The Start of the Journey: BSc(Hon) at UoA

BSc(Hon) Coordinator: Jiamou Liu

Semester One, 2019
Who am I?

My role as BSc(Hon) Coordinator: “Housekeeper” of the degree

- Approval of Admissions
- Approval of Enrolments
- Approval of Grades
- Changing courses
- Oversees the general process of CS789A/B (but not the academic contents)
- Advises
Congratulations and Welcome

A **Prestigious** degree

Eligibility: BSc with Computer Science, GPA \( \geq B \)

6 Stage III papers (incl. 3 CS papers)

Examination Regulation of the University of London, 1839

**EXAMINATION FOR HONOURS.**

120 Any Candidate who has passed, and has produced a Certificate showing that he has not completed his Nineteenth year, may be examined for Honours in Mathematics and Natural Philosophy, and also in Classics.

Candidates for Honours in Mathematics and Natural Philosophy shall be examined in the following subjects:

- Arithmetic and Algebra.
- Geometry.
- Plane and Spherical Trigonometry.
- Conic Sections.

130 The elements of Statics and Dynamics.
The elements of Hydrostatics.
The elements of Optics.
Congratulations and Welcome

A **Privileged** degree

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BSc (3 years) --> GradDipSci (1 year) --> Postgraduate diploma (1 year) --> Masters

BSc conjoint (4 years minimum) --> GradDipSci (1 year) --> Postgraduate diploma (1 year) --> Masters

PhD (3 years minimum)
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A Useful degree

A Degree is a smart investment

16 February 2016

New data released today by Universities New Zealand - Te Pōkai Tara shows the value of investing in a degree with a typical graduate earning around $1.6 million more over their working life than a non-graduate.

<table>
<thead>
<tr>
<th></th>
<th>No post-school qualification</th>
<th>Lvl 4 (Certificate)</th>
<th>Lvl 5-6 Diploma</th>
<th>Lvl 7 (Bachelors)</th>
<th>Lvl 8 (Honours)</th>
<th>Lvl 9 (Masters)</th>
<th>Lvl 10 (Doctorate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Annual Income 20-65+ Yr Olds Full Time &amp; Part Time</td>
<td>$43,412</td>
<td>$41,359</td>
<td>$47,949</td>
<td>$57,654</td>
<td>$64,544</td>
<td>$64,202</td>
<td>$83,112</td>
</tr>
<tr>
<td>Total Annual Income 20-65+ Yr Olds Full Time Only</td>
<td>$54,183</td>
<td>$54,007</td>
<td>$62,695</td>
<td>$75,618</td>
<td>$81,850</td>
<td>$82,559</td>
<td>$99,279</td>
</tr>
<tr>
<td>Avg Annual Income 30-39 Yr Olds</td>
<td>$54,148</td>
<td>$53,526</td>
<td>$58,679</td>
<td>$71,326</td>
<td>$77,084</td>
<td>$74,749</td>
<td>$83,041</td>
</tr>
<tr>
<td>Total people aged 30-39</td>
<td>127,122</td>
<td>31,639</td>
<td>28,332</td>
<td>74,992</td>
<td>15,511</td>
<td>13,711</td>
<td>2,841</td>
</tr>
<tr>
<td>Additional lifetime earnings above a school leaver 20-65+ Yr Olds</td>
<td>$0</td>
<td>$671,161</td>
<td>$942,179</td>
<td>$1,381,743</td>
<td>$1,643,726</td>
<td>$1,623,010</td>
<td>$2,088,255</td>
</tr>
</tbody>
</table>
Congratulations and Welcome

A **Valuable** degree

**Figure 4.** Employment rates and earnings for New Zealand-based Computer Science young, domestic graduates 1 and 7 years after study

- Diplomas
- Bachelors
- Level 8 honours/postgrad certs/dips

Ministry of Education 2014
"What young graduates earn after they leave study"
Congratulations and Welcome

A Bright future

Alastair Abbot
Post-Doc Researcher
L’Institut Néel CNRS
Grenoble, France
PhD (Auckland)
First Class BSc(Hon) in Computer Science
Auckland 2009

Rosemary Ke
Research assistant in Machine Learning
Carnegie Mellon University
Silicon Valley, San Francisco Bay Area
PhD (Montreal)
First Class BSc(Hon) in Computer Science
Auckland 2009

Dong Jin Lee
R&D Manager at SK Telecom
Seoul, South Korea
Prev: Senior Engineering
Samsung Electronics
PhD (Auckland)
First Class BSc(Hon) in Computer Science
Auckland 2005

Nodira Khoussainova
Software Engineer (Tech lead of the Product
Insight & Experimentation team)
Twitter, San Francisco Bay Area USA
PhD (Washington State)
First Class BSc(Hon) in Computer Science
Auckland 2005

Jonathan Rubin
Senior Scientist
Philips Research North America
Cambridge, MA, USA
PhD (Auckland)
First Class BSc(Hon) in Computer Science
Auckland 2006

Dong Zhang
Corporate Banker
China Construction Bank
Sydney, Australia
First Class BSc(Hon) in Computer Science
Auckland 2005
BSc(Hons) in Computer Science

- One-year study (Full Time), Two-year study (Part Time)
- BSc(Hons) Dissertation CS789A/CS789B in consecutive semesters.
- Six other CS 700-level papers from CS701-717, 720–777, BIOINF702.
- May include two 700-level papers from other related disciplines (department approval)

**Note:** CS780 is NOT included. This can be approved only in very rare exceptional cases (e.g. required as an investigator in a funded research project).

- Make sure you meet the prerequisites for the papers
Scholarship

- University of Auckland Postgraduate Honours/PG Diploma Scholarships
  Tax-free stipend of $13,000 plus the cost of your compulsory fees. Domestic student GPA above 8.0 from a recognised university. Must do a 30 point research project (CS789A/B or CS691A/B)
Regulations
You must submit:

1. **Research proposal**: To make sure that you have made progress towards the planning of your dissertation within the first month.

2. **Research diary**: To make sure that you commit to 10 hrs of work each week.

3. **Dissertation**: The final deliverable.
Proposal (Deadline 5pm Thursday March 28, 2019)

- Length: 2-5 pages.
- How to submit: Send an electronic copy to Jiamou’s email address.
- Write down a preliminary title of your dissertation.
- Research questions and goals (What do you plan to investigate? What do you aim to achieve?)
- Motivation and background (Why is the topic worth investigating? What others have done in this area?)
- Research methods (How do you plan to complete your work? What theories/ideas/tools do you need to carry out your work?)
- Plan (Specify the time for weekly meetings with your supervisor(s); expected activities/outcome for each month)

Important! Make sure that the proposal is agreed on by both your supervisor and yourself. Get your supervisor’s signature on the front page before submission.
Research Diary (Deadline 5PM Tuesday October 29, 2019)

- Length: Record weekly activities (dated, 33 Weeks)
- How to submit: Place paper copy in Jiamou’s mailbox at Level 4
- Communications with supervisors
- Progress on reading/programming
- Examples/Sketches/ Figures
- Issues/Challenges

The content of the research diary should justify that you spend 10 hours per week on the dissertation topic
Dissertation (Deadline 5PM Tuesday October 29, 2019)

- How to submit: Send PDF file to Debbie Haefele at d.haefele@auckland.ac.nz
- Your supervisor sets the standard: format, length, writing style, references, contents, structures, etc.
- No extension unless EXTREMELY EXCEPTIONAL cases.
- **Crucial!!!!!!** It is your responsibility to meet this deadline and submit your work on time. Fail to meet the deadline may result in you not getting the degree.
Managing Your Relation With Supervisors

Postgraduate Myths

- My supervisor will do the hard work (right/wrong)?
Managing Your Relation With Supervisors

Postgraduate Myths

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  Wrong! Your supervisor will NOT: do work for you, give you a step-by-step plan, debug your code, correct your English.
Managing Your Relation With Supervisors

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- Ill have plenty of time to write my dissertation/thesis (right/wrong)?
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- I'll have plenty of time to write my dissertation/thesis (right/wrong)? Wrong!

- I will be able to do other stuff (work, travel, studies) on the side (right/wrong)? Wrong, to some degree
Managing Your Relation With Supervisors

- Be proactive, Be communicative, Be respectful
- Develop a long lasting relationship

**Recommendations:**

- Set up a weekly meetings time
- Keep your supervisor informed (plans, holidays, etc.)
- Ask your supervisor for course selection
- Create a shared directory (dropbox) with your supervisor
- Add your supervisor to your social medias

"I'm coordinating five different R&D projects, but SURE, I can spare a minute."
Managing Your Own Work

- Time management
  *Time flies!*
  You have roughly 8 months, not a year!
- Develop plans and follow them
- Find the right balance
For all types of research projects/theses

1. Commitment
   - Work every day, it's like a job, persistence
   - Always stay in touch with your supervisors

2. Development
   - Good programming skills
   - Know how to use tools and best practices
   - Independent problem solving, persistence

3. Reading and Writing
   - Willing to read & analyze a lot of related work
   - Writing skills: spelling/grammar/style
Postgraduate Research

Computer Science Research at UoA

- Theory
- Intelligent System and Informatics
- Software Engineering
- System

How to find a supervisor:

- Browse the university webpages of academic staff members
- Check their publication records
- Ask coordinators
- Send emails (with transcript) and wait for reply, arrange meetings
- you can bring your own ideas or ask the supervisor to give you some projects

BSC(Hon) Coordinator: Jiamou Liu
Objectives are to show that:

- You can work independently on a significant project
- Master a topic in detail
- Work in a methodical and scientific manner
- Present your results or findings in a professional manner
- (...training for more research ... e.g. PhD)
Possibly 1st time you’ve not had

- Regular lectures
- Assignments
- Hand-in deadlines
- Exams
- Class mates
Research as a postgrad can be

- Lonely
- Disorientating
- Confusion
- Very rewarding
- …
Postgraduate Research

To gain the most you need to

- Structure
- Plan
- Discipline
- Motivate
- Support
The CS Dept. provides

- A (shared) desk
- Access to computing facilities
- Access to the Internet and printing (to a limit)
- Technical support (to a limit)
- A supervisor (at least one)