
- suggest enrollment (starting S2 2020):

  COMP6710 Structured Programming (S2)
  COMP6250 Professional Practice 1 (S2)
  computing electives (12u, S2)

  MATH6005 Discrete Mathematical Models (S1)
  COMP6442 Software Construction (S1)
  computing electives (12u, S1)

- can follow up with MComp (need GPA ≥ 5), can be granted a year of credit;

  suggest electives include COMP6240 (S2), COMP8260 (S1), COMP6340 (S1)

The Master of Computing

- as per P&C page: also for both CS and non-CS graduates (GPA ≥ 5)
  - CS graduates should obtain exemption/status for MATH6005 and COMP6710 (possibly also COMP6240 and COMP6331)
- latest study plans available here
  - these plans are *NOT* prescriptive! e.g. project over 1 semester can be done in either S1 or S2
  - these study plans spread electives throughout all semesters; alternately could aim to finish more core courses in first year
- an exemption for COMP6250 Professional Practice I may be obtained after passing diagnostic test in Week 1 (must first enroll and register to attend test)
- can upgrade to MComp(Advanced) after 1 year with a GPA ≥ 6

Course Selection Issues in the Master of Computing

- core courses in professional practice (COMP6250, COMP8260) and software engineering (COMP6710, COMP6442, COMP6120 (S2), COMP8110 (S1))
- core course choices (which semester, content, technical difficulty):
  - computational foundations: MATH6005 (S1) vs COMP6260 (S2)
  - databases: COMP6240 (S2) vs COMP6420 (S1)
  - networks: COMP6340 (S1) vs COMP6331 (S1)
- 12 unit final year projects: COMP8715 (TechLauncher, 2 sems) or COMP8755 (individual, 1 or 2 sem) or COMP8830 (internship, 1 sem, must apply): details
- 5 CS electives: at least 2 must be COMP8000-level!
- (without credit or exemptions) care must be taken to complete a Specialization!

The Master of Computing (Advanced)

- as per the P&C page, for CS graduates aiming for an industry R&D leadership role or a PhD pathway (GPA $\geq$ 6)
- differences from the MComp:
  - no 'introductory' courses in the core (MATH6005, COMP6710, COMP6250)
  - has the more advanced database and networks courses
  - instead of COMP8110 Project Management and a 12u project,
    COMP6445 Computing Research Methods and 24u COMP8800 Research Project
- latest study plans available here
- a GPA of $\geq$ 6 must be maintained in the 1st year (otherwise transferred to the MComp)

Postgraduate CS Specializations

- Artificial Intelligence (suggest take COMP6260 in S2 2019 to make room):

  S1 2021: COMP6262 Logic , COMP6320 AI
  S2 2021: COMP8620 Adv. AI, COMP8691 Optimisation or COMP8670 Adv. Logic

- Data Science:

  COMP6490 Document Analysis (S2), COMP8410 Data Mining (S1, 2021),
  COMP8430 Data Wrangling (S2, 2021) + 1 ML course

- Machine Learning: can (possibly) start on COMP6490 and/or COMP6670 Intro. ML straight away! (S2)

- Human Centred Design and Software Development

- considerations: interest, industry value, degree of technical difficulty

- note: choosing a Specialization can have an impact of when you take your core courses

Questions?

Any questions?

Good luck with your studies!