

Report of the Working Party on Academic Pathways for Research Training

Terms of Reference

To analyse pathways through research training at the University of Sydney and report to the Provost and the Academic Board (Research and Research Training Committee) on

1. existing opportunities for research training at the University, from Honours to PhD and comparisons with selected benchmark institutions;
2. identify, in broad terms, historical and potential employment and career opportunities for graduates of different research degrees, to the extent feasible within the time and resources available;
3. specification of possible future articulated, systemic pathways for research training at the University, recommendation of a preferred system and stages for its implementation;
4. effective inclusion of professional and generic skills training in appropriate stages of the pathways;
5. impact of pathway structures on resourcing implications for the University (RTS, scholarships) and financial implications for students (student income support, HECS, study duration and scholarships);
6. specification for alignment of Academic Board policy to pathways.

Membership

Professor Bruce Sutton (Chair)

Professor Masud Behnia

Professor David Burke

Professor Scott Kable

Associate Professor Peter McCallum

Professor Glenda Sluga

Professor Derrick Armstrong (ex-officio)

Summary

1. We should retain Honours, both for research training and to provide a professional finish to the undergraduate careers of a portion of our students. This appears to have traction in the employment market and also caters for high achievers in research training.
2. We can simplify Masters by research to a single, university-wide model (MPhil), with some facility for faculty-specific tailoring. To allow articulation, we would have to allow entry to the MPhil from a Pass degree or equivalent. Existing mechanisms of upgrading to a PhD would continue.
3. We must retain the prestige of the PhD as our première research degree. The primary outcome is a body of international-quality research, but where opportunity exists, we can add to the RHD experience by inclusion of teaching experience (the current Postgraduate Teaching Fellowships offer a good model) and generic skills.
4. Students should be guided in their articulation choices by consideration of their fit to the entire pathway. Entry into the PhD with appropriate prior training in research to ensure a good chance of success at the PhD is an important gate. A student's prior career path should be chosen to ensure that this gate can be passed. For example, Hons1 (also Hons 2/1 in some faculties) or completion of an MPhil passes the gate. The Postgraduate Coursework Working party is working simultaneously to improve research pathways within coursework master's programs. Depending on the nature of the research experience in a coursework masters program, students could articulate into the MPhil or, with sufficient research experience, into the PhD.
5. Recommendations are:
 - a. *That the University retains the Honours degree for undergraduate programs.*
 - b. *The University should adopt a single model of an MPhil (Masters by research). Typical characteristics include:*
 - i. *Entry from pass degree or equivalent;*
 - ii. *Duration normally two years, but submission possible after one year, subject to satisfactory progress;*
 - iii. *Upgrade to PhD possible, subject to satisfactory progress;*
 - iv. *Faculties able to specify conditions such as prior experience, relevant study and appropriate coursework during the degree;*
 - v. *Completion of MPhil satisfies entry requirements for PhD.*
 - c. *Eligibility to enrol for a PhD is defined in terms of research capability required to satisfactorily complete the PhD within normal time limits. Articulation pathways for any student must be chosen to bring them to this level of capability.*
 - d. *Resolutions and Rules for PhD study at the university should be revised to provide clarity and to ensure maximum likelihood of student success.*

Introduction

Our focus was on the academic pathways open to graduates from the University of Sydney and other institutions that could lead, ultimately, to the award of the degree, PhD. However, we also recognized that some graduates would wish to seek employment at stages in their career prior to beginning a PhD. Also, any anticipated pathway must allow for researchers with little prior experience, or an interruption to their career or who were changing careers. The process begins by considering existing pathways for research training in the University, explores possibilities for articulation and offers recommendations for improvement. A key consideration at all stages was that sufficient choice should be available to allow for a diversity of research training patterns, but the overall pathway through any pattern should be clearly enunciated.

Undergraduate degree with integrated Honours

The typical pathway for research training following graduation from an undergraduate program with integrated Honours is shown in Figure 1. (See Appendix One for a list of Honours degrees by type.) The key elements in the diagram are program elements (blocks) scaled according to duration. Alongside each program element is a tag showing its name, possible income support for the student and the nature of any institutional cost to the student. In the case shown in Figure 1, all program elements offer some possibility of winning a scholarship, but there is a great variability attached to this, particularly at the undergraduate level, where scholarships are more limited than at the higher degree level. Note that typically, an undergraduate scholarship awarded for the course will, *ipso facto*, cover Honours in the case of an integrated Honours program. Students incur a HECS debt at the undergraduate degree level and are susceptible to full fees for any coursework postgraduate degree, here exemplified by a Masters degree, but local students undertaking a research postgraduate degree are supported by the Research Training Scheme (RTS). International students would face fees for these degrees.

Why in this scheme have we not included a pathway involving Masters by research? The data in Table 1 (taken from Table 1.9 of www.planning.usyd.edu.au/statistics/pubs/Statistics2007.PDF) show the total and commencing enrolments for 2007 in a range of program types. It is obvious from these data that the coursework Masters programs are attracting many more students than the Masters by research programs. The number of commencing students for Masters by research has been in the steady range of 202-225 over the period 2003-2007, while commencing enrolments for Masters by coursework have been somewhat steady in the range 2513-2941 over the same period.

Other key features in Figure 1 include a number of different blocks titled "Employment". This is to indicate that graduates from different levels in the process

are most likely to be seeking employment in different markets. Elements of this will be taken up later.

The block representing study for the PhD shows two regions. This represents the disparity between the normal duration of an Australian Postgraduate award (APA) which is 3 years plus a possible extension of 6 months and the duration of RTS support to the university, which is 4 years. More attention will be paid to this later.

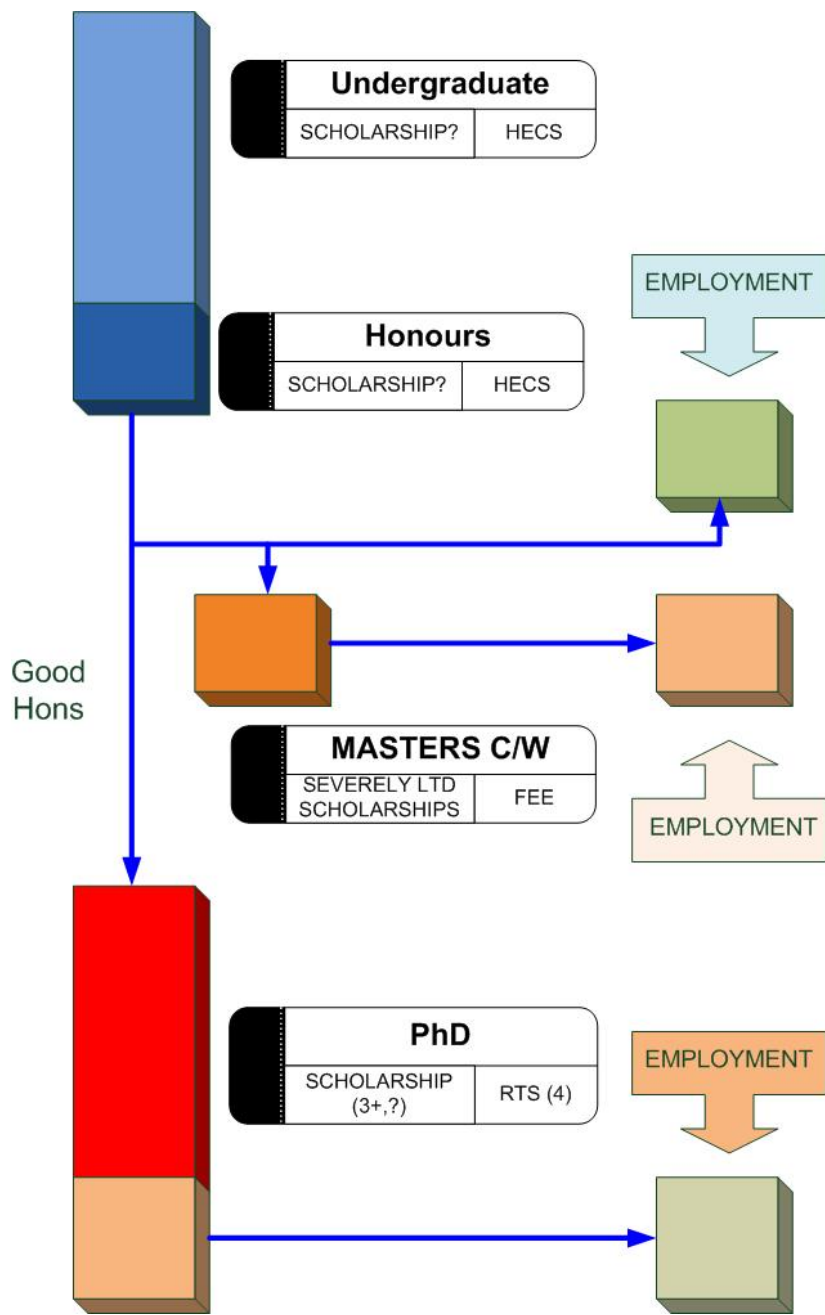


Figure 1. Major pathways for gaining research training following enrolment in an undergraduate degree with integrated Honours.

Progress to the PhD is subject to students gaining a “good Honours” degree. This is typically either First Class Honours (Hons 1) or Second Class Division One (Hons 2/1), depending on faculty. Students gaining a Pass degree or better, at the undergraduate level are eligible to enrol in Masters by coursework.

Table 1. Total and commencing enrolments by program type for 2007.

Degree	Total	Comm
Higher Doctorate	2	2
Doctorate (Res)	2974	668
Doctorate (Cwk)	45	26
Master (Res)	671	212
Master (Cwk)	7740	2868
PG (Prelim)	2	2
Graduate Diploma	1878	586
Graduate Certificate	683	393
Non-Award (PG)	421	363
Cross-Inst (PG)	40	34
Bachelor (Grad Entry)	2948	999
Bachelor (Hons)	924	599
Bachelor (Pass)	25645	7673
Diploma (UG)	185	64
Non-Award (UG)	804	751
Cross-Inst (UG)	168	118
Enabling Course	52	49
Total	45182	15407

Undergraduate degree with appended Honours

Pathways for research training following enrolment in an undergraduate degree with appended Honours are shown in Figure 2. The major difference, clearly, is that Honours is a distinct element in the pathways, with an opportunity for graduation without taking the Honours year. The Honours year incurs a separate HECS debt and might be supported by a scholarship. Discussions with staff and students during the Academic Board reviews of faculties have highlighted the perceived value of the Honours experience. The additional feature to be noted here is that students with an Honours credential are competing in the same employment market as students with a pass degree.

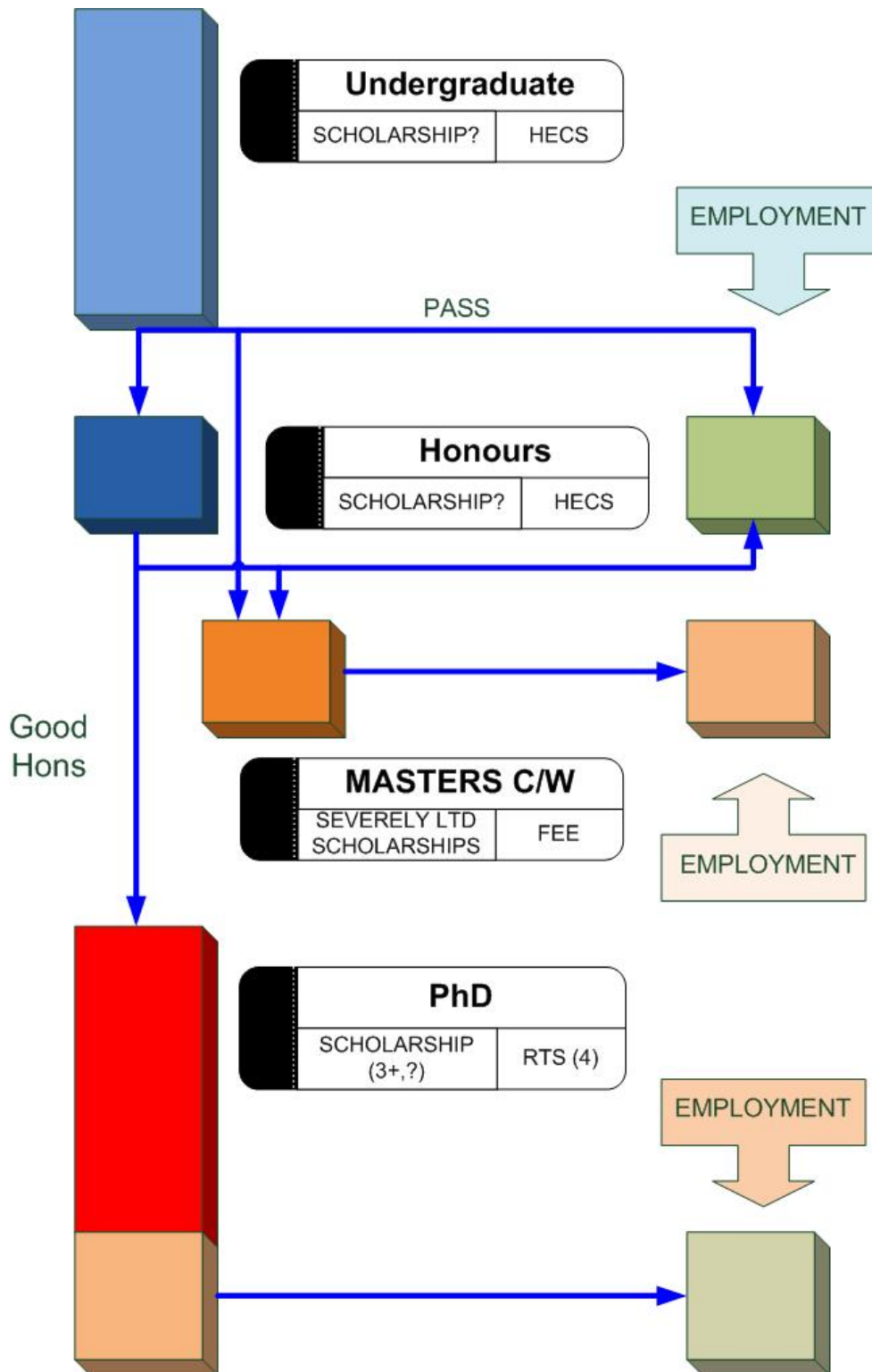


Figure 2. Major pathways for research training following enrolment in an undergraduate degree with appended Honours.

Honours

The Honours degree at the University of Sydney is awarded at the end of four years of undergraduate study. Honours programs are managed by faculties in accordance to Academic Board policy, which sets minimum standards for eligibility and specifies the minimum research experience that the student should enjoy. The current policy therefore aims to ensure that each candidate is accepted on merit and should enjoy a significant research experience. In broad terms, this process is in alignment with other Australian universities.

This is in some contrast to the system in the United Kingdom where Honours is a grade awarded at the end of an ordinary degree, typically of three years duration. The United States practice of awarding degrees “cum laude” or similar is effectively an Honours classification of the UK type. The value of the Honours system in the UK has recently been scrutinized, with grade inflation, opacity and lack of fine discrimination in academic performance major reasons for this¹. The Honours classification in the UK may be superseded by a “Higher Education Achievement Report” which will incorporate the European Diploma Supplement, an element of the Bologna process, although progress towards this is uncertain.

Honours, in the Australian contract, serves two academic functions. Traditionally, a “good Honours” degree is used by a student to demonstrate readiness to begin a research higher degree. This is based on the specific requirement for research in Honours. Increasingly, the Honours credential is used by students seeking employment to add value to their c.v., increasing their competitiveness in the recent-graduates employment market. Notwithstanding developments such as the Bologna model, we believe that the Honours degree represents value for students at the University of Sydney and should be retained.

Note that for students taking the appended Honours degree, there is the financial cost of a further year of HECS debt. Against this, there is some possibility for scholarship support for students, although this is currently arranged on a faculty basis and is severely limited in numbers.

We also believe that Honours comprises something of capstone experience for undergraduate students, especially in faculties that have significant (e.g., 24 credit points) research projects. We do not support the award of Honours from others degrees, such as Masters by coursework, as this blurs the distinctive character of Honours for undergraduates.

Recommendation 1: That the University retains the Honours degree for undergraduate programs.

¹Burgess, R. (2007). “Beyond the honours degree classification. The Burgers group final report.” Universities UK. October 2007. Available online at URL http://bookshop.universitesuk.ac.uk/downloads/Burgess_final.pdf

Masters by Coursework

The nature of postgraduate degrees offered in this mode is described in an accompanying report. As described in that report, students would be eligible to enrol in these degrees on the basis of a pass level undergraduate degree, or better. The interest to us is the extent to which these degrees offer a pathway to research training. The argument we will develop later is that entry into the PhD provides a key check point on research preparation and the question of how a Masters by coursework graduate might proceed depends on an objective assessment of the research experience provided by the particular coursework program against the entry criteria to the PhD.

The Bologna process includes a second cycle of qualifications that extends learning in the first cycle (typically assumed to be the Bachelors degree) to develop independent scholars, and “that provides a basis or opportunity for originality in developing and/or applying ideas, often with a research context”². These programs should comprise a workload that equates to a minimum of one year’s study, but typically should be 1.5-2 years. There is little detail on whether Masters programs meeting the definition of the Bologna declarations are taught, by research, or both. Whichever is the case, the Bologna process has an expectation that graduation from its second cycle qualifications satisfies entry into the third cycle, typically equated with Doctoral programs.

Masters by Research

There are currently 31 Masters by research degrees offered at the University of Sydney. Appendix 2 provides a summary of the details of each. Some key

characteristics of these are shown in the following figures.

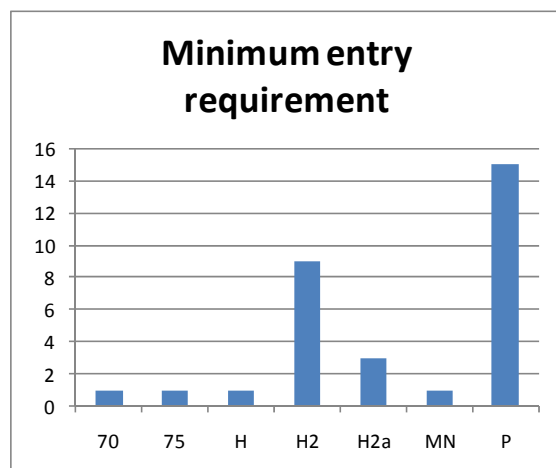


Figure 3. Entry requirements are specified as a previous grade (70, 75), unspecified Honours (H), specified Honours (H2, H2a) or Pass (P).

²Bologna Working Group on Qualifications Frameworks. (2005). “A Framework Of Qualifications For The European Higher Education Area”. Available online at URL http://www.ond.vlaanderen.belhogeronderwijs/bologna/documents/050218_QF_EHEA.pdf
Also see summary table at URL <http://www.ond.vlaanderen.belhogeronderwijs/bologna/documents/QF-EHEA-May2005.pdf>

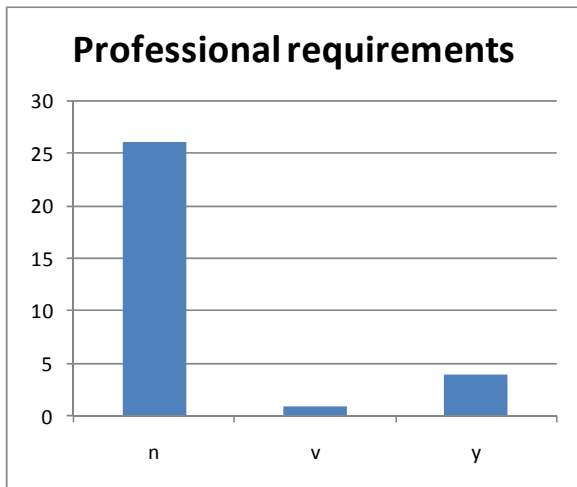


Figure 4. Professional requirements refer to prior experience relevant to the discipline, for example, post-registration nursing experience.

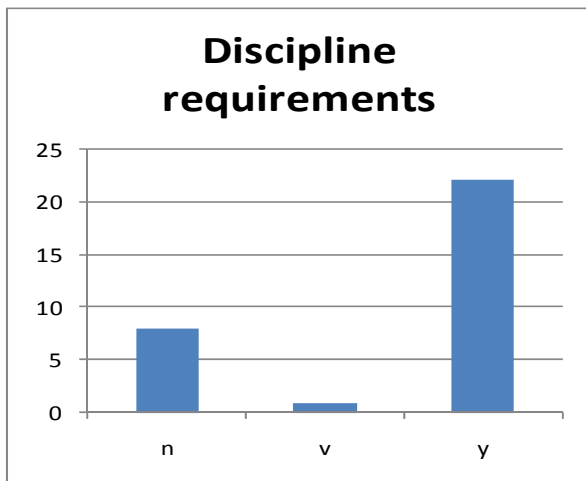


Figure 5. Discipline requirements refer to study prior to the Masters in a relevant discipline.

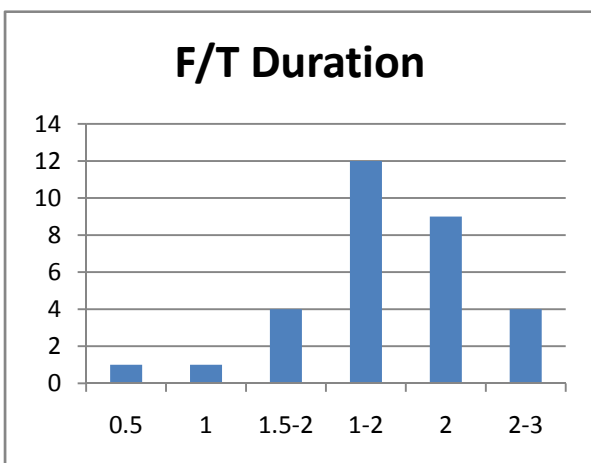


Figure 6. Range of possible durations for full-time study in Masters by research. Part-time study is increased, generally, pro-rata.

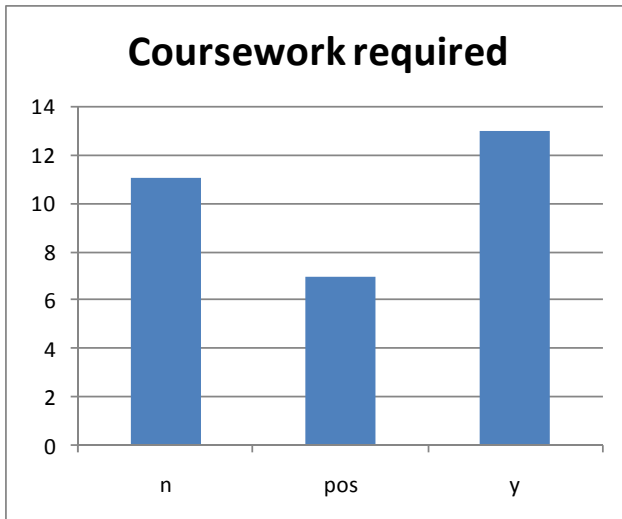


Figure 7. Coursework study during the Masters by research (up to the maximum of 33% allowed by the RTS) may be mandatory (y), discretionary, on both the faculty's and student's part (pos) or not required (n).

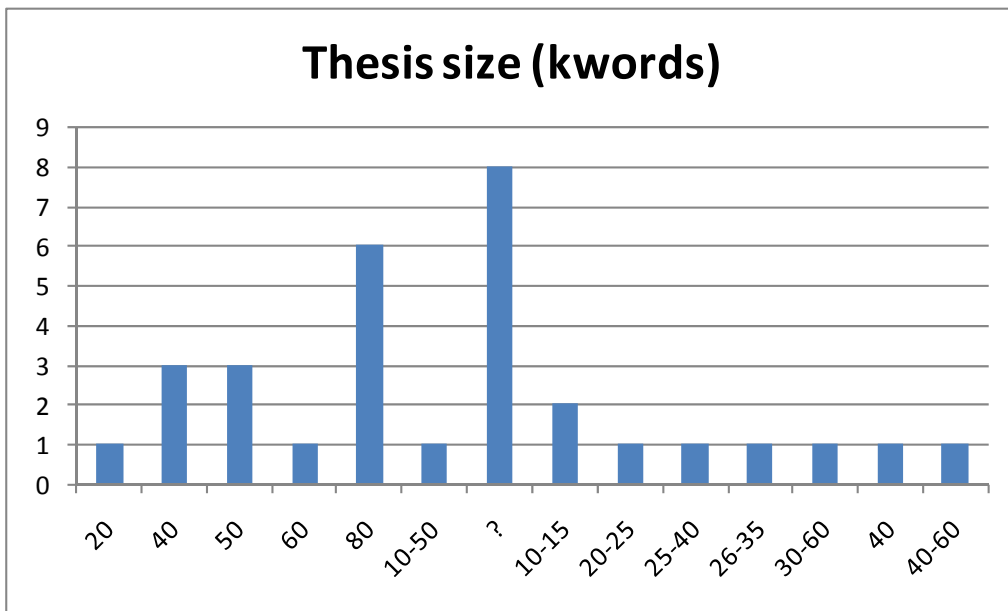


Figure 8. Specified thesis size is currently quite variable and overlaps with expectations for the PhD.

There appears to be scope for the re-organization of the Masters degrees by research into a single university-wide model, with sufficient discretion for faculties to specify requirements for professional experience, relevant prior study and necessary coursework. There should also be a consensus as to the most appropriate thesis length. A common name that has appropriate currency both nationally and internationally could be MPhil. In order to discuss entry requirements, we need to understand how the MPhil articulates with other degrees. This is described in Figure 9 and Figure 10.

Existing policies and the RTS allow for students making good progress in a research Masters degree to have their study upgraded to a PhD. This is indicated in both figures. It is important to recognize that, in these circumstances, the total RTS

allowance is four years. If, however, the MPhil is completed before a PhD is begun, the RTS allowance for both degrees (2 and 4 years respectively) applies.

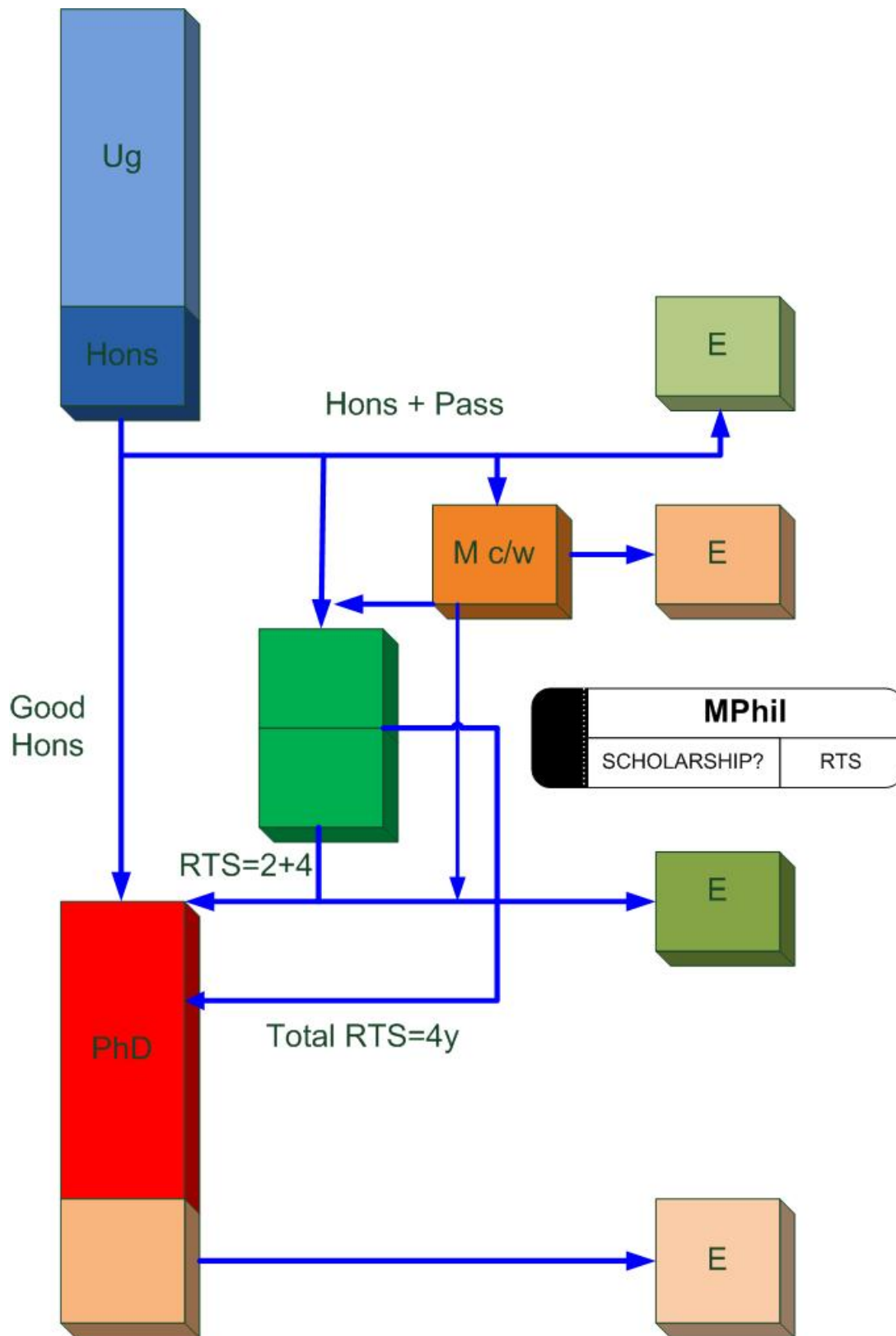


Figure 9. Articulation of MPhil with other research training after enrolment in an undergraduate program with integrated Honours.

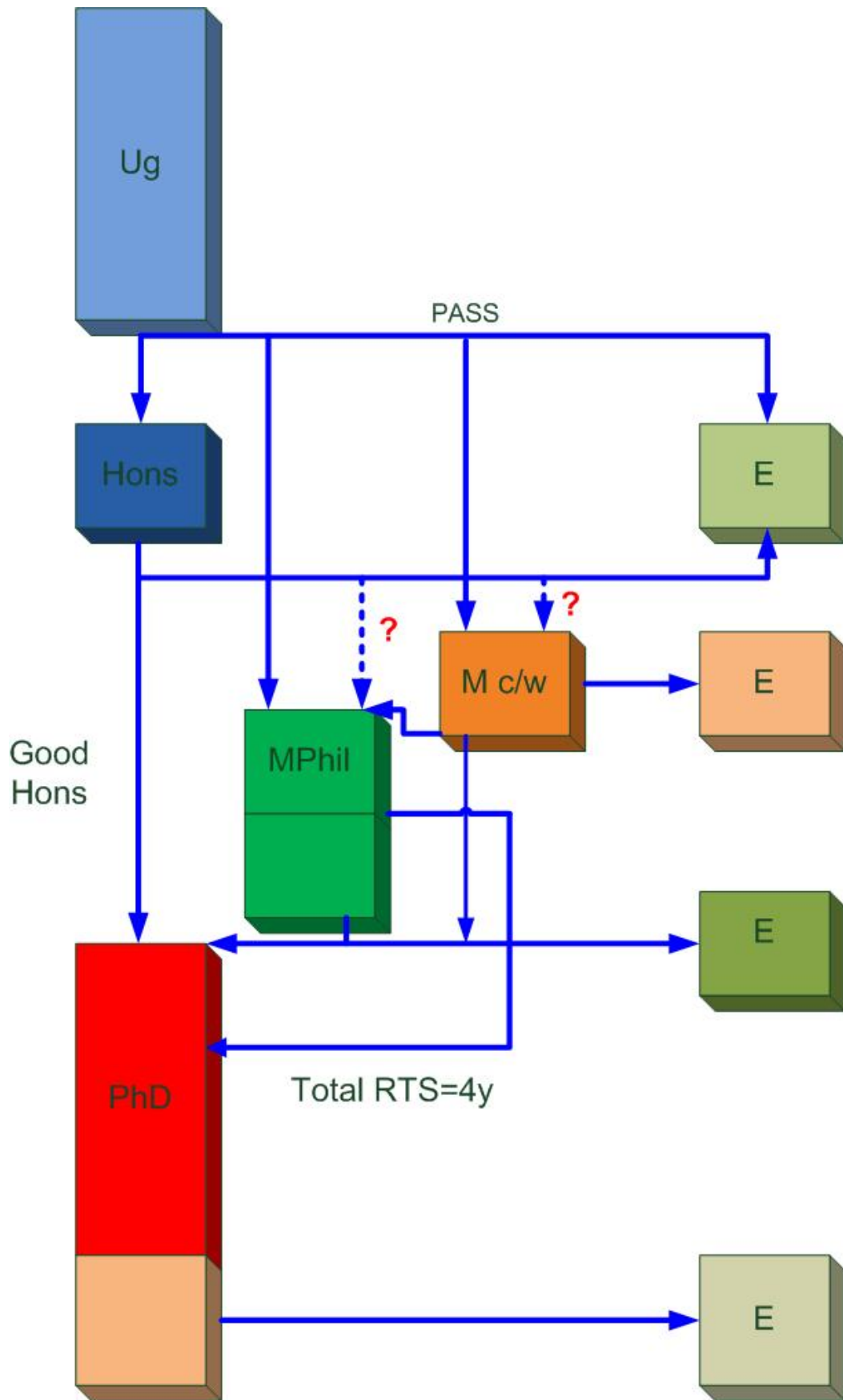


Figure 10. Articulation of MPhil with other research training after enrolment in an undergraduate program with appended Honours.

We need now to consider the role of an MPhil degree. The “good Honours” criterion allows talented young students to progress directly to PhD studies. This is certainly the case in Australia and is generally the case internationally. However, this path offers nothing to graduates of long standing or graduates whose undergraduate career trajectory meant they were ineligible for Honours, if such graduates wish to begin a research career. As we will develop later, there should be a significant demonstration of research capability prior to beginning a PhD. If this has not been gained through Honours, then enrolment in an MPhil allows this experience to be gained. However, to provide this facility, the MPhil must be open to graduates with a Pass degree. Upon enrolment, rapid progress could allow a student to seek an upgrade. A less well prepared student may have to complete coursework, e.g., research methods and the MPhil to ensure entry into the PhD.

Entry to the MPhil from a pass degree complies with the requirements of the Bologna process. As well, it would distinguish it from those offered by other Australian universities, for example, the Universities of Melbourne and Queensland, both of which require Honours 2/1 or better.

Progress from a Masters by coursework to a research career can now be seen in context as shown in Figure 9 and Figure 10. Most likely, the Masters by coursework would lead to the MPhil, with a possible upgrade or, less frequently, to the beginning of the PhD. These paths will vary from one program to another and will be determined based on preparation for the PhD. One could envisage a qualification such as “*Graduates of a Masters by coursework which contained a minimum of 25% research or a 20,000 thesis may be eligible to move straight into a PhD. Other Coursework Masters graduates would normally move on to an MPhil.*” In the context of this report, articulation through the Masters by coursework fulfils a role for graduates wishing to change career and enter research.

Recommendation 2: The University should adopt a single model of an MPhil (Masters by research). Typical characteristics include:

Entry from pass degree or equivalent;

Duration normally two years, but submission possible after one year, subject to satisfactory progress;

Upgrade to PhD possible, subject to satisfactory progress;

Faculties able to specify conditions such as prior experience, relevant study and appropriate coursework during the degree;

Completion of MPhil satisfies entry requirements for PhD.

The PhD

“The UK PhD as we know it today has only emerged as a formal qualification in the last century. It is the highest degree awarded by universities and is for a unique research project that makes a significant contribution to the field of study. Most

university regulations also stipulate that in addition to this unique contribution, the work must be worthy of publication: that is, it must have value and interest to other researchers in the field.”³

This statement includes the key characteristics of a successful PhD: a unique contribution, of sufficient merit to justify publication in a peer-reviewed form. In considering research training pathways, it is crucial that this ultimate outcome is kept in focus as it influences consideration of the capabilities required of PhD students on enrolment, if they are to achieve it.

There are other issues to be considered as well. Chief among these is the employment market in which PhD graduates earn a living, as this will influence what skills graduates should have acquired in their studies. Two studies provide some information on this topic: the report from which the above quotation was taken and a more recent analysis of PhD destinations in Australia⁴. Both these UK and Australian data show marked similarities.

The Australian data showed 53% employed in Education and Training and 22% in Professional, Scientific and Technical Services. Looked at another way, 82% of respondents were Professionals and 35% of these were university lecturers or tutors. The UK data show that 48% of the PhD graduates domiciled in the UK remained in the education sector, with 83% of these in higher education and universities. Depending on the field, varying proportions of these were employed as lecturers (high in Humanities) or as researchers (high in Biological and Biomedical Sciences).

A most telling aspect of the Australia report is given by the following quotation from Boreham et al (2007):

“However, the findings also suggested that there were some perceived gaps between the skills and capacities required in employment and the skills and capacities acquired during the PhD, particularly in relation to generic skills around communication, generic research skills around research methods and data analysis, and involvement in team-based collaborative and interdisciplinary research.

While the PhD was very good at providing graduates with detailed topic-specific substantive knowledge, this knowledge was not as important in the labour markets in which PhD graduates were employed, as more generic research and analytic skills and capacities to make sense of data and evidence. Graduates also reported spending a large part of their time in research related-activities but in contexts that involved working with others such as students, subordinates, colleagues and

³Shinton ,S. (2004). What do PhD's do? 2004 analysis of first destinations for PhD graduates. UK GRAD Programme. Available online at URL <http://www.grad.ac.uk/downloads/wdpc.pdf>

⁴Boreham, P, Western, m, Laffam, W. And Kubter, M. (2007). Employment Outcomes and Job Attributes of PhD Graduates. Report to Department of Education, Science and Training. Brisbane: The University of Greensand Social Research Centre.

supervisors. Team-based, collaborative and interdisciplinary skills and capabilities were particularly identified by graduates as not being acquired through the PhD to the extent required in their later employment.”

These observations suggest that some re-thinking of the way in which a researcher’s skills develop during PhD study may be valuable, to better equip our graduates for the jobs they may seek. In addition, there are opportunities such as those presented by the Postgraduate Teaching Fellowships to gain valuable teaching experience. Note, however, that the fundamental outcomes in the first paragraph of this section remain undiminished. If both the scientific and personal development outcomes are to be achieved, the time during PhD candidature must be well used⁵.

The issue of how much time is involved is somewhat complex. To understand this, we have to appreciate some of the finer detail of the Australian Postgraduate Awards. Appendix Three shows, for the period 2003-2007, the range of postgraduate research scholarships and the numbers of enrolled and enrolling postgraduate research students. While the APAs made up about one third of all scholarships, their importance is greater than that, as their conditions tend to be used as a model for other scholarships. The conditions concerning APAs that are relevant to our discussion include⁶:

Students must have completed a Bachelors degree with First Class Honours;
Students must not have previously held an Australian government-funded postgraduate research scholarship;
The duration of the scholarship is two years for research Masters and three years for research Doctorates.
The period for research Doctorates may be extended by up to six months;
If a research Masters is converted to a research Doctorate, the maximum duration of the APA is three years less the time spent on the research Masters.

Recall that the RTS support for a research Doctorate is for 4 years.

The conditions for an APA mean that Masters by research students without first class Honours are ineligible, hence those graduates wishing to make a late entry into research though the MPhil cannot compete for an APA. The APA encourages bright graduates to proceed directly to a PhD, as time they might spend on an MPhil detracts from the period of scholarship support they would receive for their PhD. As well, the duration of the APA and related awards imposes an effective limit on PhD studies of about 3.5 years.

⁵ Redefining the Doctorate, Chris Park, Higher Education Academy, January 2007, ISBN 978-1-905788-29-3, pp 6-7. Available online at URL www.heacademy.ac.uk/assets/York/documents/ourwork/research/redefining_the_doctorate.pdf

⁶Department of Education, Science and Training (2007). Commonwealth Scholarship guidelines as amended.

Therefore, if, during a PhD, a student must acquire adequate scientific and personal skills and perhaps some teaching experience and do this within 3.5 years, it follows that such students must begin their PhD studies well skilled in research capability. This sets the minimum requirements for eligibility to enrol for a PhD. Past experience suggests that Honours 1 or possibly Honours 2/1, or an MPhil provides this. Any other prior study must be able to demonstrate equivalent research preparation for a student to be acceptable. Failing this demonstration, such students should begin, and possibly complete, an MPhil, to provide the necessary preparation.

Recommendation 3: Eligibility to enrol for a PhD is defined in terms of research capability required to satisfactorily complete the PhD within normal time limits. Articulation pathways for any student must be chosen to bring them to this level of capability.

Recommendation 4: Resolutions and Rules for PhD study at the university should be revised to provide clarity and to ensure maximum likelihood of student success.

Is there a broader future for PhD graduates than what has been described in the preceding paragraphs? It is perhaps surprising in both the PhD destination surveys referred to earlier that employment of PhD graduates in intellectually challenging roles in the private sector is not more widespread.

Shinton (2004) contains, *inter alia*, the following quotations from employers of PhD graduates:

We don't set out to employ PhD graduates specifically - we take the best candidates available. However, we've found that PhD graduates have a combination of maturity and autonomy that is more useful for our work than engineering graduates with a similar length of experience in industry.
Alan Prior, ABAQUS UK

In this department we look for bright young people who come to us with new ideas and the ability to think about problems in novel ways – lateral thinkers. We've found that PhD graduates offer all of these things. They are enthusiastic and rise to any challenge – they just want to get stuck in and to solve problems or improve things that could be better. We don't see them just 'at the bench' – they are flexible and make a real impact. David McCarthy, Albion Colours

We like PhDs in our business sector – they never take anything at face value. That is a real bonus in a business compliance function. Their philosophical training and critical judgement have direct application in business services, whatever the topic of their research.

Head of Graduate Recruitment, 'Big 4' Accountancy firm

This suggests the PhD graduates do have attributes that ought to be valuable to enterprises that depend on intellectual innovation and agility for growth. This is not a feature of conversations with potential employers so far. A line of further investigations would consider the definition and purpose of doctoral programs, including professional doctorates⁷. This could be begun under a wide interpretation of Recommendation 4. Perhaps this is another distant horizon to whose attainment we should now commend ourselves.

⁷ See QAA Discussion paper at URL <http://www.qaa.ac.uk/academicinfrastructure/doctoralProg/consultationPaper.asp>

Appendices

Appendix One: Pattern of Honours degrees at the University of Sydney.

Faculty	Degree	Type
A,F&NR	B.Agr.Ec. & B.Res.Ec.	Integrated
	B.Sc.Agr.	Integrated
	B.Hort.Sc.	
	B.L.W.Sc.	
Architecture	B.Des.Arch. B.Des.Comp	appended
	B.Arch. (being phased out)	integrated
Arts	B.A.	Appended
	BA(Adv)(Hons)	Integrated
	BA(Media & Comm)	Appended
	BA(Global Studies)	
	B Econ & Soc Sci	Appended
	B International Studies	Appended
	B. Socio-Legal Stud.	Appended
	B. Arts & Sci.	Appended
	BA(psych)	Integrated
	BA(Languages)	Appended
	BA(Dig. Tech. & Culture)	
	B. Social Sci.	Appended
	B.Lib.Studies	Appended
B.Lib.Studies(Adv)		
B. Lib. Stud. Internat.		
Dentistry	B.Dent.	integrated
Econ&Bus	All degrees	Appended

Ed & Soc. Work	B.Ed	integrated
	B.S.W.	integrated
Engineering & IT	B.Eng.	Integrated
	BIT BCST	Integrated Appended
Health Sci.	3 year 4 year	appended integrated
Law	LLB	integrated
Medicine	MBBS	integrated
Nursing & Midwifery	B.N.	appended
Pharmacy	B.Pharm.	Integrated
Science	B.Sc.	Appended
	B.Sc. (XXX)	
	B.Sc.(nutrition)	Appended
	B.Psych. B.I.T.	Integrated Integrated
SCA	B.Vis.Arts	appended
Syd. Con. of Music	B.Mus. (XXX)	integrated
	B.Mus.Studies	appended (from 2008?)
Vet Sci.	B.V.Sc.	Integrated
	B.An.Vet.Sci.	Integrated

Appendix Two

Masters degrees by research at the University of Sydney, 2007.

Degrees	Admission Criteria	Duration	Course structure & other requirements	CW component
AGRICULTURE				
Master of Agricultural Economics	Pass degree of USyd or equivalent with units of study acceptable to the Faculty	2-3 years full-time or pro rata part-time. Some honours graduates (or equivalent) may be eligible for a minimum candidature of one year full-time.	Candidates engage in research culminating in a thesis. A candidate may be required to serve a period of probation for not more than one year and to complete such work during the period as may be prescribed. Website states that is available as a research only degree or coursework (one-third) and research (two-thirds)	Yes
Master of Science in Agriculture	Pass degree of Usyd or equivalent with units of study acceptable to the Faculty	2-3 years full-time or pro rata part-time. Some honours graduates (or equivalent) may be eligible for a minimum candidature of one year full-time.	As above	Yes
ARCHITECTURE				
Master of Philosophy (Architecture) MPhil(Arch)	Bachelors degree in relevant discipline	1-2 years full time 2-4 years part time	The final thesis for is expected to be in the range of 30,000 - 60,000 words. Students in research degrees may include up to 24 credit points of coursework in their studies.	Units for students in research degrees ARCF9001 Modes of Inquiry: Research & Scholarship (6 cp); ARCF9002 Nature of Theory (6 cp); DESC9079 Statistics in Environmental Design (4 cp); DESC9184 Computational Intelligence & Application (6cp)
ARTS				

Master of Philosophy (MPhil)	Some variations between departments and schools but generally: relevant Bachelor of Arts degree with Hons (I or II.i); OR relevant Master of Letters degree; OR relevant Master of Arts with Merit with a substantial research component; OR equivalent.	1-2 years full time 2-4 years part time	Course structure: By research and thesis (40,000 - 60,000 words). Offered in all departments/schools	
Master of Arts (Research)	Bachelor degree with a major in a relevant subject area with a Distinction average from USyd or equiv. Designed to meet the needs of students who wish to extend their studies beyond their undergraduate degree primarily by thesis but do not have honours degree or other qualification that would allow entry into MPhil or PhD.	1-2 years full time 2-4 years part time	Course structure: one of the following methods: 1. Thesis of 30,000 - 35,000 words 2. One unit of study + thesis of 28,000 - 30,000 words 3. Two units of study + thesis of 26,000 - 28,000 words. Not offered in every department/school	Yes
DENTISTRY				
Master of Philosophy (MPhil)	A bachelor's degree, preferably with Honours in a related area from the University of Sydney or equivalent	2-3 years full time 2-6 years part time	Thesis of up to 80,000 words and 6 credit point unit of study on research methods plus such courses or units of study, if any, as may be prescribed by the head of the discipline concerned	MPhil students may be required to attend classes or undertake coursework units of study, and the thesis is the only or major examinable assessment requirement for the degree.
ECONOMICS & BUSINESS				

Master of Philosophy in Economics and Business	Graduate of the University of Sydney with first or second class (division 1) honours in the area of study in which the candidate intends to undertake the degree or an extremely good Masters degree (at least 80% average) with 25% research component from a recognised University or its equivalent.	1.5-2 years full time 3-4 years part time	Course structure: thesis of up to 50,000 words. Available in each discipline in the Faculty	
EDUCATION AND SOCIAL WORK				
Master of Education (Research)	At least 4 years of university study with a GPA of at least 70% in the final year of study plus a research proposal	1 year full-time	25,000 word thesis OR 20,000 word thesis plus 12CP coursework	May have 12 CP c/w
Master of Philosophy in Education and Social Work	Bachelor of Education (Honours) or Master of Teaching (Honours) or Master of Education or qualifications considered by the Faculty to be equivalent to those above.	1-2 years full time 2-4 years part time	Advanced coursework and thesis of up to 40,000 words	Students are required to enroll in the unit of study EDPK5003 - Developing a Research Project (Education students) or SCWK6902 - Social Research Methods (Social Work students and at least one research unit. and at least one research unit.
ENGINEERING				
Master of Philosophy in Engineering; Master of Philosophy in Information	First or second class honours degree in Engineering or Information Technologies or equivalent	1-2 years full time 2-4 years part time	Thesis length not specified in resolutions. The MPhil may be combined with the MIT (Master of Information Technology) and MITM (Master of IT Management) in a two-year program subject to the Faculty approval	Faculty may prescribe

HEALTH SCIENCES				
Master of Applied Science	Generic Requirements are: relevant bachelor's degree from USyd or equiv. Evidence of general and academic qualifications and experience to demonstrate capacity for research. Specific disciplines also have additional admission requirements which may include work in the relevant professional field.	1.5-2 years full time 1.5-4 years part time	Thesis length not specified. Coursework may be required where necessary for thesis development.	Faculty may prescribe
Master of Communication Disorders	(i) A bachelor's degree in speech pathology from an Australian tertiary institution; or (ii) A bachelor's degree from an overseas institution equivalent to an Australian bachelor's degree in speech pathology; and (iii) A minimum of twelve months professionally relevant post-graduation experience	1.5-2 years full time 1.5-4 years part time	Thesis length not specified	No
LAW				
Master of Laws	Bachelor of Laws (LLB) degree with first or second class honours.	1-2 years full-time; 2-4 years part-time	Candidates must successfully complete a process of supervised research and writing on an approved topic, leading to a thesis of approximately 50,000 words. Candidates must also undertake the unit, Legal Research 1.	Yes - Legal Research 1

Master of Criminology	Honours degree at either first or second class division	1-2 years full time 2-4 years part time	Candidates must successfully complete a process of supervised research and writing on an approved topic, leading to a thesis of approximately 50,000 words Candidates must also undertake the unit, Legal Research 1.	Yes - Legal Research 1
MEDICINE				
Master of Philosophy	Entry normally requires a bachelor's degree with first or second class honours from the University of Sydney or another approved institution. Where an applicant does not have an honours degree the Faculty may accept the student on the basis of a qualifying exam or may choose to waive the exam if proficiency demonstrated through results	1-2 years full time 2-4 years part time	All students must successfully complete one compulsory 6 credit point unit of study on research methods and a thesis of up to 80,000 words	Yes - Research Methods
Master of Surgery	Bachelor of Medicine/Bachelor of Surgery (MB BS) from the University of Sydney or another approved institution. Candidates must also produce evidence of advanced surgical training.	2-3 years full time 3-4 years part time	Thesis of 80,000 words. No coursework required.	
NURSING				

Master of Nursing (Honours)	The MN (Hons) can be undertaken immediately after completion of the MN.	1 semester full-time; 2 semesters part-time	Under supervision, candidates undertake a literature review of the research topic of interest and explore the research methodologies that may be appropriate for their research question.	No
Master of Philosophy	Bachelor's degree with First or upper Second Class Honours (2nd Class, Division 1) or a master's degree from the University of Sydney, or equivalent qualifications and be registered or eligible to register to practice nursing in Australia. Post-registration nursing experience is also required.	Full-time 2 years; part-time 5 years	Thesis of approximately 60,000 words. Enrolment in some research units of study may be required.	Yes
PHARMACY				
Master of Philosophy	Bachelor's degree with first or second class honours from the University of Sydney or another approved institution. Where an applicant does not have an honours degree the Faculty may accept the student on the basis of a qualifying exam or may choose to waive the exam if the applicant demonstrates proficiency through results.	1-2 years full time 2-4 years part time	One compulsory 6 CP unit of study on research methods and thesis of up to 80,000 words	Yes
SCIENCE				

Master of Science	Bachelor's degree with first or second class honours from the University of Sydney or equivalent	1-2 years full time 2-4 years part time	Can either be by research and thesis (Thesis normally 80,000 but may be up to 100,000 words with approval) or coursework and essay	May be included
Master of Science (Environmental Science)	Bachelor's degree with first or second class honours or Grad Dip Sc from the University of Sydney or equivalent	Full-time 1.5-2 years; part-time 1.5- 4 years (less if hold Grad Dip App Sc)	Thesis of normally 80,000 but may be up to 100,000 words with approval and cw of up to 24 cp	Yes
VETERINARY SCIENCE				
Master of Veterinary Science	Bachelor Degree (Pass) in Veterinary Science	1-2 years full time 2-4 years part time	Research and Thesis. In addition, candidates may be required to undertake work which may include practical work and attendance at lectures and seminar courses in prescribed units	
Master of Veterinary Clinical Studies	Bachelor Degree (Pass) in Veterinary Science	Full-time 2 years; part-time 4 years	Research and Thesis.	No
Master of Science in Veterinary Science	Bachelor's degree with honours first or second class or equivalent	1-2 years full time 2-4 years part time	Coursework and thesis	
SYDNEY COLLEGE OF THE ARTS				

Master of Visual Arts	Honours degree in Visual Arts or pass degree plus Grad Diploma and demonstrated ability to undertake research. Portfolio of work	The Master of Visual Arts is normally undertaken full-time, except in exceptional circumstances and students are expected to complete in 2 years	One of the following methods: 1. Studio Practice and Research Paper (10,000–12,000 words), culminating in a substantial exhibition, performance or installation of works in a joint show of candidates at the end of candidature, together with the Research Paper and oral presentation; or 2. Thesis (35,000–50,000 words) in the fields of art theory, art history, cultural studies or professional studies in visual art.	
SYDNEY CONSERVATORIUM OF MUSIC				
Master of Applied Science (Music Performance)	Degree from University of Sydney and courses appropriate to area of study, of sufficient merit + proposal + interview	Full-time 2 years; part-time 4 years	Seminars and research methods units, research, presentation of research findings and thesis.	yes
Master of Music (Applied Research in Music Performance)	Bachelor of Music from the Sydney Conservatorium or equivalent or demonstration of ability to undertake degree; summary of proposed research area; interview.	Full-time 2 years; part-time 4 years	Enrolment in prescribed units of study; submission of thesis (40,000)	
Master of Music (Composition)	Bachelor of Music from the Sydney Conservatorium, major in Composition, or equivalent or demonstration of ability to undertake degree; summary of proposed research area; interview; portfolio of compositions	Full-time 2 years; part-time 4 years	Submission of thesis (10,000-15,000); composition;	No

Master of Music (Music Education)	Bachelor of Music from the Sydney Conservatorium, major in Music Education or equivalent or demonstration of ability to undertake degree; summary of proposed research area; interview.	Full-time 2 years; part-time 4 years	Enrolment in prescribed units of study; submission of thesis (25,000-40,000)	Yes
Master of Music (Musicology)	Bachelor of Music from the Sydney Conservatorium or equivalent or demonstration of ability to undertake degree; summary of proposed research area; interview.	Full-time 2 years; part-time 4 years	Enrolment in prescribed units of study; submission of thesis (40,000)	Yes
Master of Music (Performance)	Bachelor of Music from the Sydney Conservatorium, major in performance, or equivalent or demonstration of ability to undertake degree; summary of proposed research area; interview; performance	Full-time 2 years; part-time 4 years	Masterclasses; recitals with critical notes; thesis (10,000-15,000)	Yes

Appendix Three

Postgraduate research scholarships and enrolments 2003-2007.

	Australian Postgraduate Awards			University Postgraduate Awards(1)				Other(2)	Total	Doctoral Students		Masters (Res)	
	New Awards	Renewals	Total	New Awards	Renewals	Total			New	Total	New	Total	
2003	147	401	548	75	94	169		518	1235	454	2555	225	714
2004	148	424	572	69	126	195		520	1287	491	2673	218	725
2005	148	411	559	93	174	267		553	1379	504	2777	202	686
2006	150	391	541	56	253	309		534	1384	537	2859	208	683
2007	153	377	530	59	223	282		593	1405	668	2974	212	671
(1) Includes awards co-funded by faculties.													
(2) Includes full awards (but not supplementary scholarships) to domestic students funded by bequests, departmental funds, research grants, industry and semi-government bodies.													