

Business Opportunity: To Change Computer Science Degree into a 4-Year Program

Prepared by Brad Hall. 28th January 2015.

Preamble:

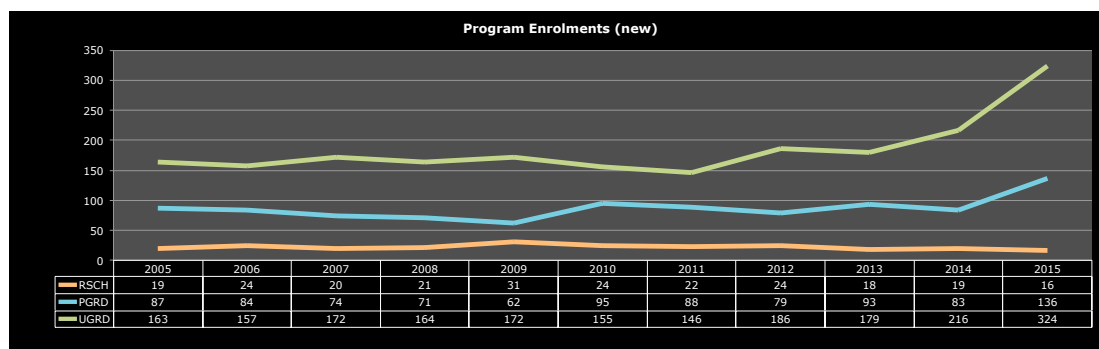
The Bachelor of Science (Computer Science) was established over 40 years ago. The degree has been the foundation of all computing degrees at UNSW.

As a Science degree, Computer Science has been organised as a 3-Year pass degree with an optional Honors Year. If the proposal to reestablish the Program as a separate Computer Science degree is adopted, then there exists an opportunity to explore the option of a 4-Year Program.

Impact on Enrolments:

The CSE “New Students Survey” indicates that the flexibility of the Computer Science degree is the most attractive feature. Being one year shorter than the other CSE Programs does not rate highly¹, suggesting that redesigning the Program as a 4-Year degree would not negatively impact on enrolments (only 8% of students rated this as a reason for choosing Computer Science over our Engineering programs).

A negligible impact on student demand resulting from extending the base Computer Science program cannot be fully guaranteed, however, as recent new-student enrolment numbers have shown strong growth in the Computer Science degree, now is the ideal time to make this change.



New Enrolment numbers. Primary data for 2016 suggest 480 new UGRD students

¹ CSE New Students Survey. See Appendix A

Major changes to the duration of study for a Program can have short-term effects. The University of Melbourne experienced short-term decreased demand² when they introduced the “Melbourne Model” in 2007, but the University now has the most number of first preference by a large margin³.

This Proposal will not force all students to study for 4-Years but recommends having an opt-out option for students at the end of 3-Years:

One option would be to use the Bachelor of Engineering Science as the exit after three years. A concern with this option has been that this Program is currently being used for students who cannot qualify to enter the Honors year of Engineering degrees, and therefore may suffer an image problem as a “drop-outs” degree.

Option two, to be investigated further, would be to create a new Program entirely those students could transfer to. This may removed the negative image.

Issues with the Current Degree and Proposed Enhancement:

Separate Degrees

The Australian Qualifications Framework (AQF) established a recommended framework for degrees in Australia, and was adopted by UNSW.

This resulted in the Bachelor of Science (including Computer Science) to become a 3-Year Program that must be completed entirely before students can enroll in the optional Honors year.

Before this change, many CSE students (especially high-performing students) had moved Courses around so that they could choose ones that might have clashed with other choices in 3rd year to 4th year, and at times brought 4th year Courses forward to 3rd year. Some were starting Thesis A in 3rd year to also maximize their choices and to ensure that they researched under their preferred supervisor.

The AQF disallows this flexibility leading to a high level of dissatisfaction amongst Computer Science students. A 4-year Program would reintroduce this flexibility for CSE students.

² <http://www.theage.com.au/news/national/demand-falls-as-uni-shifts-to-us-model/2007/10/16/1192300767159.html>

³ http://delta.vtac.edu.au/cgi-bin/poppolls/app_stats_testing_15.cgi

Increased number of Thesis students.

Currently students need to be proactive to enter the honors year, resulting in an implication is that most students shouldn't do the Honors year. Further, students may miss the deadline of be too lazy to take the steps to apply to enter the Honors year.

Further exasperating the low take-up of thesis studies amongst Computer Science students is the current high employability within industry.

With this proposed Program, students automatically continue and would need to be pro active to leave after 3 years. The option and flexibility will still be there, but the nuance would change, and so hopefully more students will undertake a thesis.

An increase in thesis students may lead to an increase in PhD applications.

Equivalence

Until the mid-2000s, the Computer Science degree had a lower entry requirement than the other three CSE degrees. For several years now this distinction has been removed, but at times students (and staff) consider Computer Science as a lower-level degree. Making it a 4-year program will remove one of the few remaining differences.

EA accreditation?

Computer Science already includes most requirements from Engineers Australia to be an accredited degree, with the exception that the Honors Program is optional. The proposed change will make it a part of the Program, so this could be further investigated.

However, if Physics becomes a required Course then it is recommended to not apply for accreditation as many students choose Computer Science over the Engineering degrees in order to avoid studying Physics.

If accreditation is possible, it would be appealing to many International Students (particularly Chinese nationals), but would also add credence to the degree for Local students.

APPENDIX A

Why did you choose your degree instead of another Computing degree at UNSW?

This is a new question for 2013.

Bioinformatics

<i>Double Degree</i>	2	40%	<i>Previous Study</i>	1	20%
<i>Cross Discipline</i>	2	40%			

Computer Engineering

<i>Cross Discipline</i>	3	75%	<i>Double Degree</i>	1	25%
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Computer Science

<i>Flexibility</i>	17	38%	<i>Electives</i>	6	13%
<i>Course Content</i>	10	22%	<i>1 year less</i>	4	8%
<i>Double Degree options</i>	8	18%			

Software Engineering

<i>Course Content</i>	4	27%	<i>Interest</i>	1	7%
<i>Employment</i>	4	27%	<i>More Valued</i>	1	7%
<i>Direction/focus</i>	3	20%	<i>No Physics</i>	1	7%
<i>Friends</i>	1	7%			