

**Handbook for Postgraduate Students and Supervisors in the Institute of
Veterinary, Animal and Biomedical Sciences**

**Animal Science
Animal Production
Medical Laboratory Science
Physiology
Veterinary Clinical Sciences
Veterinary Pathology and Public Health
Veterinary Science**

Massey University, Palmerston North, New Zealand

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This Handbook has been prepared by staff in the Institute of Veterinary, Animal and Biomedical Sciences, Massey University, to inform postgraduate students and their supervisors of the regulations and requirements during the course of study and supervision.

Acknowledgements to Professor Kevin Stafford, Professor Hugh Blair, Associate Professor Mary Nulsen, Dr. Sam Peterson of IVABS, Allain Scott and Mrs Kathy Hamilton, College of Sciences Office of Postgraduate Studies.

Reference should also be made to the current College of Sciences Postgraduate Qualifications in Science, Engineering, and Technology.

Disclaimer: The information contained in this publication is indicative of the offerings available in 2009. This information is correct at the time of going to press but may be subject to change. While all reasonable efforts will be made to ensure listed courses are offered and regulations are up to date, the University reserves the right to change the content or method of presentation, or to withdraw any qualification or part thereof, or impose limitations on enrolments should circumstances require this.

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Introduction to the Institute of Veterinary, Animal and Biomedical Sciences

It is a pleasure, on behalf of the staff and current postgraduate students, to welcome you to the Institute of Veterinary, Animal and Biomedical Sciences at Massey University.

We hope that you will enjoy your period of study with us and assure you that the staff of the Institute will do everything they can to make your time here as enjoyable and productive as possible. The purpose of these notes is to provide you with a background to the operation of the Institute and some information which will be important to you during your stay at Massey University.

Professor Kevin Stafford,
Director of Postgraduate Studies.

Structure of the Institute

The mission of the Institute is to promote the health, welfare and sustainable productivity of domestic animals and the health and welfare of humans and wildlife.

The Institute's affairs are managed by an Executive Committee consisting of Professor Grant Guilford as Head of Institute (Human Resources portfolio), Professor Hugh Blair (Research and Commercialisation portfolio), Professor Kevin Stafford (Postgraduate Studies portfolio), Professor Norm Williamson (Undergraduate Teaching portfolio), Professor Joe Mayhew (Clinical Services portfolio), Professor Nigel French (Finance portfolio), Associate Professor Bill Pomroy (Equipment portfolio), Bill Te Brake (Buildings portfolio), Bill Te Brake (Business Development Manager), Dr Frazer Allan (Veterinary Teaching Hospital), Brian Korte (Business Manager), Bessy Rasmussen (Operations Manager) and Dean Burnham (technical representative). The staff have been arranged into small groups of approximately ten individuals for the purposes of management. Examples of these management groups include:

- Centre for Companion Animal Health
- Clinical Services Technical (Nursing)
- EpiCentre
- Massey Equine
- Pastoral Livestock/Dairy Systems
- Pathobiology
- Infectious Disease and Public Health
- Comparative Physiology and Anatomy

Institute Office for Postgraduate Studies

Professor Kevin Stafford is the Director of Postgraduate Studies within the Institute, IVABS Tower, Room 3.04, extension 5548, email K.J.Stafford@massey.ac.nz

Debbie Hill is the Administrator of the Research and Postgraduate Studies office, IVABS Tower, Room 3.03, ext. 4473, email ivabs.postgrads@massey.ac.nz

Kevin and Debbie will be responsible for overseeing your admission to the University and approving your programme of study (OGS2 form). If you have not identified a supervisor for your studies, Professor Stafford will initiate contact with an appropriate staff member.

Your programme of study will not be approved until a supervisor has indicated they agree with your programme and they have adequate research funding to cover your expected research costs. Once you are enrolled in your programme, most of your interaction should be with your supervisor(s). However, if for any reason you need an alternate source of advice either Kevin or Debbie will endeavour to assist you.

College of Sciences, Office of Postgraduate Studies

The Office of Postgraduate Studies is responsible for Postgraduate Policy, Procedures and Postgraduate Management in the College of Sciences. The Administrator in the Office of Postgraduate Studies is Mrs Kathy Hamilton, Science Tower B, Level 2 Room B2.18 ext. 5883.

The Office of Graduate Studies is responsible for the implementation of all postgraduate papers including:

- Application Process and Admissions
- Appointment of Examiners
- Graduate Management and Administration
- Policies and Procedures
- Submission of Theses
- Processing of Examination Results
- Entry and Transfer Policy for Graduate/Postgraduate Programmes in the College of Sciences

Forms that require processing through the Research and Postgraduate Studies office prior to being approved by the Office of Graduate Studies are as follows:

- OGS 1 Application for Admission to Graduate Status
- OGS 2 Application for Academic Approval of Graduate Programme
- OGS 3 Application to Change Approved Graduate Programme
- OGS 4 Postgraduate Research Report/Thesis Progress Review
- OGS 5 Nomination of Examiners for Thesis/Project Assessment
- OGS 6 Thesis/Project Examination Report
- OGS 7 Application for Extension/Suspension of Graduate Programme
- OGS 8 Final Graduate Examination Results
- OGS 9 Calendar Amendments Summary Sheet
- OGS 10 Application for Approval of Request to Embargo a Thesis
- OGS 11 Certificate of Regulatory Compliance

Introduction to the College of Sciences

Welcome to Massey University. We are delighted that you are considering enrolment in a postgraduate programme in the College of Sciences. This university is noted for its innovation, and the applied orientation of its programmes. Accept the challenges of postgraduate study and take the opportunity to advance your knowledge and skills. Enjoy also the recreation and cultural activities that will be available to you. Take time to get to know your fellow postgraduate students, many of whom will be from a different country to you. Expand your horizons and enjoy.

Robert D Anderson (Professor)
Pro-Vice Chancellor
College of Sciences

Admission requirements for postgraduate degrees and diplomas

Students seeking entrance to a postgraduate programme in the College of Sciences must have the equivalent of a New Zealand Bachelor degree.

Bachelor Degree with Honours

A one year full-time or part-time degree advancing the major in the first degree. Admission will normally require at least a B+ average in the Bachelor major subject. An Honours degree is a prestigious qualification which is frequently used by students aspiring to a research or academic career and planning to undertake masters or doctoral study.

Postgraduate Certificate in Science

The Postgraduate Certificate in Science provides the opportunity for a formal University qualification building on attainment in a prior degree or equivalent practical or professional experience. Candidates can study selected postgraduate papers relevant to career or interest needs. Flexibility is available to allow one approved paper outside Applied Science, Information Sciences, Science, Technology and Veterinary Science postgraduate programmes listed for the Certificate.

Postgraduate Diploma

A course of study open to graduates or to those who have been able to demonstrate extensive practical, professional, or scholarly experience of an appropriate kind; comprising a coherent programme of not less than one year's full-time study (or its equivalent in part-time study); which includes the requirement that the courses or other work prescribed shall be at an advanced level that builds on attainment in the academic field of the prior degree. Postgraduate Diplomas often provide education training in specialist disciplines and involve taught papers although often a project may be included.

Masters Degrees

120- or 240-credit degrees which may be available part-time or full-time. Study is at an advanced level and most frequently involves taught papers and a research thesis. Students advancing to a Masters degree after a Bachelor degree with Honours from a New Zealand University may elect to do a one year degree by thesis only. International students may be required to undertake a diploma course in their intended major prior to entering the masters programme. A master's degree is normally completed after at least five years of full-time study; that is to say, a one-year master's programme usually follows an undergraduate or honours degree programme of four years.

Admission requires at least a B average. For many students a Masters degree will be the highest academic qualification they will aspire to for their career needs. For some students it may be on the pathway to a doctoral degree.

Doctor of Philosophy (PhD)

A research degree requiring a minimum of three years full-time or four years part-time. Admission is considered for graduates who have completed a Bachelor degree with at least Second Class Honours (First Division), a Masters degree with at least Second Class Honours (First Division), or a Postgraduate Diploma with Distinction. Candidates must also have recognised research experience. The PhD is a prestigious qualification which is essential for a career in any research institution or University.

Application and Admission Procedures

All students new to their postgraduate qualification must complete admission. Only students continuing in the same postgraduate qualification are exempt from this requirement. Students who are new to Massey University or are transferring from another College of Massey University must apply for Postgraduate Admission and are required to provide evidence with their **POSTGRADUATE ADMISSION FORM** that they have: a bachelor degree, or equivalent tertiary qualification(s) Massey graduates do not need to attach a Massey transcript to their Postgraduate Admission application.

The **POSTGRADUATE ADMISSION FORM** is available from the College of Sciences Office of Postgraduate Studies. Please note that New Zealand degree holders are exempt the \$100 application processing fee.

Applications are normally processed within three to four weeks, providing the documentation is complete. Returning postgraduate students who are continuing in the same programme do not need to apply for admission each year.

Admission Deadlines

New Zealand citizens and permanent residents must apply for Postgraduate Admission by: 15 January for Semester One and Double Semester 15 June for Semester Two. These dates also apply to returning International Students who are upgrading from one qualification to another. New International Students must contact the International Office.

Enrolment

Note: To enrol at Massey University:

1. Request a Massey University Enrolment Pack from:

(i) The Contact Centre

Massey University

Private Bag 11-222

Palmerston North

New Zealand

or

(ii) E-mail: enrol@massey.ac.nz, or

(iii) Phone: 0800 MASSEY (0800 627 739)

Upon arrival of your Enrolment Pack, complete and return the ENROLMENT FORM.

Returning and new students can enrol online at: <http://www.massey.ac.nz/>

Confirmation of Programme and Papers

New internal students studying full-time need to complete an Application for Academic Approval of Postgraduate Programme (OGS2) and once this is fully completed and the form has been received by the Office of Postgraduate Studies (Level 2 Science Tower B) the papers and programme will be approved and confirmed.

Students wishing to make a change to their previously approved programme of study need to complete an Application to Change Approved Postgraduate Programmes (OGS3). This is completed in conjunction with the student's supervisor(s) and the Institute Postgraduate Coordinator before returning to the Office of Postgraduate Studies.

PhD Students

All students currently studying towards their PhD programme are advised that they will automatically be re-enrolled prior to the commencement of each academic year. Tuition fees will continue to be payable on the anniversary of their registration date until thesis submission.

Delivery Modes

Some Diplomas and Masters programmes may be available to New Zealand students via distance delivery mode (extramural) or block mode (short concentrated teaching sessions), as well as in the internal (on campus) mode.

Research Completion

Full-time students enrolling in Semester One must submit Research Reports or Theses to the Office of Postgraduate Studies by 31 January the following year.

Paper Details Special Topic

A personal course of study in the disciplinary area noted by the paper prefix. You will not be able to enrol in a Special Topic unless you have gained agreement from an academic staff member to supervise your work.

Research Report (30 and 60 credits)

A Research Report requires you to conduct a piece of independent research with academic supervision within the disciplinary area denoted by the paper prefix. A research report paper will not be approved until an OGS 2 form has been completed and returned to the Office of Postgraduate Studies.

Thesis (120 credits)

A Thesis requires you to conduct a major piece of independent research with academic supervision within the disciplinary area denoted by the paper prefix. A thesis paper will not be approved until an OGS 2 form has been completed and returned to the Office of Postgraduate Studies.

General Information

Credit from Previous Study

All applications for credit from incomplete and abandoned postgraduate qualifications to College of Sciences postgraduate qualifications are assessed individually. A credit application form is contained in the enrolment pack.

Papers may not be cross credited from a completed postgraduate qualification to a Massey University postgraduate qualification.

Note: The maximum transfer of credit into a Massey University postgraduate qualification is 25% of that qualification, eg a 120 credit PGDipSc may contain up to 30 credits from an abandoned postgraduate qualification elsewhere.

Fees

Tuition fees for the next academic year are available on the Massey website: <http://www.massey.ac.nz> Students are also required to pay Enrolment, Library, and Students' Association fees etc.

Semesters

Papers are taught in two semesters each year. The academic year is divided into two parts of equal length, each consisting of thirteen teaching weeks. Some papers will be taught only in Semester One (the first half of the year), while others will be taught only in Semester Two (the second half of the year). Others will be taught throughout the academic year (ie in Double Semester mode). Following each semester there will be an examination period. Papers taught in Semester One will be examined immediately after they have been taught (ie in the mid-year examination period). Papers taught in Semester Two and in Double Semester mode will be examined during the examination period at the end of the year. The two semesters are separated by a five week period: two weeks for examinations, followed by a three week mid-year break. During Semester One there will be a two week mid-semester break following Easter. In Semester Two there will be a one week break at the end of August/ beginning of September.

Credits/Workload

The total amount of time that a student might reasonably expect to have to spend on each paper in order to satisfactorily complete the assessment requirements are: 30 credits = 25 hours/week for a single semester paper, or 12.5 hours/week for a double semester paper; 15 credits = 12.5 hours/week for a single semester paper.

Maximum Credits

Students may not take more than 75 credits/semester or 150 credits in Semesters One and Two.

Graduation

Students who expect to be eligible to graduate in April (Auckland) or May (Palmerston North and Wellington) and wish to participate in a graduation ceremony must apply to the Examinations Section by 1 February/March of the same year.

Students who:

- » have been granted an extension for the submission of work, and/or
- » have not received all of their results by the end of February, and
- » believe they will be eligible to graduate in April/May, and
- » want to graduate in a ceremony, either in person or in absentia, must apply to graduate by 1 February/March. Alternatively, students completing a qualification at any time throughout the year, may apply to graduate at the next monthly Council meeting. (Massey Calendar, Statutes and Regulations)

Note: 1 February is the deadline for applying for April ceremonies in Auckland. 1 March is the deadline for applying for May ceremonies. There are also ceremonies in November in Palmerston North for which applications to graduate must be received by 1 September.

Plagiarism

All graduate students are assumed to be fully conversant with the need for appropriate and proper citation of sources within the academic literature. Inadequate citation practices can lead to allegations of plagiarism. Students should take particular note of the following:

- » Plagiarism is not permitted.
- » Questions of suspected plagiarism will be immediately referred to the Head of Academic Unit for investigation.
- » Confirmed plagiarism will be dealt with severely and will result, as a minimum, in a reduction of grade.
- » Students suspected of plagiarism will have every opportunity to discuss the case with the lecturer, Head of Academic Unit, and other relevant persons prior to any College action being taken or recommended.

Library Services

Resources and services to support postgraduate students in their learning and research are available at all Massey University Campus Libraries. Students may use materials from any of the Libraries, either in person or via the Distance Library Service (if enrolled extramurally). The Library catalogue, electronic journals, electronic resources, subject guides and other information, such as opening hours, may be found on the Library's web page:

<http://library.massey.ac.nz>

Library skills tutorials are offered at the beginning of each semester and during on-campus courses for extramural papers. Subject tutorials are often arranged for specific papers in conjunction with lecturers.

One-to-one research consultations are also available from the Campus Libraries. These consultations are useful for identifying specific resources for your research and for providing help with searching the wide range of electronic resources.

**Contact one of the Sciences Liaison Librarians on your Campus to arrange an appointment.
Palmerston North: Bruce White or Chris Good (ext 7814).**

English Language Requirements

International Students: If you have already received a letter from the International Students Office at Massey University advising that you have been accepted at Massey University, please ignore the following.

1. Both English and Māori are recognised as official languages in New Zealand. Tuition at Massey University is normally in the English language though students may be required to write or speak Māori or foreign languages in some papers. Procedures also exist for those students who wish to submit written work or examinations in Māori.

2. It is expected that on entry to Massey University students will be able to:
 - a) write grammatically correct English. Students must be able to develop ideas and to express themselves in well-structured, accurate and extended written English. Typically essays or reports of about 1000 words are expected of first year students.
 - b) Even in papers where mathematical and scientific symbols are the main means of expression, the ability to write clear, accurate English is still needed. Most assignments and examinations use essays and reports as the main type of written work.
 - c) read actively and with understanding. Students must be able to find relevant information, without special guidance, to follow the structure of a narrative and to comprehend and analyse a line of argument.
 - d) listen to and discern key points. Students must be able to follow complex and technical discussion in both formal lectures and informal groups.
 - e) speak freely and clearly. Students will be expected to contribute actively to discussion and to present ideas in classes.

3. Applicants for admission to the University must satisfy the Academic Board of their competence in both written and spoken English. The Academic Board will be satisfied of an applicant's competence in English if:
 - a) English is the applicant's first language;
 - b) the applicant has a New Zealand University entrance qualification;
 - c) the applicant has an overseas entrance qualification from a country where the main language is English and the instruction for that qualification was in English;
 - d) the applicant performs to a satisfactory level in an approved English language test (referred to in Regulation 4);

- e) the applicant provides other evidence of competence in English acceptable to Academic Board.
4. The standard tests which are used to establish that students have the appropriate level of English are as follows:

TOEFL (Princeton Test of English as a Foreign Language) score of 550, TWE 4.0 (paper-based test) or 213 Essay Rating 4.0 (computer-based test) for undergraduate students, and for postgraduate students 575 TWE 4.0 (paper-based test) or 233 Essay Rating 4.0 (computer-based test). TOEFL tests listening comprehension, knowledge of grammar, vocabulary and reading comprehension. TWE tests ability to write sustained English prose.

IELTS (International English Language Testing System) score of 6.0 (no band less than 5.5) for undergraduate students and 6.5 (no band less than 6.0) for postgraduate students. Students must also attain a band score average of not less 6.0 for all bands. The Massey University English Language Centre is a registered IELTS testing centre. Results are usually available two weeks after candidates have sat a test.

5. If students cannot fully meet these expectations of competency in the English language because of a physical disability then they must advise the Disability Co-ordinator before enrolling. Students will be informed of the services which can be made available to assist them.

Further Information

Further information on loans and allowances, scholarships, accommodation, English language competency, Extramural study, course changes, graduation, etc, is included in the Enrolment Pack, or may be obtained by phoning 0800 MASSEY (0800 637 739), or visiting the Massey website:<http://www.massey.ac.nz/>

The Massey University Calendar contains full information on all courses, regulations and statutes and is available for purchase from the addresses above. Major public libraries hold current copies.

The Calendar is also available at: <http://calendar.massey.ac.nz/>

Advice and Guidance - Academic Matters

Office of Postgraduate Studies

Kathy Hamilton - Administrator

College of Sciences (PN 434) Private Bag 11-222 Palmerston North New Zealand Phone: +64 6 350 5883 Fax: +64 6 350 5620 E-mail: sciences.postgrad@massey.ac.nz The Office of Postgraduate Studies is responsible for Postgraduate Policy, Procedures and Postgraduate Management in the College of Sciences.

Institute Postgraduate Coordinators

Institute Postgraduate Coordinators (IPC) are responsible for:

- » Providing Institute orientation and settling-in assistance to postgraduate students in the Institute.
- » Ensuring and facilitating the allocation of study space and laboratory space (where appropriate) for internal postgraduate students.
- » Ensuring access to a telephone, fax machine, computer, photocopier, library and work building, as appropriate.
- » Advising students on extra tuition or assistance in areas such as English, Biometrics and Computing.
- » Providing advice on postgraduate student concerns, including direction to appropriate personnel (academic or support services).

Institute of Food, Nutrition and Human Health

Professor Ravi Ravindran

Institute of Fundamental Sciences

Professor Andrew Brodie

Institute of Information Sciences and Technology

Associate Professor Elizabeth Kemp

Institute of Molecular Biosciences

Dr Kathryn Stowell

Institute of Natural Resources

Professor Russ Tillman

Institute of Technology and Engineering

Professor Yusuf Chisti

Institute of Veterinary, Animal and Biomedical Sciences

Professor Kevin Stafford

Postgraduate Subject Leaders (PSL)

have the following responsibilities:

- » **Admission/Enrolment:** To provide subject/discipline advice (as required by the Office of Postgraduate Studies and/or IPC's) relevant to programme selection, course content and structure, Postgraduate Admission, most appropriate to the student's academic background, ability and career aspirations.
- » **Further Academic Advice:** To recommend other staff, if appropriate, whom a student should consult for academic advice.

- » **Subject Leadership and Coordination:** To provide leadership and coordination in a subject(s) taught in postgraduate programmes in the College of Sciences.
- » **Examination Results:** To convene meetings of supervisor(s) and internal examiner of thesis/projects, and to consult with the external examiner (if necessary), to obtain a recommended grade for honours, diploma, masters research and to provide a recommendation for the programme examination results to the Office of Postgraduate Studies.

Palmerston North Campus

Semester One classes begin on the last week of February and during the first week of classes the following orientation will held for new on-campus postgraduate students to give them an overview of postgraduate study within the College of Sciences.

Several presenters will provide an overview of postgraduate study in the College and in the University context.

- » The Purpose of Postgraduate Studies
- » What to expect from your Institute
- » Importance of good research supervisor/student relationship
- » Responsibilities of supervisors and candidates
- » Relevant University policies, procedures and codes of practice

- » Student Counselling
- » Māori Student Support
- » Student Learning Centre and Student Development
- » Library » Statistical Research and Consulting Centre
- » The Office of Postgraduate Studies
- » Awards and Scholarships

Palmerston North Programmes and Offerings Information

Refer to the current Massey University Postgraduate Qualifications in Science, Engineering, and Technology booklet available from the College of Sciences or IVABS Research and Postgraduate Studies.

Generic Postgraduate Part One Regulations

Palmerston North Campus Programmes

Orientation for 'new' postgraduate students in the College of Sciences

Summary of the College of Sciences postgraduate programmes

Subject leaders and contact details

Bachelor of Applied Science with Honours

Bachelor of Science with Honours

Postgraduate Certificate in Science

Postgraduate Diploma in Applied Science

Postgraduate Diploma in Science

Postgraduate Diploma in Veterinary Clinical Science

Postgraduate Diploma in Veterinary Preventive Medicine

Postgraduate Diploma in Veterinary Public Health

Master of Applied Science

Master of Science

Master of Veterinary Medicine

Master of Veterinary Science

Master of Veterinary Studies

Master of Philosophy

Doctor of Philosophy

Extramural and Block Mode Programmes

Paper Details

Management of Postgraduate Programmes

The management structure for postgraduate programmes varies according to the type of programme concerned.

PhD Programmes

At the University level, PhD programmes are administered by the Doctoral Research Committee, Graduate Research School. At the Institute of Veterinary, Animal and Biomedical Sciences level, these programmes are administered by the Research and Postgraduate Studies Office and the Chief Supervisor of each student, who is responsible to the Doctoral Research Committee. Because the PhD programme involves a provisional year of enrolment, the Research and Postgraduate Studies Office requires that a formal contract outlining the requirements for full registration be established between the supervisors and the student. This is normally done during the first few months of the provisional year and the Chief Supervisor is required to lodge a copy of the contract with the Institute Research and Postgraduate Studies office. This contract is used to determine whether the student has, at the end of the provisional year, completed the requirements for full enrolment in the PhD programme.

DRC Confirmation of registration

The confirmation of registration (full registration) is a significant milestone in the doctoral degree process. It is the point where all the expectations initially agreed by the candidate and supervisors should be completed to the standard expected of a Doctoral degree candidate. Normally, all full-time candidates are provisionally registered for the first twelve months of their candidacy and part-time candidates for the first 18 months.

Confirmation of registration, i.e. that the candidate receive 'full' as opposed to 'provisional' registration, constitutes a series of requirements detailed in the checklist for 'Statement of Expectations' associated with provisional registration. Candidates need to have demonstrated satisfactory progress based on these previously established and agreed performance standards. These should include:

- A knowledge of the literature of the field and an ability to write a literature review.
- An ability to design and interpret research tasks.
- An ability to interpret data and write up material.
- A demonstration of any other abilities required in the field of study.
- Satisfactory completion of any required course work to a specified standard.

Supervisors must give serious consideration to these matters. It is in the best interests of candidates, supervisors and academic units that every effort is made to develop and enhance the candidate's progress during the provisional registration period when there is potentially a steep learning curve. To this end, academic units are encouraged to have their own graduate studies committees to help to ensure that candidates are making satisfactory progress by, for example, having candidate's present seminars in their academic unit, and otherwise reviewing a candidate's

academic development. In general, candidates should be involved in the intellectual (and social) culture of an academic unit.

Confirmation of registration for candidates is managed by the following process:

- The nominee of the Head of Academic Unit (Professor Kevin Stafford) in which the supervisor is located assumes responsibility for managing the confirmation process.
- A confirmation committee is established by Kevin Stafford comprising:
 - Kevin Stafford (or nominee);
 - A person who is knowledgeable about the discipline, and who is an experienced doctoral supervisor (may or may not be a member of University staff);
 - The candidate's supervisor; and the candidate's co-supervisor(s) if on campus.

The candidate will present their work as a 20 to 30 minute presentation to the evaluation committee. The candidate will also present at the IVABS Postgraduate seminar series followed by questions and discussion. Academic Unit staff and postgraduates would normally be invited to the presentation. Other interested staff from other disciplines, and where appropriate persons external to the University, should also be invited. This latter seminar presentation will be arranged with the coordinators of the IVABS postgraduate seminar series.

Following the presentation to the confirmation committee, the candidate will meet with the confirmation committee to discuss details of the research, and explore any issues and concerns. A committee confirmation report is completed and forwarded to the GRS. The report will include a recommendation from the committee to either confirm the candidate into full registration, defer the candidate's registration by six months, or terminate the candidate's registration.

In considering the confirmation committee assessment and recommendation, the DRC may grant full registration (to take effect on the anniversary of the candidate's provisional registration), require that full registration be delayed, or terminate the candidate's Doctoral studies. Full time and part time candidates may have the opportunity of up to six months deferral. If registration is not confirmed within eighteen months from provisional registration for full time candidates, and within two years from provisional registration for part time candidates, their candidature will be terminated. The DRC have the right to terminate a candidate from Doctoral study at any time if it considers that the candidate is not performing satisfactorily.

A candidate's progress during full registration continues to be monitored by six-monthly reports to the DRC.

Other Postgraduate Programmes:

- Bachelor of Applied Science (Honours)
- Diploma in Applied Science, Master of Applied Science
- Master of Philosophy
- Diploma in Veterinary Clinical Sciences
- Master of Veterinary Medicine
- Master of Veterinary Science
- Master of Veterinary Studies
- Medical Laboratory Science

These programmes are administered through the Institute Postgraduate Studies Office (Professor Kevin Stafford and Debbie Hill) and the College of Sciences Office of Postgraduate Studies Office (Kathy Hamilton) together with the student's Chief Supervisor.

Supervision and management

For all postgraduate programmes, it is recognised that the student's supervisors (and in particular the Chief Supervisor) have a number of responsibilities. These include:

- Management of the academic programme (e.g. enrolment procedures, selection of papers, programme co-ordination).
- Organisation of research (e.g. organisation of research funding, assistance with experimental design, assignment of technical assistance to the programme, liaison with research centres/units, maintenance of quality control, provision of research expertise).
- Data analysis (e.g. provision of appropriate expertise to assist students in the analysis of experimental data. This may include enrolling graduate students in the Biometrics paper, and organising assistance from Biometricians within the Institute or in the College of Sciences).
- Thesis/dissertation preparation and examination (e.g. assistance with the general design and layout of the thesis, proof-reading drafts of the thesis, organisation of examiners, and final assessment of grades).

Research Costs

With respect to the costs associated with running experiments which will contribute to student theses or dissertations, it is important to appreciate that the Institute receives very limited financial assistance from student fees for research costs. For most students, the financial input to experimental programmes will far exceed the level of funding received by the Institute from the University (from fees).

Staff in the Institute are very active in securing external research grants and contracts to support experimental programmes. It also means, however, that students may be constrained to some extent in the types of experiments they are able to conduct since funding of experimental programmes is largely determined by the Institute's success in securing external funding.

Administrative Matters

Allocation of Office Space

The Institute endeavours, as far as is possible, to provide adequate office space for all honours and graduate students whose Chief Supervisor is in IVABS. However, under current University policy, the Institute is required to fund any office renovations and other costs associated with the provision of desk space for graduate students from its own funds (i.e. these costs are not borne by the University administration). For this reason, the office space provided to graduate students is not always ideal and it is necessary to operate a system whereby the better offices are normally assigned to senior postgraduate students and those undertaking long-term programmes such as the PhD. Assignment of office space for postgraduate students within the Institute is co-ordinated by the Research and Postgraduate Studies Administrator Debbie Hill.

Access Cards

Where required, access cards to the Institute building, student offices and computer laboratory (to permit access out of hours) are available from the Research and Postgraduate Studies Administrator on payment of a refundable deposit \$10.

Expenses

Expenses for postgraduate students in similar programmes will be treated equally across the Institute. Postgraduate students will be allocated a desk and area of work as soon as possible. Postgraduates will have their "Home" in the Management Group of their Chief Supervisor. Students will have access to stationery, toll calls and faxes through the Research and Postgraduate Studies office. Stationery is available from the Institute Reception on the 1st floor and a limited amount from Room 3.03. The Institute will not be responsible for the costs of binding copies of theses.

The Institute makes available to each student from its fees income, the sum of \$300 per annum for costs associated with their programmes*. These sums are held in an "account" for each student and are controlled by the Research and Postgraduate Studies office. Student computing costs and photocopying costs (via the library photocopier card-reader system) are automatically debited against this account. (The photocopier on the 3rd floor relies on the "honesty system" of recording the details in the notebook provided). The balance of the annual sum may be used for attending computer courses, printing, remote access and inter-loans. Students who exceed their allocation in any year will be invoiced the balance and expected to pay it promptly. Alternatively, students may deposit further funds with the Research and Postgraduate Studies Administrator and their budgets will be increased by that amount. The Institute is not responsible for any other programme costs (except, as described earlier, research costs funded through external grants and contracts).

* \$200 per annum for computing (\$120 annual network charge) and \$100 for photocopying (\$50 Library, \$50 IVABS). The allocation of funds on an annual basis to postgraduate students is based on students completing either 120 credits in one year, 240 credits in two years or a PhD within four years. For students who have applied for extensions/suspensions or carry forward of registration,

there will be no expenses allocation. For those who enrol part-time, the student will receive a pro-rata amount towards computing and photocopying in any one year.

Computer Facilities, Courses and Email

The Institute provides a number of personal computers which may be accessed by postgraduate students. Computers and networked printer most readily available to postgraduate students are those in Room 3.14.

The Physiology Laboratory on the 5th floor provides computing facilities for postgraduate students, available outside timetabled undergraduate hours. Facilities include 16 networked computers (Pentium 4/XP OS). Software: MS Office, internet access (including library and literature searching), email, CD writing and physiology lab software with networked printing in the same room. If you have any queries about the computers in the physiology lab 5.01 or the anatomy museum, please see Neil Ward.

The Anatomy Museum on the 2nd floor has 18 G4 PowerMacs (MacOSX). Software: MS Office, internet access, email, CD writing, DVD reading, multimedia authoring and editing suite for both still and movie digital material. Three computers have DVD burning for creating DVD videos with networked printing in the same room.

Advanced multimedia support and facilities are available from the IVABS IT support suite, Room 5.06 for Windows applications and through Jean Arnott, Instructional Designer, Room 6.10 or Neil Ward, Room 5.03, for Macintosh applications.

Postgraduates have access to the computers in undergraduate labs on the basis of availability outside timetabled undergraduate hours.

Postgraduates wishing to use their own laptops will need to register them so they function on the Massey network. See Andrew Rowatt for assistance, room 5.06.

The Institute requires most new postgraduate students to attend introductory computer courses which are available throughout the year. Details of these courses and of matters relating to computer facilities in general, are available from Debbie.

Postgraduate students will have reasonable access to computing resources with basic networking charges covered by the Institute. A form is available from the Research and Postgraduate Studies Administrator, please complete and return to room 3.03 for signature and processing.

The Institute or the Research and Postgraduate Studies Administrator will provide paper and toner cartridges for printers.

A mailing list through E-mail has been set up to enable communication between postgraduate students within the Institute who have subscribed to the list.

To subscribe to this list, send an e-mail message to Majordomo@massey.ac.nz. The subject will be Subscription Request. The message will be "subscribe ivabs-pg" and then on the next line type "end". Once you have received a message of approval, you will receive and can send messages via this mailing list.

It is recommended that you also subscribe to the Institute-wide mailing list for staff and postgraduate students; proceed as above but type "subscribe ivabs"

The Massey University Students' Association has a postgraduate email list which is intended to allow discussion and information sharing amongst all postgraduates. To subscribe, email Majordomo with the message "subscribe mu-postgrads" and on the next line "end".

These email lists, when you are approved, will also tell you how to unsubscribe. Email Majordomo@massey.ac.nz and type "unsubscribe (listname) end".

Computer Problems

First look at the website: <http://its-intra.massey.ac.nz/problemsol/> or phone the Help Desk extension 5200, or the IVABS computer consultants, Andrew Rowatt, extension 7944 or Andrea Coleman, extension 4219.

SAS users

SAS OnlineDoc now available from the SAS website and is recommended by previous users who require assistance. To use this service you must register online at the SAS website http://v8doc.sas.com/sod_register.html You will be sent a username and password and you can then access the documentation at <http://v8dog.sas.com/sashtml> You will be asked to authenticate against the SAS site - use the username and password supplied by SAS, not your Massey definitions. Further advice can be obtained from Andrew Rowatt, IVABS ITS support person.

Remote Access

Remote Access to email and library facilities: If you have a computer at home and wish to have Remote Access using your Massey University network connection, you may obtain an authorisation form from the Research and Postgraduate Studies Administrator. There is no cost involved with the installation of remote access but you should be aware that if you are downloading from the network for any length of time, these costs may exceed your total computing allocation of \$200 per annum and that all costs over that amount will be charged to the postgraduate student.

Photocopying

Students who require training in the use of the photocopier should contact the Research and Postgraduate Studies Administrator.

Postgraduate students will have reasonable access to photocopying. Up to \$100 per annum will be budgeted for each postgraduate student (from the \$300 allocated for expenses). These funds will be accessed in two ways. Access to library photocopying will be organised through the Research and

Postgraduate Studies office. A maximum of \$50 will be allowed for library photocopying, but students who require more funds added to their budget, should see the Research and Postgraduate Studies Administrator to make a payment. The remaining \$50 will be available for use via the Institute photocopier on Level 3. Code numbers are required and access to these codes will be provided through Research and Postgraduate Studies, Room 3.03.

Photographs

The Institute maintains a display board (on the 3rd floor) which identifies current postgraduate students. Maintenance of this display is the responsibility of the Research and Postgraduate Studies Administrator who will contact students soon after their arrival in the Institute to arrange for photographs to be taken.

Scholarships

The Massey University website for scholarships is:

http://www.massey.ac.nz/massey/students/awards/awards_home.cfm

Also look at the "Alternative Scholarships Database" or go straight to the website:

<http://www.fis.org.nz/cgi-bin/BreakOut.cgi>

The Institute operates a Scholarships Committee (chaired by Professor Kevin Stafford). Students who wish to obtain information about Institute and University Scholarships should direct their enquiries in the first instance to the Research and Postgraduate Studies Administrator, Room 3.03. Check out the above website for full details about relevant scholarships email Scholarships@massey.ac.nz. The Research and Postgraduate Studies Administrator will publicise scholarships on email (usually 6-8 weeks before the closing dates).

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|---|----------------------|
| • Massey Doctoral Scholarships | 1 July and 1 October |
| • Massey Masterate Scholarships | 1 July and 1 October |
| • Massey Masterate Scholarships for Maori Students | 1 July and 1 October |
| • AGMARDT Scholarships | 31 October |
| • Norman Cunningham Fellowship | 18 April |
| • Graham Chalmers Allen Memorial
Scholarship in Veterinary Science | 18 April |
| • Muriel Caddie Scholarship in Veterinary Science | 1 December |
| • Phyllis Irene Grey Fellowships in Veterinary Science | 1 December |
| • Joan Berry Fellowships in Veterinary Science | 1 December |

Professor Stafford is available to assist postgraduate students with their scholarship application.

Common Room

The Institute has a Common Room (3rd floor) which postgraduate students are welcome to use. A subsidised fee of \$40 per year entitles you to 3 cups of tea or coffee per day or you may pay in the

honesty tin if you are a casual user of the facilities. Please also pay for your visitors. Snacks and cold drinks are available from machines on 1st floor near ICLT and a snack box in the Common Room.

Telephone calls

All postgraduate rooms have a toll-barred telephone to comply with University requirements. If you need to make a toll call, contact a secretary in the Institute Reception, ext. 4525 or the Research and Postgraduate Studies Administrator who will lodge the call for you and transfer it to your nearest telephone. Alternatively, you may use the fax/phone in room 3.03 to make the toll call or cell-phone call.

Conferences

The Institute encourages currently enrolled research students to attend appropriate conferences within New Zealand and Australia and, with justification, conferences further afield. A modest contestable fund has been established to assist with conference attendance. To be eligible for financial assistance to attend a conference, the postgraduate student must be presenting a paper or poster, or attendance at the conference is considered beneficial to the postgraduate student. These funds will be managed by the Research and Postgraduate Studies office and notice of call for applications will be sent to the ivabs-pg email list.

It is expected the Supervisor(s) will assist the postgraduate student in obtaining additional funds and that the individual will contribute towards the total conference costs. A one page application form is available from Room 3.03. Funding decisions will be made by Professor Stafford and, if necessary, a selection committee will be appointed. The final recommendations will be approved by the IVABS Executive.

Research

The Institute has some contestable funds available for research projects which may be applied for by the student. Applications are called for twice a year usually in March and July. The details regarding the means of applying for these funds are publicised through the IVABS email. Further information can be obtained from the Research and Postgraduate Studies Administrator.

Office Records

It is necessary to keep records on postgraduate students and details of home phone number and address are required. If you should change your address during the course of your studies, please inform the Research and Postgraduate Studies Administrator of the changes as, occasionally, it is necessary to contact you at home.

Changes to Enrolment Details, Changes to Personal Details, Withdrawal

For any changes to your enrolment or personal details, you should phone Massey Contact (0800 MASSEY) and inform the Research and Postgraduate Studies Administrator.

Completion of your Qualification

Full-time students enrolling in Semester 1 in a thesis or research report paper must submit Research Reports or Theses to the Office of Postgraduate Studies by 31 January the following year.

For submission of your thesis, refer to page 10 of the Postgraduate Policy and Procedures Handbook or contact the Administrator, Research and Postgraduate Studies, IVABS. It is important to note that if you would like to graduate at the May graduation ceremony, your thesis/research report needs to be submitted no later than 31 January of that year. Applications to graduate at the May and November ceremonies close on 1 March and 1 September respectively each year.

Returning Keys and Cards on Completion

Please return keys, access cards, and library photocopying card to the Research and Postgraduate Office when you vacate your desk at the end of your studies.

Six Monthly Reports/Progress Reviews

PhD Students: Doctoral programmes are administered centrally by the Graduate Research School, Doctoral Research Committee, which has the overall responsibility for doctoral studies including overseeing and monitoring the progress of each individual candidate from the time of initial registration through to examination. Monitoring the progress of PhD candidates is facilitated through six-monthly reports. These reports are considered an extremely important channel of communication between candidates/supervisors and the DRC. These reports are due in March and September of each year.

The Handbook for Doctoral Study is on <http://students.massey.ac.nz/doctoralhandbook.htm>

Non-PhD Students: As part of the University's quality assurance, all postgraduate students (non-PhD) and their supervisor will provide six-monthly Progress Reviews in February and August of each year. These reports will be administered by the Postgraduate Studies Office (Professor Stafford and Debbie Hill).

Grievance Procedures

Students who are unhappy about any aspect of their academic programme have a number of avenues through which they may pursue their grievance. In the first instance, it is expected that students will discuss the problem with their Chief Supervisor. If this does not satisfactorily resolve the grievance they are then encouraged to discuss the matter with Professor Kevin Stafford. Should this not result in the problem being resolved, students have recourse to the following persons:

- The Head of Institute: Professor Grant Guilford.
- For PhD and Masterate students: The Dean, Graduate Research School.
- For other students: Mrs Kathy Hamilton, Office of Postgraduate Studies, College of Sciences.
- The Vice-Chancellor.

Ethical Approval

Where any stage of the research programme is going to involve human participants, live animals or genetic technology experimentation, the project must comply with the relevant Code of Conduct. In the case of research with animals and genetic technology, and of research with human participants of high ethical content, the approval of the relevant Ethics Committee is required. You should discuss the procedures for obtaining ethical approval with your supervisor.

For research involving human participants, there is a Human Ethics Committee at each campus.

The Code of Conduct and application forms are available from:

http://www.massey.ac.nz/massey/research/ethics/human-ethics/human_ethics.cfm

For research involving animals, the Code and forms can be found at the Research Office website

http://departments.massey.ac.nz/massey/research/ethics/ethics_home.cfm and for research involving genetic organisms the requirements are set down by ERMA and administered by the Genetic Technology Committee.

Your supervisor can assist you with ethical procedures but you should be aware that all Committees meet only once a month (not in January) and revisions to your research methodology may require subsequent approval by the Committee. You must allow adequate time in your research schedule for gaining this approval.

Financial Hardship

The Students' Association manages a student assistance programme for unexpected and temporary costs that arise during the year. If you require assistance for a cost that is creating unusual or severe hardship, and is threatening your continued study at Massey University, then information about this programme can be obtained from your local Student's Association.

The Bootten Bequest Fund provides short term, interest free loans to students who are likely to complete their studies and/or can demonstrate academic progress. The fund is available to students who can demonstrate financial hardship and more information can be obtained from the Regional Massey Contact Office in Registry.

Information on Hardship Scholarships can be found on the Scholarships website http://www.massey.ac.nz/massey/fees/scholarship-bursary-award/hardship-scholarships/hardship-scholarships_home.cfm

Postgraduate Weekly Seminars

Postgraduate Seminars are organised each year as a means of meeting other senior students and sharing knowledge in IVABS. It also provides an opportunity for postgraduate students to practice their skills in presenting their work to an audience and prior to their presentation at a conference. Postgraduate students are expected to participate in these Seminars at least once or twice during their time of study. Staff are also invited to attend. Publicity for these seminars is advertised on the email list.

Professional Development Session for Postgraduate Students

Monthly Professional Development sessions will commence in April. Postgraduate students are encouraged to attend as the Seminars provide professional development opportunities for future careers.

Safety in the Workplace

Any accident, or any incident that could have resulted in a serious accident, should be reported the same day to the IVABS Health and Safety Officer, Peter Wildbore (see Debbie for contact details). An accident/incident form must be completed within two days. If you are off work for a period of 2 days as a result of a work related injury or illness, then it is your responsibility to contact your supervisor who will contact the Safety Officer.

Everyone has responsibility for their own safety and for the safety of others in their workplace and in the wider community. One of the objectives of the postgraduate training programmes in the Institute is to provide the student with knowledge and skills in safety management.

Everyone should learn to recognise hazards and assess their significance. In the Institute, staff and students have to be aware of hazards in the laboratory, in the office and on the farms. Students will be given lectures, provided with written material and given practical instruction on the most significant hazards that they are likely to encounter in the course of their studies. It is essential that students pay careful attention to any information that they are given on matters of safety. Your well-being, even your life, and that of others could depend upon it. Also see Waste Management (below).

Above all, the student should be constantly aware of the safety aspects of his/her actions and that of others in the workplace.

Laboratory and Clinic Safety Manuals - these are available through the website <http://ivabs-intra.massey.ac.nz> When postgraduate students work in a laboratory you MUST be authorised to be within this lab and also the lab manager or deputy lab manager of that lab must be present at all times. It is recommended that manuals and safe methods of use (SMoU) are read before they start work and please follow the steps when required, paying attention to particular hazards that are likely to be used, e.g. radio-activity or clinical drugs. All the labs will have these manuals covering all aspects of safety relevant to that particular laboratory on the first day.

Hazardous Substances

When working with hazardous substances, the postgraduate student must not work on their own. Please ensure a lab manager or deputy lab manager are present in the laboratory and know where to find all relevant (SMoU)

After hours

If you are working after 6pm during the week or at any time during the weekend or holidays, please make sure you fill in the after hours book at the lifts and Institute Office on the ground floor. This is important for your own safety and is a requirement under the Fire Regulations, Health and Safety in Employment Act as well as Massey University Regulations. The purpose of this record is that should a fire or emergency occur, the emergency personnel are aware of your location and will be able to evacuate you to safety.

Emergency Procedures

Procedures to be followed in the case of emergencies such as fires and earthquakes are prominently displayed in each building. When the emergency bells ring continuously, please evacuate the building as quickly as possible. Do NOT use the lifts. If you are in the tower during an earthquake, move immediately to the stairwell.

Disability

Anyone with a permanent or temporary (e.g. broken leg) disability that makes it difficult to exit the building in a normal manner or speed, needs to contact their supervisor or the IVABS Health and Safety Advisor, who will record this in a safety register. The student will be contacted and the evacuation procedure explained.

Fire Safety - on hearing the fire alarm (continuous bell) please leave the building via the stairs (do not use the lifts) and assemble on the grass area near the lake until told to return to the building. If time permits, shut doors and windows and turn off machines as you leave.

Security

Security can be a problem, please do not leave money or valuables on desk or in unlocked drawers. Your Home Management Group may be able to arrange for you to have a lockable locker. Campus Security deals with any concerns or problems relating to personal safety, property loss or theft/damage. Contact 356 9099 ext. 5030.

Smoke Free Policy

To provide a supportive, safe and healthy environment, Massey University has a smoke free policy. All University buildings and surrounding campus areas within 10 metres of any building are no smoking areas. This policy applies to staff, students and visitors.

Student Medical Centre

http://cms.massey.ac.nz/massey/campus/palmerston-north/services-for-students/health-and-counselling/health-services/health-services_home.cfm

The Massey University Medical Centre, offers consultation and advice on a wide range of health issues. The Massey University Medical Centre is open Monday-Friday 8.30am-5.45pm (Vacation Hours: Monday-Friday 8.30am-5.00 pm)

Urgent After-Hours Service: City Doctors, 22 Victoria Ave, Palmerston North phone 355 3300. The Massey University Medical Centre is a member of City Doctors: urgent after-hours consultations are provided by this service.

Student Counselling Services

All Palmerston North students and extramural students have paid Student Services Levies as part of their fees are able to make use of the service at no charge. Please visit the website http://www.massey.ac.nz/massey/campus/palmerston-north/services-for-students/health-and-counselling/counselling-services/counselling-service_home.cfm for information on workshops on topics as diverse as relaxation, going flatting, conflict resolution and returning to your country of origin, a wide range of pamphlets on issues such as depression, procrastination, relationships and a small library of self-help books and relaxation tapes and CDs which you may borrow or buy.

The crisis team on 0800 653 357 (24 hours)

The Samaritans also offer a 24 hour call-in service. They can be reached on 0800 726 666.

Waste Management

Any waste concerns, please contact Peter Wildbore, ext. 5952 P.N.Wildbore@massey.ac.nz

- **General waste:** Placed in rubbish bins, paper or plastic bags and then into large rubbish skip bin.
- **Sharps:** (uncapped), scalpel blades and glass place in marked yellow sharps containers. To go to the Post Mortem room annex or room 8.26
- **Syringes:** Place in sharps containers or yellow special waste bags. To go to the Post Mortem room annex or room 8.26.
- **Cytotoxic:** All equipment used in the administration of cytotoxic drugs (gloves, gowns, needles etc.) should be placed in a marked plastic bag and labelled. Placed into cytotoxic waste bins (purple bins) located in room 1.22. When full to go to Post Mortem room annex.
- **Radio-active:** Contact the licence holder of the isotope.
- **Infectious:** Placed in marked double clear plastic bags marked biological waste. Autoclaves in the 8th floor
- **Pathological waste:** Placed in yellow waste bins in the Post Mortem room or in the central media/sterile supply room 8.26.
- **Non-infected animal waste:** Collected via rendering plant collection services or placed in offal pit.
- **Chemical:** Check MSDS for disposal. Contact Medi-Chem (06 258 8002).

Please ensure, after handling any waste and also removal of gloves, that you wash your hands.

Other General Information

Accommodation

A variety of accommodation options are available on campus. Phone Residential Services, Palmerston North 06 350 5056.

http://www.massey.ac.nz/massey/students/student-services/accommodation/palmerston-north/palmerston-north_home.cfm

Banks

A branch of the National Bank is situation in the Student Complex. Automatic teller money machines are also on campus.

Bookshop, Books and Journals

Bennetts/Whitcoulls University Bookshop can be found in the Student Complex. This is where you can buy all your university texts. The bookshop sells stationery, magazines, a comprehensive range of general fiction and non-fiction, as well as tapes, CDs and records. Also runs a video hire service. Phone cards are available.

The BVSc students have a Veterinary Bookshop; some texts may be available from this or from the College of Sciences Practical Work Office.

Books available to borrow: The Research and Postgraduate Office have two books that may be borrowed. They are "Writing Guidelines for Postgraduate Science Students" and "Writing a Thesis or Long Document Using a Word Processor".

The Research and Postgraduate Studies office subscribes to the monthly publications of the New Zealand Veterinary Journal, Australian Veterinary Journal, Vetscript and CountryWide. Email notification will be sent to postgraduate students advising that the latest issue is available for them to borrow.

Bus Service

Buses operate from the central bus depot near the Science Towers. By using your Massey ID card, this will give you free rides on the bus to and from campus.

Career Information: Refer to <http://careers.massey.ac.nz/>

Chaplaincy

International, Catholic and Inter-Church chaplains available to all students.

http://www.massey.ac.nz/massey/students/student-services/chaplains/chaplains_home.cfm

Children on Campus

Children of students of the University are welcome to attend the University Creche or After School Care Centre (Kids' Club) which are designed for children. The rest of the University buildings have not been designed for use by children. They have physical hazards such as stairwells, balconies, etc. in addition to laboratories, farms and workshops which are unsafe for children of all ages. For this reason, it is inadvisable to bring children on campus, except for very young immobile babies who are still being nursed.

Child care: Refer to the website:

http://www.massey.ac.nz/massey/students/student-services/childcare/palmerston/palmerston_home.cfm

Food kiosks are open most of the day during semesters, situated in the Student Complex.

Courtyard Complex

Located off University Avenue. Services include a hair salon, a travel centre and cafe.

Copyright

The Law of Copyright allows the University under certain conditions to supply material to students in which copyright works or parts of copyright works are reproduced. Students are reminded of the obligations they must accept on enrolment that materials supplied to them are to be used only for research or private study and for no other purpose. Fuller details later in this book.

Design Centre

Located in the Printery building. Various services are available including graphic design. You must complete a request form, and obtain an order form together with account to be charged, before proceeding with an order.

Dining Room

The Student Complex provides breakfast and dinner for students living in the halls and lunchtime meals and snacks for all students.

Disability Services Office

This office is located in Registry, level 2. Telephone ext. 5959. This offers a range of services and support for students with a disability and assistance is available to overcome any difficulties or problems encountered on campus. <http://www.massey.ac.nz/massey/students/student-services/disability/contact-us.cfm>

Faxes

Faxes related to your studies will be sent by a secretary in the Institute Reception (level 1) or from the Research and Postgraduate Studies office. Private faxes will be invoiced to you. University fax numbers are listed in the internal telephone directory.

Graduation

The National Student Administration and Teaching Support section (NSATS) is responsible for Graduation. There is a graduation booklet produced each year by Massey Contact. If you expect to be eligible to graduate in May or November and wish to participate in the graduation ceremony, you must apply to graduate, complete and return the application form by the due date. Alternatively, if you complete a qualification at any time throughout the year you may apply to graduate at the next monthly meeting of the University Council. Application forms are available from Massey Contact, phoning 0800 MASSEY or at <http://graduation.massey.ac.nz/>.

Harassment

Is unprofessional behaviour which seriously undermines the atmosphere of trust and respect which is essential to a healthy learning environment. Harassment occurs when someone acts in a way that is inappropriate or offensive to another person, such behaviour, either through repetition, or because of its significant nature, having a detrimental effect on that person. Massey University has a network of staff and student contact people who can provide information on the various ways to resolve problems of harassment. For the names of the contact people refer to http://www.massey.ac.nz/massey/students/student-services/harassment/harassment_home.cfm

Identification Card

You will receive a student ID card when you enrol and it is essential to present it when using the Library or any other services offered on Campus. You should carry your Student ID card at all times as it may entitle you to discounts at retailers and for services within the local community.

Information Technology Support

<http://its-intra.massey.ac.nz/> A range of support, advisory and computing services to staff and postgraduate students is provided. They offer regular training classes for staff and postgraduate students in many aspects of computer programmes from understanding computers to word-processing, statistical packages, to writing your thesis. Information Technology Support has developed a website to assist you in solving everyday computer problems. The site is at <http://its-intra.massey.ac.nz/problemsol/index.htm> Or you can phone the Help Desk on 5200.

ITS have advised that computers and printers should be turned off at night and over the weekend. If you have sufficient reason to leave the computer switched on all the time, please turn off the computer monitor and any attached devices. When you leave your room for significant periods during the day, turn your monitor off.

Intellectual Property

The University operates a Policy on Intellectual Property and students are subject to its provisions. Students are the owners of intellectual property which they create, unless they have consented to alternative arrangements, e.g. with third parties. The University, however, will claim a share in the ownership of intellectual property created in research projects by the joint endeavours of research students and their supervisors. The University will seek to exploit any such intellectual property in conjunction with the students concerned. Research students own the copyright to any thesis or

research report which they present for examination and to any scholarly publication of which they are the sole author.

International Office

http://www.massey.ac.nz/massey/students/student-services/international/international_home.cfm

The International Students Support Service is there to help with any questions you may have. They will provide information regarding the campus and enrolment processes. They will assist with accommodation arrangements and airport collection and will provide ongoing support including an International Student Orientation programme that is held at the commencement of Semester One and Semester Two of each Academic year with frequent social functions during the year. They have extensive contact with a wide range of agencies outside the institution, as well as lecturers and student service areas. If you have a question they should be able to help. The International Students' Office is committed to providing at all times, a coordinated high quality service to prospective and enrolled International students to University staff and other International Students' Office clients or external agencies.

Leave/Holidays

It is usual that postgraduates wishing to complete their studies do not take leave but the University has a number of statutory holidays when the University is closed. They are:

- New Year's Day 1st January
- New Year 2nd January
- Anniversary weekend usually 2nd to last Monday in January)
- Waitangi Day 6th February
- Easter from Good Friday to Easter Tuesday, inclusive
- Anzac Day 25th April
- Queen's Birthday 1st Monday in June
- Labour Day 2nd to last Monday in October
- Christmas Day 25th December
- Boxing Day 26th December - the University remains closed until after the New Year break

If you are to be away from the University for more than a day, whether it be on field work, business, sick leave or other, please inform your supervisor, the Research and Postgraduate Studies Administrator or the Institute Reception. If you are planning to go on overseas leave, please discuss with Professor Stafford before going.

Library

<http://library.massey.ac.nz>.

Each campus has its own Library which provides a range of materials and services to support postgraduate students in their learning and research. Materials held by the Library include reference books, official publications and statistics, serials, audiovisual materials and reserve books. Items can be borrowed from any Campus either in person or by filling in a request form. The Distance Library Service provides lending services for extramural students (and in special circumstances, internal students who are based off campus). If the material you require is not held by the Massey Library, you can file a request for an inter-loan from another Library and there is a charge of \$5 for this service. Your ID card is also a library card. Services available include photocopying and interlibrary loan. If you require an inter-loan, please obtain a request form from the Library and Debbie will provide you with the appropriate account number.

The Library website gives you access to the Library catalogue (KEA), your lending record, the Distance Library Service, and a number of electronic databases that can be used to identify useful journal articles.

Library skills tutorials are offered at the beginning of each semester.

Printed Library Guides are available from the Enquiries Desk. An Enquiries and Information Service is operated by the Reference Department and they also offer orientation tours of the Library. Prior to commencing the preparation of your thesis, you should access the Library website and obtain the Guide to the Presentation of Theses - <http://library.massey.ac.nz/>

The Library is open every day during the academic year, generally 8.30 am - 11 pm weekdays, 9 am - 9 pm Saturdays and 10 am - 10 pm Sundays. During the summer vacation it is open weekdays 8.30 am - 5 pm. Any alteration to these hours will be posted and advertised in Massey News.

The Library has purchased electronic access to a collection of many journals published by Blackwell Science. You may access the collection from <http://www.ingenta.com> Click on Direct Login and then from the next page click on Ingenta Journals, then on Select Journal. You are then able to download full-text of the articles in .pdf format. As authentication is by IP address, access is not available off-campus.

Any further advice you require, contact Bruce White, Liaison Librarian (Sciences) email B.D.White@massey.ac.nz or Chris Good, email C.Good@massey.ac.nz

Starting your Research: Research, and the process of writing a research report or thesis, are very different from the standard course work associated with completing papers. Contact the Liaison Officers at the Library, Bruce White and Chris Good for further assistance.

Library research consultations

The Library can help you identify the resources which will yield the best results for your research topic, suggest productive search strategies for finding information and show you how to use databases efficiently. So save yourself some time in the Library and on the internet by requesting a one-on-one research consultation with a Liaison Librarian. To make an appointment, phone the College of Sciences Liaison Librarian on extension 7814 or use the internet <http://library.massey.ac.nz>. Click on: Use an Online Form; Click on: Request a Research Consultation. A librarian will contact you within two working days to discuss your topic and make an appointment for a consultation.

Lunchtime Performances

Free performances by artists and entertainers are often held in the centre of campus. Provided free of charge by the Students' Association.

Mail

All mail addressed to students should have the word "Postgraduate Student, IVABS" in the address. For IVABS postgraduates there is a central collection/delivery point on Floor 3 near the Common Room. Incoming mail for staff/postgraduate students will be placed in the appropriate mailbox. Please check with one of the Administrative staff if you are unsure where the mailboxes are situated.

Out-going Massey-related mail does not need a stamp but it should include your name and IVABS in the top left corner otherwise it will be opened and returned to the Institute. Personal mail can be posted in the red basket near Common Room but needs a postage stamp. Postage stamps may be purchased at Bennetts University Bookshop. Recycled envelopes can be used for Massey internal mail.

Massey News

A regular publication that highlights staff and student achievements and provides information about the activities and research seminars at each campus. Copies are available (issued fortnightly) from the lower shelves of the postgraduate mail boxes on level 3.

Student Learning Centre

The Student Learning Centre provides free services that help you to study effectively and develop your academic writing skills. All students, including those studying off-campus, (extramurally) are welcome to use our services. Location: Student Learning Centre, Ground Floor Geography Building. More information can be obtained by phoning 2251 or email SLC-PN@massey.ac.nz or refer to the website: http://study.massey.ac.nz/massey/students/student-services/slc/palmerston/postgraduate/postgraduate_home.cfm

The Online Writing and Learning Link (OWLL)

is Massey University's Student Learning Centre gateway to a wide range of study skills resources. All students, whether internal or extramural, undergraduate or postgraduate, can access the resources to develop their academic skills. The site is currently being developed with regular additions planned. <http://owll.massey.ac.nz/>

Vehicles on Campus

Massey University makes reasonable provision for parking but is under no obligation to provide parking for every vehicle that enters campus. Vehicles must be parked in designated parking areas at all times. The carpark towards the Recreation Centre costs \$2 a day.

Clamping of vehicles will occur for any vehicle found parked on other than a designated parking area, parked in a reserved area/space without authority, or blocking access chains or driveways.

Instructions displayed on University roads, parking areas and sign posts are to be observed at all times in the interests of safety, these signs have the same legal standing as those on public roads.

Printery

<http://printery.massey.ac.nz> The Printery is a well-resourced facility providing a wide range of in-house printing options including : digital printing and photocopying; colour laser and T-shirt printing, binding and finishing, web view and submissions, student notes distribution centre; and a design studio. For further information, contact 7819.

Recreation Centre

The Massey Recreation Centre & FuelFitness are committed to providing students, staff & the wider community with the finest of sport and leisure facilities.

The centre has now been awarded 'Best Gym in the Manawatu' for three years running. This can be accredited to excellent facilities, the friendly staff and the wide range of activities on offer, some of which include squash, tennis, badminton, basketball, social sports leagues & Les Mills group exercise classes.

The training room offers excellent cardio equipment & a large range of free weights & machine weights. It is also the hub for many clubs within the university & provides an extensive range of organised activities in the summer and winter. Refer to the website for more details:

http://www.massey.ac.nz/massey/students/student-services/sport/palmerston/palmerston_home.cfm

Services

<http://student-services.massey.ac.nz/> Each Campus provides a variety of services to support and enhance the learning environment at Massey University. Services available to students include:

Accommodation	Chaplains and Religious services	Childcare	Disability Services
Harassment	Health and Counselling	International Student Support	
Recreation	Student Information	Student Learning	

Stationery

A limited range of stationery (pens, paper, lab books, CDs and computer disks) can be obtained from the Research and Postgraduate Studies Administrator in room 3.03 or a more extensive range from the Institute Reception, 1st floor.

Statistics Research Consultancy

A service is offered by the Institute of Information Sciences and Technology to postgraduate students who need assistance with Statistics. This service is free and entitles the postgraduate student to two hours of face-to-face consulting with associated follow-up (typically 1-2 hours). Beyond this level of support a charge of \$35 per hour is made. This assumes continued funding from the Graduate Research School, the funding is limited so there may need to be adjustments during the year. It is always best for a statistician to be involved from the beginning of a project if their assistance is needed. Please phone 2437 to make an appointment with a consultant.

Student Loans and Living Allowances

For information about entitlements to loans and allowances phone Work and Income New Zealand (WINZ) Student Services Call Centre 0800 889 900.

Toilets

Situated on most floors. Please ask for directions if you are not sure.

Travel

There is an agency (HITCH Travel, ext. 5522) at the Student Complex who can make arrangements for any personal travel.

VIN - Veterinary Information Network Database (for literature reviews).

<http://www.vin.com> an internet based database and knowledge/opinion exchange network. VIN is free for students and university members.

Source of Advice, Guidance and Information

- Advice and assistance with academic and personal matters:
Professor Kevin Stafford, room 3.04, phone ext 5548 Email K.J.Stafford@massey.ac.nz

- Any problems concerned with administration, enrolment and courses:
The Research and Postgraduate Studies Administrator, room 3.03, phone ext 4473 Email ivabs.postgrads@massey.ac.nz

- Assistance with English as a second language including listening, speaking, reading and writing skills:

The Student Learning Centre offers assistance to postgraduate students who require additional help with writing, reading, listening and speaking, particularly if English is the student's second language. This service does not include proof-reading of theses. Phone Natilene Bowker, ext. 7641. The Online Writing and Learning Link (OWLL) is Massey University's Student Learning Centre gateway to a wide range of study skills resources. All students, whether internal or extramural, undergraduate or postgraduate, can access the resources to develop their academic skills. The site is currently being developed with regular additions planned. <http://owll.massey.ac.nz/>

- Support and advice for all international students on matters related to student life on or off-campus:

Refer to International Student Support, ext. 5916
http://student-services.massey.ac.nz/massey/students/student-services/international/international_home.cfm

- Health and Counselling concerns: Student Health Centre, phone 06 360 6247
Counselling needs:

Student Counselling Service, phone ext 5935
http://study.massey.ac.nz/massey/students/current/support-services/health-and-counselling/health-and-counselling_home.cfm



Name	Area of expertise
ALLAN, Frazer (E-mail: F.J.Allan@massey.ac.nz)	Hospital management, companion animal medicine, thrombosis research
ALLEY, Maurice (E-mail: M.R.Alley@massey.ac.nz)	Veterinary pathology, wildlife disease, respiratory pathology, tuberculosis
ANDERSON, Warren (E-mail: W.J.Anderson@massey.ac.nz)	Beef cattle, diploma teaching, farm management, pastoral systems, quality assurance
ARCHER, Michael (E-mail: M.Archer@massey.ac.nz)	Equine surgery
BARRY, Tom (E-mail: T.N.Barry@massey.ac.nz)	Ruminant nutrition, forage feeding value, effects of plant secondary compounds of nutritive value, including condensed tannins, the nutrition and grazing management of farmed deer
BEAUSOLIEL, Ngaio (E-mail: N.J.Beausoliel@massey.ac.nz)	Animal behaviour and welfare, animal physiology
BENSCHOP, Jackie (E-mail: J.Benschop@massey.ac.nz)	Veterinary epidemiology, veterinary public health, spatial analysis
BLAIR, Hugh (E-mail: H.Blair@massey.ac.nz)	Animal genetics, postgraduate and research studies
BURKE, Jennifer (E-mail: J.L.Burke@massey.ac.nz)	Dairy production
CAHILL, Jenny (E-mail: J.I.Cahill@massey.ac.nz)	Equine genetics
CARSLAKE, Harry (E-mail: H.B.Carslake@massey.ac.nz)	Equine medicine and surgery
CAVE, Nick (E-mail: N.J.Cave@massey.ac.nz)	Small animal medicine, nutrition
CHAMBERS, Paul (E-mail: J.P.Chambers@massey.ac.nz)	Analgesic drugs, animal welfare, neuropharmacology, neurophysiology, pain, veterinary anaesthesia
COCKREM, John (E-mail: J.F.Cockrem@massey.ac.nz)	Antarctica birds, captive breeding, hormones, hormones and behaviour, kakapo, kiwis, NZ birds, penguins, stress, conservation endocrinology
COGGER, Naomi (E-mail: N.Cogger@massey.ac.nz)	Veterinary Epidemiology and risk analysis
COLLETT, Mark (E-mail: M.G.Collett@massey.ac.nz)	Anatomical pathology, comparative pathology, computer-aided instruction, exotic diseases, veterinary diagnostics
DAVIE, Peter (E-mail: P.Davie@massey.ac.nz)	Anatomy

DUKKIPATI, Rao (E-mail: R.Dukkipati@massey.ac.nz)	Molecular Genetics
DUNOWSKA, Magda (Email: M.Dunowska@massey.ac.nz)	Veterinary virology, serology, cell culture, molecular biology, infection control, assay validation and development
FIRTH, Elwyn (E-mail : E.C.Firth@massey.ac.nz)	Equine surgery, orthopaedic research, imaging, equine nutrition and development
FLINT, Pania (E-mail: P.Flint@massey.ac.nz)	Pastoral Livestock Health
FORSYTH, Sandra (E-mail : S.F.Forsyth@massey.ac.nz)	Veterinary anaesthesia, critical animal care, clinical pathology
FRENCH, Nigel (E-mail : N.P.French@massey.ac.nz)	Food safety and veterinary public health
GARRICK, Dorian (E-mail: D.Garrick@massey.ac.nz)	Animal breeding and genetics, dairy cattle, sheep, beef cattle
GARTRELL, Brett (E-mail: B.Gartrell@massey.ac.nz)	Avian medicine and surgery, wildlife disease (Avian Health) 1997
GEE, Erica (E-mail: E.K.Gee@massey.ac.nz)	Equine medicine
GRINBERG, Alex (E-mail: A.Grinberg@massey.ac.nz)	Veterinary microbiology
GUILFORD, Grant (E-mail: W.G.Guilford@massey.ac.nz)	Veterinary medicine, cats, dogs, gastroenterology, clinical nutrition
HARTMAN, Angela (E-mail: A.Hartman@massey.ac.nz)	Diagnostic imaging
HEUER, Cord, (E-mail: C.Heuer@massey.ac.nz)	Dr Vet Med Reproduction and AI in water buffaloes. MSc - Epidemiology (Guelph); PhD Dairy Herd Health/Epidemiology (Utrecht/NL)
HICKSON, Rebecca (E-mail: R.Hickson@massey.ac.nz)	Animal breeding and genetics
HILL, Kate (E-mail: K.Hill@massey.ac.nz)	Small animal internal medicine, endocrinology, urology
HOSKIN, Simone (E-mail: S.O.Hoskin@massey.ac.nz)	Ruminant nutrition (deer, equine, forage species)
HOWE, Laryssa (E-mail: L.Howe@massey.ac.nz)	Molecular biology, Apicomplexa infections in cattle (Neospora), sheep (Neospora and Toxoplasma) and NZ birds (avian malaria)
HUTTON, Peter (Email: P.G.Hutton@massey.ac.nz)	Dairy production, ruminant nutrition, rumen microbiology, bioactive plants, rumen disorders
JILLINGS, Eloise (E-mail: E.Jillings@massey.ac.nz)	Veterinary clinical pathology
JOHNSON, Craig (E-mail: C.B.Johnson@massey.ac.nz)	Neurophysiology, respiratory physiology, veterinary anaesthesia

JOHNSTONE, Alastair (E-mail: A.C.Johnstone@massey.ac.nz)	Veterinary pathology, dermatopathology, general diagnostic pathology
KENDRICK, Chris (E-mail: C.J.Kendrick@massey.ac.nz)	Immuno-haematology, haematology, blood transfusions, transfusion acquired bacterial and viral infections, national blood service, NZ pathology services
KENYON, Paul (E-mail: P.R.Kenyon@massey.ac.nz)	Sheep production
KNIGHT, Cameron (E-mail: C.Knight@massey.ac.nz)	Histology
KUIPERS VON LANDE, Richard (E-mail: R.KuipersvonLande@massey.ac.nz)	Surgery and investigative procedures in small animals
LAVEN, Linda (E-mail: L.J.Laven@massey.ac.nz)	Anatomy
LAVEN, Richard (E-mail: R.Laven@massey.ac.nz)	Dairy cattle lameness, nutrition and fertility, clinical pathology
LAWRENCE, Kevin (E-mail: K.Lawrence@massey.ac.nz)	Pastoral Livestock Health
LOPEZ-VILLALOBOS, Nicolas (E-mail: N.Lopez-Villalobos@massey.ac.nz)	Design of Breeding Schemes including selection and crossbreeding, genetic evaluation, model simulation
MAYHEW, Joe (E-mail: I.G.Mayhew@massey.ac.nz)	Equine medicine and neurology
MORGAN, Kerri (E-mail: K.J.Morgan@massey.ac.nz)	Avian and wildlife Health
MORRIS, Steve (E-mail: S.T.Morris@massey.ac.nz)	Animal production, beef production, farm management, grassland farming, sheep production, farming systems, overseas agricultural development
MUNDAY, John (E-mail: J.Munday@massey.ac.nz)	Anatomic veterinary pathology, comparative pathology, lab animal pathology
MURRAY, Alan (E-mail: A.Murray@massey.ac.nz)	Immunology, microbiology, molecular biology, Helicobacter pylori, tuberculosis, Johne's disease, vaccine
NEUMANN, Eric (E-mail: E.Neumann@massey.ac.nz)	Swine medicine and surgery, swine production, epidemiology, clinical trials
NORMAN, Liz (E-mail: E.J.Norman@massey.ac.nz)	Small animal medicine
NULSEN, Mary (E-mail: M.F.Nulsen@massey.ac.nz)	Infectious disease, medical bacteriology, pathogenic bacteria, host defences, human vaccines
OLSON, Walter (E-mail: W.Olson@massey.ac.nz)	Theriogenology, reproductive physiology and endocrinology, embryo transfer, goat medicine and management
OWEN, Mark (E-mail: M.C.Owen@massey.ac.nz)	Diagnostic imaging (radiology, ultrasound, CT, MRI)

PAIN, Sarah (Email: S.J.Pain@massey.ac.nz)	Animal physiology, nutrition and metabolism (ruminant and monogastric)
PARKINSON, Tim (E-mail: T.J.Parkinson@massey.ac.nz)	Reproductive physiology, theriogenology, dairy cattle, AI of cattle
PARTON, Kathy (E-mail: K.Parton@massey.ac.nz)	Toxicology, chinchillas, guinea pigs, ferrets, laboratory animals, pharmacology, poisons, rabbit health, rodent health
PAUWELS, Frederik (E-mail: F.Pauwels@massey.ac.nz)	Equine surgery
PETERSON, Sam (E-mail: S.Peterson@massey.ac.nz)	Animal reproduction, endocrinology, ruminant physiology, sheep lactation, foetal growth, fibre growth
PETROVSKI, Kiro (E-mail: K.R.Petrovski@massey.ac.nz)	Dairy cattle medicine, mastitis
POMROY, Bill (E-mail: W.Pomroy@massey.ac.nz)	Drench resistance, fleas, flukes, flystrike, lice, mange, parasites, parasitic worms, tapeworms, ticks, Neospora, parasitic protozoa
PRATTLEY, Deb (E-mail: D.J.Prattley@massey.ac.nz)	Veterinary public health
ROE, Wendi (E-mail: W.D.Roe@massey.ac.nz)	Disease diagnosis, anatomical pathology, marine mammal disease
ROGERS, Chris (E-mail: C.W.Rogers@massey.ac.nz)	Equine Biomechanics, Use of image analysis to quantify tissue changes in response to exercise, Equine genetics
SCOTT, Ian (E-mail: I.Scott@massey.ac.nz)	Disease mechanisms, immunology and pathology of parasitic infections, diagnosis of parasitic infection
SHERLOCK, Ric (E-mail: R.G.Sherlock@massey.ac.nz)	Fibre science, genetic evaluation, mathematical modelling, sheep production, wool physiology
SMITH, Nicola (E-mail: N.Smith@massey.ac.nz)	Anaesthesiology
SMITH, Stefan (E-mail: S.L.Smith@massey.ac.nz)	Sheep, beef and dairy medicine. Surgery and preventative health programmes.
STAFFORD, Kevin (E-mail: K.J.Stafford@massey.ac.nz)	Applied animal behaviour, animal welfare, companion animal behavioural problems, sheep/beef medicine, ruminant physiology, agriculture development
STEVENSON, Mark (E-mail: M.A.Stevenson@massey.ac.nz)	Veterinary epidemiology
STRATTON, Rachel (Email: R.B.Stratton@massey.ac.nz)	Olfactory detection by dogs, Equitation science
THATCHER, Alan (E-mail: A.Thatcher@massey.ac.nz)	Production animal
THOMPSON, Keith (E-mail: K.G.Thompson@massey.ac.nz)	Skeletal diseases, cardiovascular research, disease diagnosis, genetic diseases, goat health, goat management, Johnes disease, cytology
THOMSON, Christine (E-mail: C.E.Thomson@massey.ac.nz)	Functional neuroanatomy / neurobiology

WALSH, Vicki (E-mail: V.P.Walsh@massey.ac.nz)	Veterinary anaesthesia
WEST, Dave (E-mail: D.M.West@massey.ac.nz)	Sheep diseases, Johnes Disease, Brucella ovis infection, sheep production, sheep reproduction, trace elements of ruminants, control of parasitism, anthelmintic resistance, foot diseases of sheep
WESTON, Jenny (E-mail: J.F.Weston@massey.ac.nz)	Production animal medicine
WILLIAMSON, Norm (E-mail: N.Williamson@massey.ac.nz)	Animal health, computers, dairy, nutrition, production, reproduction, veterinary economics, veterinary management, veterinary medicine, neospora
WILSON, Peter (E-mail: P.R.Wilson@massey.ac.nz)	Deer: diseases, farming, health, management, nutrition, preventive medicine, production, reproduction, welfare
WORTH, Andrew (E-mail: A.J.Worth@massey.ac.nz)	Small animal surgery

What is expected from Students and Staff

As an advanced student you are here because you wish to develop your knowledge, understanding and skills in various topics.

Staff are here to help you to achieve your objectives and, finally, to assess how successful you have been in your studies.

You must ensure that you make full use of all the resources and facilities provided by Massey University during your studies (these include staff, lectures, projects, research facilities and all the many library services and other sources of information).

Your programme will consist mainly of independent study by you under the guidance of your lecturers. In order to be successful you must be self-motivated. Your own success depends on your own efforts.

Students

You must work hard and effectively. (This means a minimum of about 50 hours per week of effective study for 48 weeks of the year, including all timetabled and individual work for full-time students).

You must plan and organise your studies to ensure that your hard work is most effective. Discuss your plans with your supervisors and lecturers; work to a Planning Calendar of deadlines for various stages of your programme; keep to these deadlines.

You must develop the skills of

Discovering information from all sources (including staff and library).

Subjecting the information to critical evaluation in relation to your studies.

Integrating all the information together into your final reviews, or projects.

You must develop your contacts with your supervisors and lecturers, because they can provide great assistance in many ways.

Ask questions about anything and everything.

Discuss your preliminary plans for projects.

Seek advice about areas of uncertainty.

Staff are always keen to work with motivated students.

In particular, maintain regular formal contact with your supervisors.

Supervisors and Lecturers

Maintain a programme of regular formal meetings with students to monitor progress in relation to agreed deadlines and to discuss plans and problems.

Develop a schedule of agreed deadlines to ensure that the student has a Planning Calendar for the year, containing all major components of the programme.

Encourage students to seek advice and to discuss plans, ideas and areas of uncertainty.

Ask for a detailed plan to be prepared before each project is written.

Mark projects quickly and return them with comprehensive feedback to the student.

Intellectual Property

Intellectual Property (IP) - see Policy on Intellectual Property January 1996. The aim of the policy is to encourage research and innovation and to establish an environment in which industry and the community realise the potential benefits of the resulting intellectual property, whilst the rights of those with a stake in the creation of intellectual property are protected. In the absence of any specific agreement on IP with the research or consultancy sponsor, the University policy on IP will be operational.

Intellectual Property is considered under two categories:

Group A which includes

Scholarly publications

Materials, e.g. lecture notes etc. created specifically for a course but to which students are not given direct access.

Unpromulgated research information for scholarly purposes.

The University waives ownership of Group A Intellectual Property in favour of the creator.

Group B which includes:

Patents, plant variety rights, layout designs and confidential know-how or trade secrets;

Registered designs and trademarks;

Software (including software used to generate multimedia compilations);

Course materials (including study guides, course or laboratory handbooks, handouts, overhead transparencies, slides, sound or video recordings, computer programmes, multimedia compilations, reproductions of art or musical works) created specifically for a course but to which students are given direct access.

Course materials created to support or guide teaching of a "packaged" course licensed to another institution.

The University claims ownership to Group B Intellectual Property but will undertake shared exploitation.

Students are the owners of Intellectual Property they create, except where staff members make a contribution to the creation of intellectual property in connection with their research programmes, usually through supervision or where there is an alternative research agreement with a sponsor that applies to the project. Many student research programmes are based on intellectual property developed by University staff and the University has a claim to that intellectual property even though the student may extend that development.

Note: When alternative, specific IP arrangements may be detailed in a research/consultancy contract, the aim should be to agree on firm and commercially sensible agreements. Advice should be sought from Research Services. The university does not "give away IP" but if a research sponsor is paying full costs they may want to negotiate conditions and in many cases the funder will claim the ownership. Rights of exploitation must also be considered. Specific contracts with sponsors take precedence over the standard policy.

Preparation of an Assignment

During your studies in the Institute of Veterinary, Animal and Biomedical Sciences, you will be asked to prepare assignments on various topics. These notes are intended to help you prepare a good assignment, to increase the benefits that you obtain from the work, and of course to increase your final marks!

Books available to borrow

The Research and Postgraduate Office has two books that may be borrowed. They are "Writing Guidelines for Postgraduate Science Students" and "Writing a Thesis or Long Document Using a Word Processor". See Debbie in Room 3.03 to borrow these.

Answer the question: Always ensure that you answer the question that was asked. You will get low marks if you write all you know about a particular topic area, but your answer is not relevant to the question being asked. If the question is divided into several parts, you should give appropriate emphasis to all parts in your answer.

Use of references: Post-graduate assignments differ from undergraduate assignments because all major statements must be justified and supported by evidence derived from references. Typically, about 20 to 30 references should be used to support your assignment. These are normally quoted at the end of a particular sentence or paragraph (i.e., Barry, 1989, or Barry et al., 1991), and a reference list is given at the end of the assignment.

References used to support your assignment should be papers in scientific journals and chapters in advanced text books. Under-graduate study guides should not be quoted as references in Post-graduate assignments.

In some projects (or parts of projects) which study a wide topic and do not require in-depth analysis, it may be appropriate for you to refer primarily to text books and reviews. However, you must use several different reviews to ensure that you have a balanced and correct understanding of the subject. In other cases, in which an in-depth study is required, reliance on reviews will not be acceptable. In such cases you will be required to refer to the original papers and to analyse them thoroughly. Consult your supervisors regarding their expectations in this regard for each project.

Length of the assignment: This should ideally be in the range 20 to 30 pages (5000 to 7500 words), including all figures, tables and the reference list. Both typed and neatly handwritten assignments are acceptable. Longer assignments are not encouraged because, in good scientific writing, it is important to identify the main points and to state these clearly and concisely. Avoid repetition; make each point once. Very long projects are actively discouraged.

Planning of the assignment: Prepare a plan of your assignment before you commence writing. Divide it into sections and plan what should go into each section. Include a detailed list of contents at the beginning of each project, and use these section headings in the body of the text.

Use of figures, diagrams and tables: Diagrams, graphs and tables taken from references can be used effectively to illustrate the most important points in your assignment. They can be photocopied, and the source must be clearly cited.

Abstracts and Conclusions: Your assignment should have an Abstract (or complete summary) (at the start) and a Conclusions section (at the end). Each should not generally exceed one page in length. The Abstract should briefly summarise all the main points in your assignment and will include the main conclusions. The Conclusions should list what you consider to be your main conclusions. The conclusion can be presented as a numbered list of points.

List of References: The References list should be at the end of your assignment. Each reference should be quoted in full, including all authors' names, year published, title, journal name, volume and page numbers. The following format is suggested.

- Domingue, B.M.F., Dellow, D.W., Wilson, P.R., Barry, T.N. (1991). Comparative digestion in deer, goats and sheep. *New Zealand Journal of Agricultural Research* 34, 45-53.
- Your reference list must include all of the sources cited in your assignment and must not include any references which you have not cited. If you have read a paper or text, but have not used it in your assignment then do not list it in your references list.

Plagiarism: Plagiarism is using another person's thoughts, words or arguments in an unacknowledged way thus implying that they are your own. It is a form of intellectual dishonesty and can range from copying whole passages verbatim without acknowledging the source, to failing to indicate that a sentence or phrase is quoted. Paraphrasing without adequate citation, is also a form of plagiarism. Plagiarism is viewed as dishonest practice and if established is normally referred to the Academic Board for evaluation and sanctions.

Under the Statutes and Regulations section of the Massey University Calendar, it is stated (Assessment and Examination, Article 14):

"Copying or paraphrasing of another person's work, be it published or unpublished, without clearly acknowledging it, will be deemed to be dishonest. Any candidate found guilty of plagiarism will be liable to the penalties hereinafter provided."

In practice, postgraduate students share ideas and work closely together on projects and assignments. The above article is not intended to stifle this interaction. Rather, it is intended to ensure that students present their own interpretation of work either prepared by others or developed in collaboration with classmates. Unless otherwise stated by the staff member in charge of the paper, each item of student work is expected to be unique.

**ALWAYS BACK UP YOUR FILES ON THE COMPUTER.
DISKS AND CDs ARE AVAILABLE FROM ROOM 3.03.**

Copyright and Private Study: Copyright is the exclusive right of a creator of an original "work" to reproduce, or to authorise somebody else to reproduce, that work in any form. This includes copying the work, performing, playing, or showing the work in public, broadcasting the work, or including it in a cable programme service, or making an adaptation of the work (for instance, re-writing a book as a film script).

Where an employee creates a literary, dramatic, musical or artistic work, in the course of his or her employment, their employer is the first owner of any copyright in the work, subject to any agreement to the contrary (and for an agreement to vary this provision in certain circumstances, see Massey University's Policy on Intellectual Property). Similarly, a person who has commissioned certain types of works will be the first owner of any copyright in that work, subject to any agreement to the contrary.

In copyright law, a "work" includes: Literary (which includes computer programmes), dramatic, musical, or artistic works, Films (including videos), Broadcasts, Cable programmes, The typographical arrangement of published editions.

There might be several copyrights in one "work". For instance an author of a book will have a literary copyright in the content of the book, while her publisher will have a copyright in the particular published edition. Often, but not always, the author will agree to assign the literary copyright to the publisher also. The creator's right to her copyright continues for a number of years, which differs depending on the type of work, and also differs from country to country. For instance, the copyright in a New Zealand literary work lasts for the author's lifetime plus a further 50 years after her death. In Europe and the United States, the copyright in a literary work lasts for the author's lifetime plus a further 70 years after her death.

What is its relevance to me as a teacher? As a teacher, you may wish to reproduce all or a part of certain literary works for your internal and distance students. You may wish to place copies of all or a part of literary works in the closed reserve section of your institution's library. Copyright works which are literary, artistic or musical works are probably of most importance to you, although the reproduction of television and radio broadcasts, and the showing of videos to your classes might also be of interest to you.

What is its relevance to me as a researcher? As a researcher, you may wish to photocopy all or a part of books and journals from the Reference Only section of your library.

What is its relevance to me as an author? As an employee of an educational institution who is required to publish for promotion purposes by that same institution, you will be interested to know where the ownership of copyright in your creative efforts rests.

What is its relevance to me as a student? As a student you may wish to photocopy for your own research or private study certain literary works which are held in your institution's library or which have been placed on closed reserve by your teacher. You might also wish to know what copyright law offers you as an author of an essay or thesis.

FAQs: Frequently Asked Questions

Copyright and Private Study

How much of any copyright work may a teacher or a student copy for themselves, for the purpose of private study or research?

Under the Copyright Act 1994, a person may make one copy of a reasonable amount, up to and including an entire work, for their own private study or research. The copied material is not permitted to be passed on to anybody else. This is called "fair dealing" and it constitutes a defence against the charge of copyright infringement. It is entirely a statutory matter and has nothing to do with the Copyright Licence from CLL

In the event that the question of whether certain copying is or is not fair dealing should come before the court, the court must apply the following considerations:

- the purpose of the copying; and
- the nature of the work copied; and
- whether the work could have been obtained within a reasonable time at an ordinary commercial price; and
- where part of a work is copied, the amount and substantiality of the part copied taken in relation to the whole work.
- As an alternative to relying upon the somewhat vague statutory concept of fair dealing, staff of Massey University (but not students) are fully indemnified if they choose to limit the amount of their photocopying to the amounts permitted under the terms of the Copyright Licence i.e. generally no more than the greater of 10% or one chapter of a literary work, or one article of a journal (more if the articles are on the same subject). If these limits are adhered to, the copying is indemnified by CLL and they will handle any copyright court actions which arise in connection with the photocopying.

Literary Works

How much may be copied from a periodical or journal for educational purposes?

The Copyright Act itself permits multiple copies to be made for educational purposes of no more than 3% or 3 pages of one article, whichever is the greater. Where 3 pages would be the whole of an article then no more than 50% of that article may be copied.

Conversely for educational purposes, the CLL licence allows multiple copies to be made of one article from a single publication, or more if they are specifically on the same subject. This means that in the field of teaching building construction, staff may copy up more than one article on, say, roofing products. But it probably does not mean that more articles may be copied because they relate to building construction as a topic, because that is too general. CLL prefer to be contacted for advice if more than 10 - 20% of the articles from one journal are required to be copied, and also in cases of doubt as to whether the articles are "on the same subject". Seek advice from within the

university (your HOD, or a teaching consultant at NSATS), before contacting CLL as there is often a difference of views on matters such as similarity.

How much may be copied from a New Zealand daily newspaper for educational purposes?

For educational purposes, the CLL licence allows multiple copies to be made of one article from a single issue of a New Zealand daily newspaper, or more if they are specifically on the same subject. CLL prefer to be contacted for advice if more than 10-20% of the articles from one newspaper are required to be copied, and also in cases of doubt as to whether the articles are "on the same subject".

How much may be copied from a newspaper from overseas for educational purposes?

Newspaper articles which are sourced overseas are excluded from the licence. This means that the staff member concerned, or a teaching consultant from NSATS, has to apply to the editor or publisher of the newspaper for permission to reprint more than the Act itself would permit (ie 3% or 3 pages, whichever is the greater. Where 3 pages would be the whole of a work then no more than 50% of that work may be copied). If the request is e-mailed or faxed, it can take anywhere from 24 hours to three months to obtain this permission. It is therefore advisable to attempt to secure permission as soon as possible in the extramural production cycle. Editors will sometimes return the request with a telephone message; it is best however, to get this emailed or faxed, in order to retain evidence of the permission.

What about articles from New Zealand weekly newspapers?

Newspaper articles which are sourced from weeklies, like NBR or Sunday Star Times, are excluded from the licence. This means that the staff member concerned, or a teaching consultant at NSATS, has to apply to the editor or publisher of the newspaper for permission to more than the Act itself would permit (i.e. 3% or 3 pages, whichever is the greater. Where 3 pages would be the whole of a work then no more than 50% of that work may be copied). If the request is e-mailed or faxed, it can take anywhere from 24 hours to 48 hours to obtain this permission. Editors will sometimes return the request with a telephone message; it is best, however, to get this emailed or faxed, in order to retain evidence of the permission.

What is the limit for multiple copying from a single author book for educational purposes?

The CLL licence offers the limit of 10 percent or one chapter, whichever is the greater. CLL state that in special circumstances, and with their permission, a small increase to this limit might be permitted.

What should I do if I know that for educational purposes I have to copy more than 10 percent or one chapter?

CLL must be approached for its permission to exceed the terms of the licence. Except in cases where the book is out of print, CLL will generally charge for the amount copied above the 10% limit. The new limit for which CLL will grant a licence is 20 - 25% of the total page number of the book in question. Before copying can commence, CLL will need to know the following information about the book:

Author
Title
Publisher
Year of publication
Number of pages to be copied
Total number of pages in book
Total student number for whom copying is proposed

Copying in excess of 10% should be done only in special circumstances, and preferably only for one print-run, (which should give staff one year to find an alternative sources for the next print run). Where costs are involved for copying material for extramural study guides in excess of the CLL Licence, please discuss payment options with the teaching consultants at NSATS.

If a staff member proposes to exceed 20 - 25%, CLL may be unable to grant a licence, and either CLL, a teaching consultant, or the staff member concerned will need to contact the publisher concerned to obtain written permission.

Is there an absolute upper limit of copying of a book or journal beyond which even the Licence will not go?

If a staff member proposes to exceed 20 - 25%, CLL may be unable to grant a licence, and either a teaching consultant, or the staff member concerned will need to contact the publisher to obtain written permission.

However, if a book is out of print, it is usually straightforward to obtain permission to reproduce any amount of the work. This extends to the whole book, if that should be necessary. The Massey University Library (Bibliographic Services) should be contacted to obtain verification that a book is out of print, since they will have access to the Library's extensive database information. CLL will then have to be contacted for formal permission, although this is normally always granted.

What if the book is not out of print, but I can't obtain it in time for my students?

The CLL documentation states that it is permissible "to copy a complete work, only if the work is unavailable in sufficient quantity within a reasonable time at the normal price". This is subject to prior written approval from Copyright Licensing Ltd."

Application has to be made to CLL and may also require a confirmation from Bennetts, the campus book suppliers, if it is their order which has not been filled.

What is the limit for copying from an edited book?

Massey University has a special agreement with CLL that, under the licence, staff may treat an edited collection of academic works in the same way as a journal or periodical. Staff may copy one article or chapter from such an edited publication, but may copy more (up to 20 -25% of the book) if the articles or chapters are specifically on the same subject.

Library/Inter-loaned Materials

Can I inter-loan an article and then put in a study guide?

The Copyright Act 1994 s 53 permits copying by librarians of literary works held at one library for a specified user of another library (inter-lending), but provides that the purpose a copy is being supplied must be for a person who has requested the supply for the purposes of research or private study. The section implies that only one copy may be made and that the person to whom the copy is supplied may only use it for the purposes of research or private study. This does not include educational use, neither does it allow the making of multiple copies for study guides.

However CLL has recently confirmed that, under the University's Licence, copies may be made from inter-loaned copies for educational purposes, where the material copied cannot be purchased or obtained by any other means. CLL will not give permission under the "educational purposes" to place copies of inter-loaned material on closed reserve.

What are the rules concerning copying from books, journals and other literary works which have been obtained by the Library through the Inter-loan service?

There are two possible scenarios, as follows:

The first is that the inter-loaned material might be supplied to the requesting library in its original form, for instance a book. Since the lending of an original literary work is not an act which infringes copyright, the Copyright Act is not applicable to this procedure. However, if the borrower of the Inter-loaned book wishes to copy any part of the book, then he must do this in accordance with either the fair dealing provisions of the Act (see above), or, should he wish to make multiple copies for teaching purposes, he must adhere to CLL guidelines as to the amount of the book which may be copied.

The second possibility is that the inter-loaned material might be supplied to the requesting library in the form of a copy, for example a copy of one article from a journal. The application for such a copy must be made to the requesting library by a named individual who states that she requires the copy for her private study or research, and the Inter-loaned copy of the article will bear a sticker confirming that it may only be used for this purpose. This scenario complies in all respects with section 53 of the Copyright Act, and is quite independent of the CLL Licence. However, the CLL licence has recently been extended (see "Copying of Inter-loan Copies", Issue 10 CLL Newsletter) to allow the copying of inter-loaned copies for educational purposes where the material cannot be purchased or obtained from any source other than through the Inter-loan service. Thus, material obtained as a copy through Inter-loan may only be used for study guides if the copyright owner's permission has been obtained, or if it is not commercially available.. CLL will not give permission under the "educational purposes" to place copies of inter-loaned material on closed reserve.

Procedure

To make multiple copies of inter-loaned material which was supplied in the form of a copy, for insertion in study guides, the following procedure is recommended:

Either obtain permission from the copyright owner, or establish that the original work is out of print and cannot be commercially obtained. In either case, documentary evidence should be retained, e.g. e-mail hard-copy. The copied material must be accompanied by the following copyright notice:

Title Author Publisher/publication Publication date copied under licence with CLL by licensee/or copyright owners permission as applicable. Not to be further without prior consent of or the owner.

Can copies of students' reports and assignments be placed in the library's Reserve Collection?

Permission to make copies for that purpose must first be obtained from the students concerned, since they are the owners of the copyright in the particular report/assignment.

Evaluation of Written Assignments or Projects

Paper No.

Name of Student

Date Marked

(This will help students and staff to focus on the main issues in the preparation and marking of projects).

Category (and some details)	Marks Gained Marks Possible	Comments
Abstract/Summary Clear informative concise, self-explanatory, thorough summary of all main points; about 300 words.		
Presentation Table of contents: Well organised, logical sequence, use of sections, tables, figures, list of references, tidy, correct English, concise, no repetition.		
Use of Literature Shows wide and detailed reading of the key scientific references and balanced use of evidence.		
Content Detailed, logical presentation; critical analysis of all relevant information; construction of a coherent, logical case, based on evidence and theory. Clear explanation of key principles. Critical evaluation of any differences between different references. Clear conclusions.		
Total :		Overall Comment:

A Guide for the Writing and Marking of Projects

<p>THE EXCELLENT PROJECT A to A+ grades Demonstrates deep, original thought and understanding</p>	<p>THE AVERAGE PROJECT C+ to B+ grades Demonstrates some thought and understanding</p>	<p>THE INADEQUATE PROJECT D grade or rewrite Fails to demonstrate any real thought or understanding</p>
<p>Scope and Content: A thorough, balanced exploration of the topic, based on detailed and critical research of published and other evidence. Data is subjected to thorough analyses and critical assessment. Material is used to build a sound case, conflicts between data are critically evaluated. The main points are critically evaluated. The main points are illustrated by data from published work. A detailed summary (or abstract) is included, together with clear conclusions.</p>	<p>Scope and Content: A satisfactory exploration of the topic, based on research of the main sources of evidence. Data is analysed and presented clearly and the material is assembled with some logic in the context of the project. A summary is included, together with conclusions. The whole project demonstrates some thought and understanding.</p>	<p>Scope and Content: The study is superficial, based on little or no research of any data or published material. There is little quantitative analysis, and the project fails to develop a logical case, or to present clear conclusions. The whole project demonstrates little thought or understanding.</p>
<p>Structure: Detailed, balanced abstract or summary of main points and conclusions. Clear introduction to the objectives and scope of the study. Logical plan; topics discussed in logical sequence, with evidence presented from wide variety of sources. Clear conclusions, based on the evidence presented. Identify areas of uncertainty and needs for future research. Full bibliography. Excellent writing skills.</p>	<p>Structure: The body of the project is presented in a reasonably logical sequence and the project includes most of the main components (e.g. summary, introduction, main body, conclusions and bibliography). Adequate writing skills demonstrated, i.e. proper use of paragraphs, grammar, punctuation and spelling.</p>	<p>Structure: The topics are not presented in any logical sequence, and several of the main components are not included. Poor paragraphing, punctuation and sentence structure.</p>
<p>Research and Reading: It is clear from the text that all the important references (and other) including original research papers and the major reviews about the topic have been read and understood (including some which are new to the supervisor!). All the evidence is assembled in an integrated, co-ordinated fashion, to provide a coherent case, demonstrating a deep understanding of the topic.</p>	<p>Research and Reading: Some evidence is presented, from a variety of sources. An acceptable balance of reviews and original papers are cited. This is presented clearly and coherently, in a way which demonstrates some thought and understanding.</p>	<p>Research and Reading: Either there is no reference to any published evidence, or the limited references show no thought or understanding. Excessive reliance on text books or reviews; minimal use of original references. Evident plagiarism.</p>
<p>Presentation: Flawless, tidy, concise clear presentation with no repetition. Perfect structure (e.g. summary, list of contents, introduction, body of report, conclusions, bibliography and appendices).</p>	<p>Presentation: Tidy, clear, legible. Main structural components included. It is likely to be too long, and be repetitive in places. Clear headings and titles.</p>	<p>Presentation: Untidy, and/or illegible. No clear or logical structure. Lacking suitable headings and titles.</p>

Selection of the topic for your Thesis or Dissertation

You should discuss this with your supervisors during the first month of your course, probably before you have completed all the details of course approval. In some cases the student identifies the topic, in other cases the student becomes involved in a project which is already in progress. In any event the topic should be of real interest and value to you, and it must also be feasible within the resources of the Institute of Veterinary, Animal and Biomedical Sciences.

After you have selected your topic, you should prepare a formal proposal (Application for Academic Approval of Graduate Programme [OGS 2]) under the guidance of your supervisors.

Planning Calendar - Work Contract, Examinations

You and your supervisor should prepare a planning calendar with details of

- Deadlines for your projects.
- Dates for your experiment (if appropriate)
- Dates for your exams (see below)
- Deadlines for various stages of your thesis/dissertation.

This should be developed into an agreement, or contract, between you and your supervisors. It will provide a time-frame for your programme, and it will help you and your supervisor to ensure that your progress is maintained as required. These contracts are generally informal agreements between you and your supervisor, except for the provisional year of the Ph.D. programme when a formal contract is required. (The agreement can be changed if circumstances cause genuine difficulties in meeting deadlines).

Examinations

These will normally be held during December.

Thesis

The Massey University Library publishes a "Guide to the presentation of theses" that includes the University requirements regarding presentation, number of copies and recommended format. This guide is available from the Library. Also refer to the College of Sciences Office of Graduate Studies "Postgraduate Policies and Procedures Handbook" which you received in your first year.

Thesis embargo

There are conditions that may provide grounds for a thesis embargo, or example, the disclosure of commercially sensitive information. If the results of your research are such that an embargo is possible, your supervisor is likely to discuss this possibility with you. If you wish to apply for approval of request to embargo a thesis, a form is available from Debbie, and, once approved, must be bound into every copy of the thesis.

Books to borrow

The Research and Postgraduate Office has two books that may be borrowed. They are "Writing Guidelines for Postgraduate Science Students" and "Writing a Thesis or Long Document Using a Word Processor". Available to borrow from IVABS Room 3.03.

**ALWAYS BACK UP YOUR FILES ON THE COMPUTER.
DISKS AND CDs ARE AVAILABLE FROM ROOM 3.03.**

Postgraduate Examinations

Although postgraduate examination candidates rarely fail examinations, often they do not perform as well as they could. This is invariably through bad technique rather than lack of work. Markers find the same deficiencies in many papers. It is often evident to the marker that a candidate has a poor understanding of what is required in an examination. Top students, on the other hand, display excellent exam technique; it is evident that they understand clearly what it is that the examiner wants to see.

We shall examine what makes good and bad answers, and how to prepare for, and to sit, exams.

Objectives of Examinations

If you know why you are being examined, then you have a better chance of performing well. The objectives of graduate examinations are often very different from undergraduate tests;

- check that required knowledge is understood and to determine the level of understanding
- check that required skills have been learned
- compare and rank students based upon ability

It is no longer good enough just to know the answers; you must be able to communicate the answer clearly, concisely and effectively. Your abilities will be compared with your classmates and with previous graduate students. Generally the top students are well aware of the competitive aspects and they take advantage of the lack of competitive attitude amongst their classmates.

Characteristics of a good answer

For many questions there is no "correct" answer: only good and bad ones.

What is it that makes the top scoring answer so much better than the others?

The main errors in D-grade papers:

- Hard to read; poor grammar and spelling
- Hard to follow; no logical sequence; just a list of facts; hard to find the main points.
- Often one point will contradict another, suggesting lack of thought.
- Answers are often long and waffly, not answering the question asked.
- Contains unnecessary and irrelevant information and examples.

The main advantages in A-grade papers:

- Easy to read.
- Follows a logical sequence; easy to find the main points.
- No contradictions; similar points are clearly distinguished.
- Concise and to the point, answers exactly what is asked.
- Includes relevant data, references and examples.

In internal exams for which the scripts are returned, students often have the opportunity to compare their answers with those of others. If you do so, look very hard for the differences listed above. Students sometimes ask why they did not get full marks when they had the "right" answer. The reason is that answers differ in quality. Here is an example of real students' answers (it is a 100-level exam but it serves to illustrate the point) and the marks awarded for each.

	Marks
Question: Define the term "postpartum interval" (PPI).	(3)
Answer 1. Time for repair of reproductive tract after birth.	(1)
Answer 2. PPI is the time taken from parturition till the female begins to cycle again.	(2)
Answer 3. PPI is the time taken for the female to resume normal, fertile oestrous cycles after parturition	(3)

This was a question requiring a concise and very specific answer: Imagine how much difference there is in quality and therefore, in marks, between the answers given to a 20-mark question.

Furthermore, did the students who gave the first answer really not understand the topic as well as those who gave answer three? Perhaps they did, but they did not demonstrate this. It is likely that some could have given the best answer, if prompted and questioned further. For such students, the problem is exam technique. They probably did not read the question carefully enough, did not plan their answer, and did not check their answer.

Graduate examination questions are often very broad, enabling you to write all that you know on a subject. Thus, it is essential that you plan your answer, carefully, so that it does not become an over-long, rambling tale. My supervisor used to describe reading such work as "wading through the swamps of the Limpopo" and stressed the importance of "coming out the other side". In other words, in a long answer, it is important for the reader to have a sense of direction during the answer and to come to a logical conclusion.

Planning is also crucial to completing your answer in the required time; many students have failed to gain good grades at the graduate level due to poor time allocation leading to failure to complete questions.

Answering the Questions

One of the most common errors is not answering the question, i.e. writing about something other than what is required. Sometimes students write about a different topic (and get no marks) but more often they write a little about the required topic and a lot about a related topic. This has three major disadvantages. First, the student has only written a few marks worth of answer, yet thinks they have written a full answer. Second, although some relevant facts may have been presented, the presence of irrelevant information will confuse the logic of the answer and call into question the student's understanding of the topic, resulting in a lower mark. Third, the time spent presenting irrelevant material is time not available for gaining marks in other questions.

The most important advice that can be given to any examination candidate is to read the question carefully, yet because this sounds so obvious, many students ignore this advice. They mistakenly believe that since an exam is full of questions and that because they are capable of reading, there will be no problem. But reading and understanding the questions is a skill that must be learned. Examiners word questions very specifically; every word is there for a reason. Candidates must know the language of exams.

Key Words in Exam Questions

Analyse	determine what makes up the various parts of the subject; examine minutely and critically
Compare	liken the subjects of the topic; discuss the likeness or unlikeness of one thing to another
Contrast	show how different one thing differs from another
Compare & contrast	show the similarities and differences
Criticise	examine all aspects carefully and give opinions and reasons
Critically evaluate	see evaluate
Define	give the precise meaning of a term so that all other possible meanings are excluded
Describe	give the features of the subject in detail, using whatever combinations of methods are appropriate
Determine	decide; calculate the value of
Demonstrate	show; prove
Discuss (debate)	consider the pros and cons of all aspects
Enumerate	specify the items using numbered points
Evaluate	analyse and interpret the components, put them together and make a judgement; how good is the subject? sometimes this may mean solve an equation or calculate the solution to a problem
Examine	investigate subject by critical evaluation
Explain	make plain or clear, show the meaning of; account for; give the reason for
Identify	tell, distinguish the required features of the subject
Illustrate	explain and describe, give examples, diagrams, figures
Interpret	explain the meaning of; translate
Justify	give the reasons for; prove to be right
List	put each subject in sequence down the page
Outline	give the main features of the subject
Prove	show by reasoning and argument
Relate	tell, recount; show the relationship between
Resolve	analyse and explain; solve; give the solution to a conflict
Review	go back over and consider critically
Solve	calculate the answer to a problem; simplify an equation
State	give the facts concisely and without doubt
Summarise	give concisely the main points
Trace	follow the sequence or course of events
Write an essay on	In some subjects, an essay is a closely defined formal written structure. In science, such an instruction is more likely to mean "write everything you know"

about" the subject using whatever additional means (headings, subheadings, diagrams, examples, graphs) that you consider necessary. Check with the paper co-ordinator if in doubt.

Some questions may involve more than one of these terms. Examine each question carefully, identify (underline) the key words and key concepts in the question, and ask yourself "what does the examiner want here?" Make sure that you do what the examiner wants and not what you want.

Answering Essay-Type Questions

When you have decided what is required, plan your answer. This may be done on the exam script, but remember to cross out anything that you do not want marked. Initially you may jot down your ideas in a random fashion. When you have the main points then organise them into an appropriate sequence. I find this best done by drawing boxes connected by arrows, rather than by writing a list.

This enables me to see alternative sequences more clearly and often to identify missing ideas. Whichever way you do it, the main requirements of an essay-type (long) answer are the same as those of a good paragraph:

- Main idea or concept
- Supporting ideas or information
- Examples and other relevant facts and their relationship to each other
- Conclusion.

Your job is not just to write the answer, but to communicate the information you know to the examiner. Put yourself in the place of the examiner and see what you are telling him/her. Try to keep it simple and clear. Do not try to impress with big words or bluff your way through with long, convoluted sentences. Examiners are adept at recognising waffle and will deduct marks. Use good paragraph structure, simple wording and shorter sentences.

Preparing for Exams

It is not enough to just to read your notes and turn up at the exam and hope for the best. You need to prepare yourself, both mentally and physically, beginning long before the exam.

Notes

Read your notes and condense them to key points. Repeat this with the condensed notes, writing only the points you cannot remember. Repeat this until you have memorised all the key points.

Break your work down into sections; and follow a strict timetable for revising each section.

Model answers; prepare model answers to previous exams. Your lecturer may mark them.

- Study groups; discuss problems and test each other
- **Note** all hints from lecturers and act upon them. Staff may hint that a topic may be examined, they may state that a topic is "particularly important", or they may actually tell the class that the topic "will be examined". (You probably will not know about these leads if you miss lectures and borrow notes.)
- Ask about the format of the exam if you have not been told.
- Revise all projects, including essays, laboratory and field practicals.
- Attend all tutorials, especially those held at the conclusion of a course. Some students think that non-compulsory tutorials are not important. In my courses they are the most valuable classes to attend, in terms of preparing for exams.
- Practise writing examination answers under examination conditions.

Before the Exams

- Be prepared.
- Be positive (even if you haven't prepared adequately)
- Use whatever relaxation techniques work for you, e.g. sport or music
- Keep to your regular timetable. Don't use drugs to keep you awake and don't stay up late studying the night before the exam. A tired mind can make mistakes under pressure.
- Have all your requirements ready. Ensure you have your calculator (if allowed), your favourite pen and some spares.
- Don't try to learn too much new material on the night or morning before the exam. Just go over the headings or main points in your summarised notes and model answers. Check on those points that sometimes confuse you. Practise whatever memory techniques that you use (e.g., mnemonics).
- Know exactly when and where the exam is. Phone a classmate the day before to check on these details. Leave enough time to go to the toilet, collect your things and get to the exam. Allow for a traffic jam or for arriving at the wrong room.
- If you have a disaster, e.g. miss an exam, tell your paper co-ordinator immediately. Don't just go home and cry (or whatever): often something can be done.

Strategies for sitting Exams

- Read the **INSTRUCTIONS** on the cover of the exam book. These are very important.
- Read the **QUESTIONS** very carefully during reading time. Ask about anything you don't understand.
- Select the questions you will answer. Check carefully that the questions actually ask what you thought they asked. (Sometimes questions may have a word or two changed from last year!)
- Allocate time for each answer
- Make notes for each question (on rough paper or on the exam script) - facts, names, dates, etc.

- Plan each answer before you start writing. Reorganise your rough notes into a logical sequence with an introduction, middle and a conclusion.
- Stick to the point - only answer the question you have been asked.
- Stop each question at the end of its time allocation, and begin the next question. Don't be tempted to spend another 5 minutes to finish the one you are doing.
- If you are running behind time, shorten the answers you are writing. Put in the major headings, leaving spaces under each. Go back and put in subheadings, and major points. Use note form rather than whole sentences. Finally, if there is time, put in diagrams and examples.
- REFERENCE: Coster, N. 1987. *Success with study*. Coster Publications, Christchurch.

Time Management

A major feature of most undergraduate courses is that most information is obtained through strictly timetabled classes. The salient aspect of graduate studies is that the student accomplishes the most learning in his or her own time. Research-based courses entail the additional problem that the scientific process is often unpredictable and, therefore, difficult to constrain to a fixed timetable. Thus, graduate research students must be skilled at personal time management.

Many graduate students in the past have required an extension of time to complete their study programme. This is undesirable for a variety of reasons and the Graduate Studies Committee is reluctant to allow extensions without very good reasons. As a result, supervisors should require students to prepare and submit detailed timetables and to adhere to them.

Timetables

We shall consider three types of timetable:

due dates (deadlines) for submission of written projects and thesis material

research programme timetables

personal study timetables

You should complete one of each of these timetables and follow them as closely as possible. Submit copies of the first two to the relevant staff so that they can monitor your progress.

Due Dates

Draw up a timetable showing when all your projects are due to be submitted. Usually you will decide when each is due but sometimes the staff member concerned will set the date. As a guide, allow no more than 3 weeks between the dates for each assignment. Arrange a meeting with your supervisor to confirm your timetable. Place a copy in strategic place where you cannot avoid seeing it every day.

Research Timetable

At some stage you will be required to prepare a research protocol (a detailed plan of your research trial(s)). As you do this, you should also draw up a calendar of operations detailing the times of all key events. You should give copies to all those involved. Update the timetable as necessary and keep all helpers informed of changes. Book people and facilities well ahead and get confirmation close to the time.

Personal Study Timetables

Prepare a timetable for one week showing all your regular commitments, including lectures and meetings. Allocate time periods for studying each paper or each aspect of your work. Include allowances for leisure (sports, etc.). As a guide you should be studying for a minimum of 50 hours each week (if you are a full-time student). If you are a slow worker you will need to increase this.

First thing each day (or the previous night), prepare a list of tasks for the day. Next allocate priorities to each task. Finally, timetable each task. Monitor your progress to ensure that you complete the tasks with the highest priority.

Strategies for keeping to your Timetable

Ask about anything you do not understand. Do not spend too much time struggling to resolve a problem that may be quickly fixed by advice from others. Form study groups with other students.

- Plan your work before you start. Draw up a one-page working plan and alter it as you progress.
- Do not procrastinate. Do not wait until you have all the information that you require before starting. Go ahead with what you have and obtain more as you proceed.
- If you can, do not waste time by rewriting things by hand. After you have your initial plan, begin to type your work immediately using a word processor. This will enable you to alter, add, correct and delete sections later without rewriting.
- Do not limit yourself to working on one project at a time. You **MUST** be able to work on several at once. If this is difficult or confusing, separate each project in time in various ways. Allocate set times in a day or week for each project. Arrange to be doing a different aspect of each project at any given time, e.g., collect references for one, plan another, write a first draft of a third, write the main body of a fourth, correct the final version of a fifth.
- Allocate priorities to all your work and keep the order you select. Do not be side-tracked by less important tasks.
- Divide your work into clearly defined sections and complete each step as quickly as possible. For example, if you are writing a project, draw up an outline of the work before you start. Put in the major headings, leaving spaces under each for more details. Go back and put in subheadings, and major points. Use note form rather than whole sentences. Make references to diagrams, tables and examples, rather than wasting time meticulously copying them. Get your supervisor to check that your outline is appropriate before proceeding further.
- Write a first draft of your project or chapter. Include comments and questions for the marker if you are unsure about the relevance of particular points. Have it checked before proceeding.
- Do not spend excessive time on completing the final touches to your work. The majority of the marks are obtained early in the preparation process. Hours spent tidying the format may result in little improvement to your grade.
- If you get behind in your work, let the staff know as soon as possible. Ask for extensions well before the due date. Get help before things get out of hand. If you have personal problems that are affecting your work, let your supervisor know.

Action

Draw up a copy of each of the types of timetable described above as best you can at this stage. Discuss with your supervisors where relevant. Give a copy to each supervisor. Update when necessary.

Planning your Research Programme

For students beginning research-based graduate studies one of the most confusing and demoralising aspects is that it often takes a long time to decide what the basis of the studies will be, and to plan their research programme. Although it is generally considered to be the responsibility of the supervisor to arrange, or lead students through, this process, each student is ultimately responsible for their own learning, and so may expedite matters by taking the initiative when appropriate. Individuals will have differing opinions as to the best means of achieving these outcomes. The following is my advice on how to select and develop your research programme.

The objectives of this section are to:

- Recognise the factors which cause delays in initiating an experimental programme
- Identify steps required to plan an experimental programme

What are the problems causing delays?

Although each case will differ according to the particular circumstances, there are several common causes of delays in beginning a research programme. These include:

The student may be unsure of their area of prime interest.

Suitable staff may not be immediately available to supervise the research.

Facilities and funding are often not immediately available, or are insufficient.

Seasonal factors may require a delay.

Approval may be necessary from certain bodies.

Insufficient information available initially.

Other commitments of participants.

Suitable animals may not be available in sufficient numbers.

Methods may need to be developed.

Strategies for overcoming delays

In order to minimise delays it is important to identify which factors are the most likely obstacles to progress and to rank them in priority. Begin by tackling the most important obstacles.

A common scenario involves all of the problems listed above. In that case, it is usual to initially tackle several tasks simultaneously because they are interdependent. Choosing a topic is often dependent upon finding and gaining stimulus from suitable supervisors. Such supervisors generally know the options available and are able to lead or guide the student through other major obstacles, such as suitability of existing or planned studies, availability of resources and funding, available references and approval procedures.

Supervision

Thus, unless you know without a doubt the topic you wish to study, the first step is to find suitable supervisors. In many cases, the appointment of the chief supervisor is largely outside the student's control. Nevertheless, students should be aware that it is important to find people with whom they can work easily, who are available and who will provide the necessary stimulus and guidance. You may find that, for a variety of possible reasons, these requirements are not met sufficiently by the appointed chief supervisor. Hence, you should endeavour to identify other staff that can assist you.

It is not uncommon for staff other than the chief supervisor to make a major input (or, indeed, the major input) into a student's research project. This need not reflect badly upon the chief supervisor or upon the student. Allocation of supervisors may be made based upon a variety of reasons (including "political" factors) and which bear little relevance to the student concerned. These factors need not alter your ability to achieve your study goals if you can find the assistance you require.

If you find other staff willing and able to assist in your research, they may be appointed as additional supervisors, or may indeed assist without any such formal recognition. Co-supervisors are generally appointed from staff within the Institute in which you are enrolled for your research topic, but this is not essential; they may be in other departments or outside the University. Do not be afraid to consult your supervisor upon the appointment of additional supervisors. It is good practise to have at least two or perhaps three supervisors. This spreads the workload and responsibility among the staff and allows for absence or illness. In some cases it may be necessary to alter supervisory roles during the course of your studies.

Choice of Project

When you have decided upon your supervisor(s), the next step is to decide upon the research project(s). If there is not a suitable project available within your supervisor's current research programmes, it will be necessary to plan one. Begin by discussing potential areas of interest with your supervisors and other staff. Narrow down the possibilities according to your mutual interests and availability of major resources.

The next step is to search the literature for relevant and recent information. Use your library search techniques to find a selection of suitable references, then read them, making notes of vital or especially interesting information. In particular, search for areas which are poorly understood or in which certain information is lacking or disputed. Review papers by authors of international standing are a good place to start.

When you have found sufficient information, write a concise review of the literature, outlining the current state of knowledge and the problems you can identify that may be worthy of investigation. This initial review need not be an elaborate document, but should be considered a first draft, with many alterations to come. It should however, include a list of the relevant references.

Arrange regular meetings with your supervisors to discuss your ideas. Make notes of the discussions and the suggestions that they make. Continue to search the literature and to discuss ideas until you have agreed upon a suitable area of research.

Planning your Projects(s)

The next step is to plan your project. Initially you may jot down your ideas in a random fashion. When you have the main points it is important to decide upon the specific objectives of the trial before proceeding further. Write a clear, concise list of the objectives and consult with your supervisors regarding the suitability of each. Once you have agreed upon the objectives you can begin to plan the investigation process.

We shall assume that your study will be an experimental trial. Other possibilities include theoretical modelling or surveys, but the processes involved will be similar. Draw up one or more possible trial designs including the major treatments (design variables) and the variables to be measured. Details such as animal numbers, doses and sampling frequencies need not be included at this stage. Get the outline of the experiment clear first.

- Next, begin to fill in the details. You will need much advice and assistance with this.
- Continue regular meetings with your supervisors to discuss details.
- Read relevant literature containing similar studies.
- Consult staff responsible for the necessary resources (animals, lab facilities).
- Consult someone with sufficient biometrics skills to identify design flaws and to recommend required numbers of experimental units.
- Form study groups with other students; discuss problems with each other.
- Find those who have the skills you require

Write a Protocol

An experimental protocol is a detailed proposal of the planned project. Protocols are written for a variety of reasons, including funding applications and ethics approval applications, in addition to the major role of providing a record of the agreed procedure for those involved. Thus, the content and format of the protocol will differ according to the objective.

Whatever, the purpose of the protocol, it should normally include the key background information, the objectives of the study, the experimental design, the materials required, the methods to be used (including statistical analyses), a timetable of events and the staff involved.

Submit the first draft of your protocol to your supervisors and other interested staff for suggestions. Revise the document and resubmit it to the appropriate people until all are agreed that it is satisfactory. The protocol should be prepared on a word processor so that you can easily edit and update it at any time. It is likely that this document will continue to grow and will eventually become your thesis or dissertation.

Funding

Your supervisor is responsible for arranging the finance for the project and for administering the accounts. You may be required to contribute by providing written information for funding applications or reports to funding bodies.

Ethics Approval

Your supervisor is responsible, as the programme leader, for arranging approval of the project through the Massey University Animal Ethics Committee or Human Ethics Committee. You are required to have read the Code of Ethics, to read and sign the application, and to adhere to the approved protocol. You must not make changes to the experimental procedure without consulting your supervisor, who will arrange for approval of the changes if necessary. Keep an accurate record of the fate of all animals in your trials, especially any which die or are removed from the trial. If you are in doubt about any aspect, consult your supervisor or a representative on the committee.

Keeping everyone Informed

Ensure that all those involved have a copy of the experimental protocols and are aware of their involvement. In particular, the appropriate laboratory staff should be provided with protocols indicating the analyses required and the number of samples involved. They will probably allocate your experiment an identifying number; it is useful to use this number throughout your studies to avoid confusion, although you will substitute a more suitable number when you write your papers, reports or thesis. The supervisors of the relevant research units will require copies of the approved Animal Ethics Protocol. Book assistance and facilities well ahead and confirm availability again close to the required date.

Action

Write a first draft of your experimental protocol and submit it to your supervisor within 3 weeks. Watch the expression of surprise and dismay!

Thesis Preparation

The minimum requirements for theses and dissertations are set by the university and are specified on <http://library.massey.ac.nz/learnit/presentationoftheses.htm>. Individual Institutes, sections or individual supervisors may have differing requirements; consult your supervisor.

Plan Thesis Contents

There are two basic types of thesis: "traditional" & "paper style".

Traditional Thesis

Chapter 1: Introduction & review of literature

Background to the study; the problem

Logical argument leading up to experimental objectives

Select important references; don't try to include all

Some sections may require reference only to review papers, but sections relating to your specific research will require references to all the relevant original papers.

Chapter 2: Materials and methods

Animals, design, protocols, assays, statistical analyses

Chapter 3: Results

Results only - no discussion (no bias)

Chapter 4: Discussion & Conclusions

Interpret your results and compare and contrast them with previously published results.

Make conclusions and suggest further work.

References

Appendices

Data or information that you want recorded but superfluous to previous sections

Paper-style Thesis

In recent years, large traditional theses have been largely superseded by theses consisting of chapters in the format of a scientific paper.

Introduction

Chapter 1 Paper 1)
 Chapter 2 Paper 2) Little or no opportunity for speculation
 Chapter 3 Paper 3)
 Chapter 4 Discussion & Conclusions (chance to speculate in this section)
 References (full list for all papers)
 Appendices

Plan Writing Timetable

Discuss with your supervisor Set dates for each chapter (draft and final versions)

MEETINGS

Have regular meeting with your supervisor to discuss
 Results)
 Interpretation) Take notes or tape recorder
 What to write)

WRITING

DRAFTS

Rule 1: Keep at least 3 copies (2 on different hard disks - 1 on floppy or CD)
 Rule 2: - Keep to the due dates you set.

- The first draft should be written as though it were the final draft. Concentrate on the argument, making all associations clear.
- Paragraph structure is essential to clear logic
- Expect lots of red pen. Don't be upset. They are trying to help. Now you are getting down to the nitty-gritty of scientific writing - projects are a thing of the past.
- Drafts 2-12 - hang in there. Allow for changes of mind. Keep all old drafts as backup. Make changes as soon as possible following discussion, while ideas are fresh
- Allow time for supervisor turnaround. You will be top priority, but keep the pressure on. Use co-supervisors
- Establish a work pattern and keep the pressure on

Referencing

-
- Keep full details of all references from the start of your studies. Establish a system.
 - Use the format of a chosen journal (discuss) from the start.
 - Allow time -referencing is very time consuming.
 - Check references thoroughly

Photographs

Keep photos to a minimum. Consider the relevance carefully. Do you really NEED it?

Figures and Tables

Must stand-alone. Reference all & cite all in the text. Create list of figures (and list of tables) as you go (or use software to do so). Lists do not need all the details such as units, abbreviations etc.

Acknowledgements

Keep a list from the beginning of your research. Not always easy to remember who helped. Start your list now if you don't have one. This is one of the most read pages of your thesis. No need to specify the affiliations of all people acknowledged.

Abstract

Often written last, this task is harder than you ever thought possible. It is hard to condense months of study into less than one page of concise text. Allow two days at least. Try writing your abstract first, before you write your thesis, then update it as you go. Use funding and ethics applications as these often use the broad approach required for an abstract. Include the full reference for your thesis, but no other references.

Index

Worth the effort! Design it for your use. Consider using several - subject, author, and specific subject.

Thesis Management

Thesis management is all about stress.	Manage and control your stress
Avoid procrastination at all costs	Guilt! Make it work for you
Do not allow it to reduce your effectiveness.	Plan your work schedule and stick to it.
Allow yourself respite	Get the T-shirt.
Support each other.	

Publication

Students are encouraged to publish the results of their research in journals or conference proceedings. Plan to publish - conference proceedings are often a good place to start. When is the next suitable conference for you to present your work? Your supervisors will have information on the opportunities for research publications and you should discuss this possibility with them.

Animal Science Graduate Student Colloquium

Presentation of research results is an expected culmination of your graduate studies. The research environment is based upon sharing ideas and could not operate effectively if that did not occur. First, your results and ideas must be passed on to others so that the maximum benefit can be obtained from the effort and resources. Second, it is fundamental to the empirical scientific method that hypotheses, methods, results and conclusions be subjected to rigorous criticism. Only by passing strict peer review can results and ideas be accepted.

Thus, the training of graduate students must include the presentation and defense of your thesis (thesis in the broad sense), and practice in the skills of critically analyzing and interpreting the work of others. A graduate student seminar is a two-way road, in which the presenter and the audience interact to the mutual benefit of all involved, not only examining the specific study, but learning and practicing the skills fundamental to the scientific process.

When you have finished your thesis, you will also be expected to publish and present your work outside The University, as your first step into the "real world" of science. In that forum your work will be subjected to national and/or international peer review, probably much more rigorous than the internal checks provided by seminars and examiners. Thus, a seminar is a vital stage in vetting your work and detecting as many problems or errors as possible, before it is submitted for publication. In other words, it is part of the "quality control" system scientists use to maintain their own standards. You should consider it an opportunity to have weaknesses pointed out and strengths identified, and use that information to improve your thesis and publication(s). It is also your chance to say "here is what I have been doing for the last year"!

Students enrolled in animal science are expected to present their results at the annual colloquium (3rd week of February) and to attend the seminars of others. Students from other disciplines related to animal science are welcome to attend and may choose to present a seminar.

MSc in Medical Laboratory Science

The MSc in Medical Laboratory Science is equivalent to one year of full time study. It is designed for professional Medical Laboratory Scientists working full time and interested in advancement within health-related areas. It is expected that all candidates will be part time and take three or four years to complete the degree. It is offered in extramural mode.

Entry

The candidate will have qualified to be a registered Medical Laboratory Scientist and also have:

- a) completed the degree of Bachelor of Medical Laboratory Science (BMLS) with \geq B grade point average; or
- b) completed the Massey University Diploma in Medical Laboratory Science with \geq B grade point average; or
- c) completed any other degree from a New Zealand university with \geq B grade point average; or
- d) completed an NZIMLS Fellowship and the papers required for the Massey Postgraduate Certificate in Science with \geq B grade point average as outlined in Note 2 below; or
- e) been admitted with equivalent status as entitled to proceed to the specified degree.

Note 1: The grade point average will be based on the grades for the 300- and/or 400-level papers.

Note 2: Registered Medical Laboratory Scientists who have completed a New Zealand Institute of Medical Laboratory Science (NZIMLS) Fellowship will be permitted to enrol in a 60 credit Postgraduate Certificate in Science (PGCertSc). The papers must include 202.781 Current Topics in MLSc (30 credits) and one or two selected from 143.796, 152.742, 152.746, 231.701, 161.790 and 161.771. Provided the candidate achieves \geq B grade point average for these papers, the candidate may convert to the MSc in MLSc (i.e. choose to have the papers initially taken for the PGCertSc credited to the MSc in MLSc instead).

The Course

A candidate shall follow, for not less than two semesters, a course of study comprising the following:

202.789	Research Project	30 credits
202.781	Current Topics in Medical Laboratory Science	30 credits
plus 60 credits from:		
143.796	Quality Management for Medical Laboratories	30 credits
152.742	Health Systems Management	30 credits
152.746	Contemporary Issues in Health Service Management	30 credits
231.701	Theory and Practice in Public Health	30 credits
161.790	Special Topic on Data Analysis	15 credits and
161.771	Special Topic on Fitting Regression Models	15 credits

Notes

- (a) Not all papers may be available in any one year.

- (b) The research project paper will involve the investigation of an aspect of one of the subjects: Clinical Biochemistry, Microbiology, Virology, Haematology, Transfusion Science, Immunology, Histological Technique or Cytology. This can be conducted in the laboratory in which the candidate is employed. There will also be a compulsory section on research methods and communication in general.

Teaching/Delivery Methods

The MSc in Medical Laboratory Science will be offered extramurally or in block mode from the Palmerston North campus.

Paper	Offerings**
202.789 Research Project	Every year but it is recommended that candidates discuss this with the Programme Director, Medical Laboratory Science, because the project should be completed within one academic year; double semester*; extramural.
202.781 Current Topics in Medical Laboratory Science	Every second year from Palmerston North; not offered 2009 On campus course 3 days.
143.796 Quality Management for Medical Laboratories	Every year; double semester; extramural.
152.742 Health Systems Management	Every year; extramural.**
152.746 Contemporary Issues in Health Service Management	Every year; extramural.**
231.701 Theory and Practice in Public Health	Every year; Semester 1; block mode.
161.790 Special Topic in Data Analysis	Every year; Semester 1; extramural and internal.
161.771 Special Topic in Fitting Regression Models	Every year; extramural; Semester 2; extramural and internal.

*Double semester means taught over Semester 1 plus Semester 2.

** see <http://study.massey.ac.nz/> then click on "Find a Paper" for paper offerings.

Note: For a 30 credit, double semester paper, students are expected to devote approximately twelve and a half hours per week to that paper or 375 hours for the academic year.

Distinction

One hundred and twenty credit Masters degrees will carry the award of Distinction for excellence but it must be completed within one year full-time or four years part-time.

Prescriptions for Papers

- 202.781 Current Topics in Medical Laboratory Science 30 credits
An advanced course of study based on current literature of Medical Laboratory Science selected from Clinical Biochemistry, Microbiology, Virology, Haematology, Transfusion Science, Immunology, Histological Technique and Cytology. Candidates will be expected to cover areas of Medical Laboratory Science including both their current specialist discipline(s) and other areas.
- 143.796 Quality Management for Medical Laboratories 30 credits
Principles of quality management using a management systems approach. Total quality and continuous improvement as it relates to the delivery of services. Application of the New Zealand Code of Good Practice and other documents relevant to the operation of medical laboratories, with particular emphasis on the validation of test methods, calibration and an understanding of repeatability and reproducibility. Quality systems management in the medical laboratory with particular reference to specific codes of good practice related to Medical Laboratory Science. The above topics will be set in the context of the basic principles of quality management.
- 152.742 Health Systems Management 30 credits
The health care systems of New Zealand and selected nations are compared and critically analysed from a management perspective.
- 152.746 Contemporary Issues in Health Service Management 30 credits
Issues relevant to the efficient and effective delivery of health services are identified and examined.
- 231.701 Theory and Practice in Public Health 30 credits
This paper considers the theory and practice of public health in New Zealand. Topics include epidemiology and biostatistics, Maori health, Pacific health, occupational health, environmental health, health programme evaluation, health economics and health policy in New Zealand.
- 161.790 Special Topic on Data Analysis 15 credits
Display and distribution of data. Exploratory and confirmatory analysis of data emphasising the fitting of models, including transformations of variables. General principles and assumptions of data collection such as census, sample survey and experiment. Introduction to and the use of the statistical computing software package Minitab.
- 161.771 Special Topic on Fitting Regression Models 15 credits
This course is concerned with the application of regression models. Topics include fitting simple and multiple regression models by the method of least squares; assessing fitted models and the use of diagnostic plots; inference for regression models (including analysis of variance) and interpretation of results; modelling nonlinear relationships using transformations and polynomial regression; modelling with categorical explanatory variables; methods for variable selection; and weighted regression. The paper is a practical one and a computer program is used for analysis of all models.
Note(s): Access to a Windows PC is required for analysis of data.

- 202.789 Research Project

30 credits

Research projects will be largely medical laboratory based so there will be significant input from the individuals involved. Such research can range from comparisons of methods, evaluation of test results and patient treatment/outcome to development of new tests.

We have expertise in all areas of Medical Laboratory Science, some of which are listed below:

Clinical Biochemistry: method development; immunoassays; enzymology; protein chemistry; urinalysis; amino acid analysis;

- Medical Microbiology, including Virology and Parasitology: antibiotic resistance; molecular typing of *Campylobacter* species, *Pseudomonas aeruginosa* and *Candida albicans*; pathogenesis of viral diseases; typing of rotaviruses; molecular diagnosis of protozoal diseases; epidemiology of parasite infections;
- Haematology: comparative haematology and haemostasis; thrombosis risk factors; diagnostic laboratory tests;
- Transfusion Science: transfusion-associated infectious diseases; blood grouping and alloantibody screening;
- Immunology: immunoassays; immune function assays such as phagocytosis, lymphocyte proliferation, natural killer cell activity; flow cytometry;
- Histology and Cytology: immunohistochemistry; quality assurance;
- Cytogenetics: confocal microscopy for elucidation of chromosomal behaviour and gene activity.

For further information, contact:

Associate Professor Mary Nulsen,

Programme Director, Medical Laboratory Science,

College of Sciences, Massey University,

Palmerston North

Phone 64 6 350 4021 Fax 64 6 350 5636

E-mail M.F.Nulsen@massey.ac.nz

<http://medlab-school.massey.ac.nz/>

Bachelor of Philosophy (bPhil)

The personal course of study of every candidate requires the approval of the Academic Board. Approval will normally be granted for courses which are in accordance with the Course Regulations. For general provisions affecting their courses of study students are referred to the General Regulations governing Matriculation, Enrolment and Examinations.

Course Regulations

Admission

1. Admission to the course for the Degree of Bachelor of Philosophy shall be at the discretion of the Academic Board.
2. Before enrolment for the degree candidates shall-
Have completed the prerequisites set out in Regulation 5, or, have been granted admission with equivalent status as entitled to proceed to the degree;
Have satisfied the Academic Board that they have attained a standard of knowledge which will enable them to undertake the course.

Course of Study

The candidates shall follow a course of full-time study in a special branch of one of the subjects listed in Regulation 5 for at least one academic year.

There shall be a written examination, and the candidates may also be required to present themselves for a practical and an oral examination; they shall also be required to submit a thesis which shall embody the results obtained by the candidates in an original investigation in some branch of the chosen subject. The thesis requirements shall be determined by the Academic Board.

The subjects of the examination, one of which must be offered by the candidate, and the prerequisites, are:

Veterinary Science

Subject Prerequisite

- Anatomy Third Examination BVSc
- Animal Science Third Examination BVSc
- Microbiology Third Examination BVSc
- Parasitology Third Examination BVSc
- Pathology Third Examination BVSc
- Physiology Third Examination BVSc
- Veterinary Ethology Third Examination BVSc
- Clinical Biochemistry Fourth Examination BVSc
- Pharmacology Fourth Examination BVSc

Paper Details

Refer to the College of Sciences

Veterinary Pathology and Public Health

116 721 Veterinary Diagnostic Pathology	60	A/Prof Maurice Alley
116722 Applied Veterinary Parasitology	60	Prof Bill Pomroy
116723 Applied Veterinary Microbiology	60	Mr Alex Grinberg
116724 Veterinary Anatomical Pathology	60	Prof Keith Thompson
116725 Meat Hygiene	60	Prof Bill Pomroy
116726 Veterinary Public Health	60	Prof Bill Pomroy
116727 Veterinary Clinical Pathology	60	Prof Keith Thompson
116728 Wildlife Health	60	Dr Brett Gartrell
116781 Special Topic	15	
116782 Special Topic	30	
116783 Special Topic	60	
116800 MPhil	120	
116801 Master of Veterinary Science Yr 1	120	
116802 Master of Veterinary Science Yr 2	120	
116803 Master of Veterinary Science Yr 3	120	
116804 Dissertation for Master of Vet Studies	60	
116805 Thesis for Master of Vet Studies	120	
116899 Thesis	120	
116900 PhD Vet Pathology	120	

Animal Science

117761 Ruminant Livestock Feeding	15	Dr Ian Brookes
117762 Intensive Livestock Feeding	15	Dr Patrick Morel
117763 Equine Science	15	Dr Simone Hoskin
117764 Growth and Meat Science	15	A/Prof Roger Purchas
117765 Genetics and Breeding	15	Dr Nicolas Lopez-Villalobos
117766 Fibre Physiology	15	Mr Ric Sherlock
117767 Reproduction and Fertility	15	Dr Sam Peterson
117768 Metabolism and Endocrinology	15	Dr Sam Peterson
117769 Lactation and Milk Production	15	A/Prof Duncan Mackenzie
117771 Dairy Production	15	Prof Colin Holmes
117771 Dairy Production	15	Prof Colin Holmes
117772 Sheep Production	15	Dr Paul Kenyon
117773 Beef Cattle Production	15	Prof Steve Morris
117774 Pig Production	15	Dr Patrick Morel
117775 Deer Production	15	Dr Simone Hoskin
117776 Poultry Production	15	Prof Ravi Raindran
117783 Advanced Studies in Animal Science	15	Mrs Kathy Hamilton
117784 Advanced Studies in Animal Science	30	Mrs Kathy Hamilton
117785 Advanced Studies in Animal Production	15	Mrs Kathy Hamilton
117786 Advanced Studies in Animal Production	30	Mrs Kathy Hamilton
117788 Research Report (Hons)	30	

117789 Research Report (Diploma)	30	
117798 Research Report (MSc)	30	
117799 Research Report (BSc Hons)	30	
117887 Research Report	60	
117889 Thesis	120	
117897 Thesis (Year 1)	60	
117897 Thesis (Year 1)	60	
117897 Thesis (Year 1)	60	
117898 Thesis (Year 2)	60	
117898 Thesis (Year 2)	60	
117898 Thesis (Year 2)	60	
117899 Thesis	120	
117900 PhD Animal Science	120	
118897 Thesis (Year 1)	60	
118897 Thesis (Year 1)	60	
118897 Thesis (Year 1)	60	
118898 Thesis (Year 2)	60	
118898 Thesis (Year 2)	60	
118898 Thesis (Year 2)	60	
118899 Thesis	120	
118900 PhD Veterinary Science	120	
119728 Research Practice	15	Dr Ngaio Beausoleil
119729 Research Methods	15	Dr Terry Kelly

Medical Laboratory Science

143796	Quality Management for Medical Laboratories	30	Mr Don Houston
152742	Health Systems Management	30	Dr Jan Lockett-Kay
161790	Special Topic	15	
161771	Analysis of Experiments for Researchers	15	
161775	Sampling Survey	15	
202781	Current Topics in Medical Laboratory Science	30	A/Prof Mary Nulsen
202789	Research Project	30	
231701	Theory and Practice in Public Health	30	Dr Mora Jeffreys
202900	PhD Med Lab Science	120	

Nutritional Science

151705	Ruminant Nutrition	15	Dr Simone Hoskin
151706	Monogastric Nutrition	15	Dr Tim Wester
151708	Nutritional Research Methods	15	A/Prof Roger Purchas
151709	Biometrics for the Animal and Nutritional Sciences	15	Dr Patrick Morel

Statistics

161771	Analysis of Experiments for Researchers	15	Dr Patrick Morel
161772	Multivariate Analysis for Researchers	15	Dr Siva Ganesh

Plant Science

171707	Advanced Pasture Production and Practice	15	A/Prof Cory Matthew
171710	Principles of New Zealand Pastoral Practice	15	A/Prof Cory Matthew

Physiology

194500 Bachelor of Philosophy	120	Prof Norm Williamson
194702 Endocrinology	30	A/Prof John Cockrem
194703 Neurophysiology and Neuroendocrinology	30	Dr Gordon Reynolds
194704 Reproductive Physiology	30	Dr Sam Peterson
194705 Digestive Physiology	30	Dr Gordon Reynolds
194706 Respiratory Physiology	30	Dr Rodger Pack
194707 Perinatal Physiology	30	Prof David Mellor
194708 Sensory Physiology	30	Dr Gordon Reynolds
194709 Conservation Endocrinology and Reproductive Biology	30	A/Prof John Cockrem
194711 Special Topic MVS	60	
194712 Special Topic MVS	60	
194713 Special Topic MVS	60	
194714 Special Topic MVS	60	
194715 Master Vet Sci Year 1	120	
194716 Master Vet Sci Year 2	120	
194717 Master Vet Sci Year 3	120	
194731 Animal Welfare Science	30	Prof David Mellor
194732 Advanced Cell Physiology	30	A/Prof Kevin Pedley
194788 Research Report	30	
194791 Special Topic	30	
194792 Special Topic	30	

194793 Special Topic	30
194794 Special Topic	30
194795 Special Topic	15
194795 Special Topic	15
194795 Special Topic	15
194799 Research Report	30
194800 M Phil Anatomy/Physiology	120
194811 Dissertation for Master of Veterinary Studies	60
194812 Thesis for Master of Veterinary Studies	120
194819 Thesis for Master of Veterinary Science	120
194897 Thesis (Year 1)	60
194897 Thesis (Year 1)	60
194897 Thesis (Year 1)	60
194898 Thesis (Year 2)	60
194898 Thesis (Year 2)	60
194898 Thesis (Year 2)	60
194899 Thesis MSc	120
194900 PhD Anat/Physiology	120
194998 Special Topic	30
194999 Special Topic	30

Veterinary Clinical Sciences

195701 Theriogenology	60	Prof Norm Williamson
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195702 Veterinary Medicine	60	Prof Norm Williamson
195703 Veterinary Surgery	60	Prof Elwyn Firth
195704 Veterinary Radiology	60	Prof Elwyn Firth
195705 Veterinary Pharmacology	60	Dr Paul Chambers
195707 Advanced Study of Animal Disease	60	Prof Norm Williamson
195708 Special Aspects of Animal Husbandry	60	Prof Norm Williamson
195710 Special Topic: Dip Vet Clin Sci	120	Prof Kevin Stafford
195720 Animal Health Investigation	60	Dr Naomi Cogger
195721 Analysis and Interpretation of Animal Health Data	60	Dr Cord Heuer
195722 Animal Health Management	60	Mr Eric Neumann
195723 Principles of Health and Management of an Animal Species	60	Prof Norm Williamson
195724 Normal and Abnormal States of a Specific Body System I	60	Prof Norm Williamson
195730 Veterinary Clinical Nutrition	60	Prof Grant Guilford
195751 Canine & Feline Gastroenterology	15	Mrs Liz Norman
195752 Canine and Feline Endocrinology	15	Mrs Liz Norman
195753 Canine and Feline Oncology	15	Mrs Liz Norman
195755 Canine and Feline Clinical Pathology	15	Mrs Liz Norman
195756 Canine and Feline Neurology	15	Mrs Liz Norman
195757 Canine and Feline Cardiology	15	Mrs Liz Norman
195758 Avian Medicine	15	Dr Brett Gartrell
195759 Ophthalmology in Small Animal Practice	15	Mrs Liz Norman

195799	Dissertation	30	
195800	MPhil - Vet Clin Sc	120	
195801	Master of Veterinary Science Year 1	120	
195802	Master of Veterinary Science Year 2	120	
195803	Master of Veterinary Science Year 3	120	
195811	Dissertation for MVS	60	
195813	Thesis for Master of Veterinary Studies (Yr 1)	60	
195814	Thesis for Master of Veterinary Studies (Yr 2)	60	
195821	Advanced Analysis and Interpretation of Animal Health Data	60	Dr Cord Heuer
195822	Applied Animal Health Management	60	Dr Cord Heuer
195823	Advanced Health and Management of an Animal Species	60	Prof Norm Williamson
195824	Normal and Abnormal States of a Specific Body System	60	Prof Norm Williamson
195825	Advanced Veterinary Radiology	60	Prof Elwyn Firth
195826	Advanced Veterinary Surgery	60	Prof Elwyn Firth
195827	Advanced Veterinary Pharmacology	60	Dr Paul Chambers
195828	Advanced Theriogenology	60	Prof Norm Williamson
195829	Applied Veterinary Surgery	60	Prof Elwyn Firth
195899	Thesis	120	
195900	PhD in Veterinary Clinical Sciences	120	
Ecology			
199714	Animal Behaviour	30	A/Prof Ed Minot

Conservation

232703	Wildlife Management	30	Dr. Doug Armstrong
232703	Wildlife Management	30	Dr. Doug Armstrong
232704	Wildlife Disease	30	A/Prof Maurice Alley
232705	Captive Breeding and Management	30	Dr Brett Gartrell

**COLLEGE OF SCIENCES
ANIMAL-RELATED RESEARCH PROJECTS
POSTGRADUATE RESEARCH PROJECTS FOR STUDENTS IN 2008**

The following are a selection of research projects that are available for postgraduate students in 2008. The list is not exhaustive, so if you have a particular project in mind, please contact the staff member who is most likely to supervise the area you are interested in. If you do not know whom that person is, contact Professor Kevin Stafford who is the Subject Coordinator for Animal and Veterinary Science: Room 3.04, IVABS Tower. Phone: 350 5548. K.J.Stafford@massey.ac.nz

Project Title	Staff Member
What is the genetic basis of the differences in birth weight in crosses between Cheviot and Suffolk sheep?	Prof. Hugh Blair
Design of dog breeding schemes to improve health.	Prof. Hugh Blair
Breeding strategies for improving the profitability of Chinook salmon farming in NZ.	Prof. Hugh Blair
Finding the chromosomal location of a recessive gene known to cause a motor neuron disorder.	Prof. Hugh Blair
Modelling the feed requirements of different sized beef cows.	Prof. Steve Morris
Effect of sward height on intake of sheep and cattle.	Prof. Steve Morris
Intensive beef production systems on grass.	Prof. Steve Morris
Breeding ewes out of season.	Dr. Paul Kenyon Prof. Steve Morris
Modelling year round lamb production systems and lamb supply.	Prof. Steve Morris
Improving lamb growth in the autumn.	Prof. Steve Morris Dr. Paul Kenyon
Improving lamb growth in triplet bred lambs.	Prof. Steve Morris Dr Paul Kenyon
Control of birth weight in Angus heifers.	Prof. Steve Morris
Modelling the costs of improved animal welfare.	Prof. Kevin Stafford, Prof. David Mellor
The behaviour and welfare of greyhounds.	Prof. Kevin Stafford
Horse welfare.	Prof. Kevin Stafford, Prof. David Mellor
Pain thresholds and chronic pain in livestock.	Prof. Kevin Stafford
Role of prolactin during pregnancy.	Dr. Sam Peterson
Measuring variation in immune status of pregnant mammals.	Dr. Sam Peterson
How do twins differ from each other and from singles?	Dr. Sam Peterson
Mammary gland development in autumn- and spring-lambing ewes.	Dr. Sam Peterson
Wool and skin growth in autumn- and spring-lambing ewes.	Dr. Sam Peterson
Trophectoderm development (embryology).	Dr. Sam Peterson
Dairy sheep industry investigation.	Dr. Sam Peterson
Endocrine differences between single- and twin-bearing ewes.	Dr. Sam Peterson
Ensuring full lactation in induced cows.	Dr. Sam Peterson

Rate of loss of condition of lactating dairy cows relative to milk yield.	Dr. Sam Peterson
The effect of variation in immune status of the dam on the growth and development of the foetus.	Dr. Sam Peterson
The effect of variation in immune status on nutrient partitioning in the pregnant mammal.	Dr. Sam Peterson
Nutritional effects on mammary gland development at puberty.	Dr. Sam Peterson
Why does shearing pregnant ewes increase milk yields?	Dr. Sam Peterson
Use of a growth model and optimisation mathematics to reduced nitrogen excretion in growing pigs.	Dr. Patrick Morel
Analysis of growth pattern of New Zealand horses kept on pasture.	Dr. Patrick Morel
Use of a growth model and optimisation mathematics to reduced nitrogen and phosphorus excretion in growing pigs.	Dr. Patrick Morel
Use of a growth model to estimated new selection parameters for lean growth in pigs.	Dr. Patrick Morel
Development of a biological broiler chicken growth model.	Dr. Patrick Morel
Piglets as a model to measure iron bioavailability of meat.	Dr. Patrick Morel
Nutritive value of Biodiesel by-products for pigs.	Dr. Patrick Morel
A new energy system for broiler chickens.	Dr. Patrick Morel
Modelling foetal growth in sheep	Dr. Patrick Morel
Modelling lamb growth on pasture	Dr. Patrick Morel
Modelling year round lambing system	Dr. Patrick Morel
Dietary manipulation of pork fatty acid profile and flavours	Dr. Patrick Morel
Measurement of amino acid catabolism in the cat.	Dr. Tim Wester
Regulation of amino acid catabolism by dietary protein intake in the cat.	Dr Tim Wester
Measurement of whole body protein turnover and use in cats.	Dr Tim Wester
Measuring gluconeogenesis in the cat.	DrTim Wester
Regulation of gluconeogenesis in the cat.	Dr Tim Wester
Effect of prepubertal nutrition and body composition at mating on subsequent lactation.	Dr. Tim Wester
Comparisons of Jersey x Friesian, Hereford x Friesian, and Angus cattle for beef production: a modelling study.	A/Prof. Roger Purchas, Prof. Steve Morris
Studies into the effect of nutrition and final weight on the quality of pork from female pigs (gilts).	A/Prof. Roger Purchas, Dr. Patrick Morel
Gut development in young growing ruminants.	Dr. Simone Hoskin
Effect of dietary fibre type on hind gut acidosis in horses.	Dr. Simone Hoskin
Effects of diet composition on methane production of ruminants.	Dr Simone Hoskin
Proving we have a new Trichostrongyle in NZ farmed deer.	Dr. Simone Hoskin
Evaluating weaning strategies for deer.	Dr. Simone Hoskin
Nutrition for velveting stags.	Dr. Simone Hoskin
Anthelmintic resistance in deer nematodes	Dr. Simone Hoskin Prof. Bill Pomroy
Copper supplementationand requirements of elk vs. red deer.	Dr. Simone Hoskin

Epidemiology of internal parasites in farmed deer.	Dr Simone Hoskin Prof. Peter Wilson
Dietary preference of farmed deer for native trees and shrubs	Dr. Simone Hoskin
Evaluating vitamin and mineral supplements for horses.	Dr. Simone Hoskin
Investigating ryegrass staggers in horses and deer.	Dr. Simone Hoskin
Factors affecting uptake of production and health advisory services to deer, sheep and beef farms. (Masterate)	Prof. Peter Wilson
Evaluation of the need for post-velveting analgesia in stags. (PhD or Masterate)	Prof. Peter Wilson
Production effects of internal parasites in commercial beef herds. (Masterate)	Prof. Peter Wilson
Epidemiological investigation of foot lameness on commercial deer farms. (Masterate)	Prof. Peter Wilson
Dynamics of nematode larvae in cattle faeces.	Prof. Bill Pomroy
Anthelmintic resistance in cattle nematodes.	Prof. Bill Pomroy
Investigate the role of Neospora caninum infections in sheep.	Prof. Bill Pomroy
Comparison of use of moxidectin vs. a triple combination anthelmintic for selection of resistant parasites.	Prof. Bill Pomroy
Does hogget mating cause higher rates of embryo loss.	Prof. Dave West
Venereal campylobacteriosis in beef cattle.	Prof. Dave West
Seasonal changes in nerve growth factor in the gonadotrophin-releasing hormone neuronal system.	Prof. Tim Parkinson
Can supplements of forage trees reduce methane production in sheep?	Prof. Tom Barry Dr Carlos Ramirez (AgR)
Antibiotic resistance in indicator organisms from pigs.	A/Prof. Mary Nulsen
Effect of lamb birth rank on the value of the fleece.	Mr Ric Sherlock
Is hogget mating way of the future?	Dr. Paul Kenyon
Will intensive lambing beats improve lamb survival rates to weaning?	Dr. Paul Kenyon
Improving ram breeding performance.	Dr. Paul Kenyon
Management of hoggets before and during breeding to maximize performance.	Dr. Paul Kenyon
Managing triplets to maximise lamb survival.	Dr. Paul Kenyon
Evaluation of sward mixes to maximise lamb growth.	Dr. Paul Kenyon
How can we get young lambs to grow faster?	Dr. Paul Kenyon
Does under nutrition in-utero have long term effects?	Dr. Paul Kenyon
Does the in-utero environment affect the resulting offsprings metabolism?	Dr. Paul Kenyon
Does the triplet-born lamb or a lamb born to a hogget differ from one born to a single or twin bearing mature ewe in terms of metabolism or long term production levels?	Dr. Paul Kenyon
Neospora caninum research: epidemiology, hosts or molecular genetics.	Prof. Norm Williamson
Oestrus synchronisation research testing novel hormonal control regimes.	Prof. Norm Williamson

Oestrus detection in dairy cows.	Prof. Norm Williamson
Neospora caninum molecular genetic studies.	Prof. Norm Williamson
Mastitis control in dairy cows in the dry period.	Prof. Norm Williamson
Genetic evaluation for somatic cell count in New Zealand dairy goats.	Dr. Nicolas Lopez-Villalobos
Breeding objectives for New Zealand dairy goats.	Dr. Nicolas Lopez-Villalobos
Mate selection in dairy cattle considering multiple criteria objective optimization.	Dr. Nicolas Lopez-Villalobos
Examination of management differences between small and large commercial horse studs in New Zealand.	Prof. Elwyn Firth Dr Chris Rogers
The identification of oestrogen receptors on equine bone.	Prof. Elwyn Firth Dr. Chris Rogers
The modelling of foal growth.	Dr. Patrick Morel Dr. Chris Rogers
The measurement of foal activity with a GPS based system.	Dr. Chris Rogers Prof. Elwyn Firth
Is it possible to calculate breeding values for the N Z sport horse?	Dr. Chris Rogers
How are New Zealand racehorses trained?	Dr. Chris Rogers, Prof. Elwyn Firth
How are New Zealand event horses trained?	Dr. Chris Rogers, Prof. Elwyn Firth
Do older event horses have a reduced range of motion?	Dr. Chris Rogers, Prof. Elwyn Firth
Methods to reduce weaning associated decreases in growth rate in foals.	Dr. Chris Rogers, Prof. Elwyn Firth
The use of electrosonophoresis as a practical non invasive method to measure stress in the performance horse.	Dr. David Thomas, Dr. Chris Rogers
The economics of racing horses in New Zealand.	Prof. Elwyn Firth, Dr. Chris Rogers
Quantification of stride frequency and relationship to workload in the thoroughbred racehorses.	Dr. Chris Rogers Prof. Elwyn Firth
Changes in the trot of thoroughbred racehorses during their 2-year-old racing season.	Dr. Chris Rogers Prof. Elwyn Firth
Comparison of CT derived measurements of bone strength and actual bone strength in the third metacarpal bone.	Dr. Chris Rogers Prof. Elwyn Firth
The relationship of clinical score and workload in 3-year-old thoroughbred racehorses.	Dr. Chris Rogers Prof. Elwyn Firth
Differences in clinical scores between the 2- and 3-year old racing season.	Dr. Chris Rogers Prof. Elwyn Firth
Quantification of the workload of 3-year-old thoroughbred racehorses and its relationship to training theory.	Dr. Chris Rogers Prof. Elwyn Firth
How are New Zealand endurance horses trained?	Dr. Chris Rogers Prof. Elwyn Firth

Quantification of workload of endurance horses.	Dr. Chris Rogers Prof. Elwyn Firth
Quantification of the training workload of New Zealand Event horses and its relationship to competition workload.	Dr. Chris Rogers Prof. Elwyn Firth
Somatosensory evoked potentials (SEPs) in trigeminal mediated headshaking in horses.	Dr Craig Johnson Prof. John Madigan Dr. Kirstie Dacre
Investigation of the prevalence of inflammatory airway disease in NZ racehorses.	Prof. Nigel French Dr. Kirstie Dacre
Incidence of inflammatory airway disease in New Zealand racehorses.	Dr H Carslake Dr. Kirstie Dacre
Environmental dust burdens in New Zealand horses at pasture	Dr H Carslake Dr Kirstie Dacre
Is environmental dust exposure an aetiological factor in pasture associated respiratory disease in NZ horses?	Dr. Chris Rogers Dr. Harry Carslake Dr. Kirstie Dacre
How can we measure pain in animals?	Dr. Craig Johnson
Can the electroencephalogram measure pain experience in people?	Dr. Craig Johnson Dr. John Podd
Does coat colour effect pain perception?	Dr. Craig Johnson Prof. Hugh Blair
Osteoporosis in inflammatory bowel disease	Prof. Keith Thompson
Inherited rickets in Corriedale sheep.	Prof. Keith Thompson
Intestinal carcinoma in sheep as a model for human colonic adenocarcinoma	Dr. John Munday
The role of high sugar grasses in pasture-based systems.	Dr. Jennifer Burke
Dairy production from high legume pastures.	Dr. Jennifer Burke
Colostrum, for the calves or for the factory?	Dr. Jennifer Burke
Improving animal performance on brassica crops.	Dr. Jennifer Burke
Comparison of the Jersey, Friesian and Friesian x Jersey crossbred cow.	Dr. Jennifer Burke
The economic benefit of growing heifers better.	Dr. Jennifer Burke
The pathogenic role of intestinal protozoa in New Zealand herpetofauna	Dr. Brett Gartrell
The biomechanics of large seed swallowing in kereru and tui.	Dr. Brett Gartrell
Pain in reptiles	Dr. Brett Gartrell Dr. Craig Johnson
Management strategies to reduce Aspergillois in a zoological collection	Dr Brett Gartrell A/Prof. Maurice Alley Katja Geschke
Imaging anatomy of the tuatara	Dr Brett Gartrell Katja Geschke Mark Owen
Corynebacterium infections in Yellow-eyed penguins.	A/Prof. Maurice Alley

Avian malaria in captive indigenous species.	A/Prof. Maurice Alley
The effect of shearing on the nasal carriage of bacteria in sheep.	A/Prof. Maurice Alley
Leptospirosis from sheep in abattoirs.	A/Prof. Cord Heuer
Sero-conversion to leptospirosis among abattoir workers. (MVS)	A/Prof. Cord Heuer
Bovine viral diarrhoea virus in dairy herds.	A/Prof. Cord Heuer
Inhibitory substances in bulk tank milk in New Zealand.	A/Prof. Cord Heuer
Beef herd fertility.	A/Prof. Cord Heuer
Production and disease monitoring in a large sheep farm. (MVS)	A/Prof. Cord Heuer
Epidemiology of neosporosis in dairy herds. (MVS)	A/Prof. Cord Heuer
Chronic progressive pneumonia in lambs in New Zealand. (PhD)	A/Prof. Cord Heuer
Diagnostic value of herd level indicators for PMWS. (MVS)	A/Prof. Cord Heuer
Johne's disease in dairy herds. (PhD)	A/Prof. Cord Heuer
Enterococci in milk and milk products. (MVS)	A/Prof. Cord Heuer
Diagnostic value of animal level indicators for PMWS (MVS)	A/Prof. Cord Heuer
Diagnosis of PMWS in New Zealand pig herds.	A/Prof. Cord Heuer
Neospora caninum infection in beef herds in New South Wales.	A/Prof. Cord Heuer
Ewe wastage on a large sheep farm in Wairarapa.	A/Prof. Cord Heuer
Seroconversion of abattoir workers to Leptospira Pomona and Hardjo .	A/Prof. Cord Heuer
Epidemiology of heifer mastitis in New Zealand. (MVS)	A/Prof. Cord Heuer
Prevention of heifer mastitis in New Zealand. (MVS)	A/Prof. Cord Heuer
Livestock disease surveillance in small holder systems in Samoa. (MVS)	A/Prof. Cord Heuer
Avian influenza. (PhD)	Dr. Mark Stevenson
National livestock disease surveillance. (PhD)	Dr. Mark Stevenson
Epidemiology of bovine tuberculosis. (PhD)	Dr. Mark Stevenon
Surveillance and control of rabies in Bhutan. (MVS)	Dr. Mark Stevenson
Regional risk of organochlorine (OC) residues in sheep.	Dr. Mark Stevenson
Ovine Johne's disease in Victoria 1995 to 2004.	Dr. Mark Stevenson
Stress responses and coping styles in birds.	A/Prof. John Cockrem
Stress in chickens in different commercial housing systems.	A/Prof. John Cockrem
Immunopathology of parasitic infections.	Dr. Ian Scott
Influence of breed on resistance and resilience of sheep to helminth infection.	Dr. Ian Scott
Diagnosis of parasitic infections.	Dr. Ian Scott
Parasites in dogs and cats.	Dr. Ian Scott
Parasites in horses.	Dr. Ian Scott
Helicobacters in the ruminant stomach.	Dr. Ian Scott
Blood vessel formation during early foetal organ development.	Dr. Alastair Smith
Cerebral blood flow in the developing foetal brain.	Dr. Alastair Smith
Blood vessel related gene expression in placental tissues.	Dr. Alastair Smith
Diet of Hector's dolphins based on fatty acid analysis of blubber.	Wendi Roe
Parasites and stomach ulcers in New Zealand fur seals and sea lions.	Wendi Roe

Parasites and cetaceans strandings - can parasites of the head sinuses and brain lead to strandings?	Wendi Roe
Comparative gastric anatomy of beaked whales.	Wendi Roe
Characterisation of freezing artefact in pinniped carcasses.	Wendi Roe
Role of disease in stranded cetaceans on New Zealand coastlines.	Wendi Roe
Pathology of drowning in marine mammals.	Wendi Roe
Environmental health of New Zealand waters: Analysis of marine mammal tissues as an indicator.	Wendi Roe Dr. Brett Gartrell
Determining the association between EHV-2 and respiratory infections in foals. (Honours with possible extension).	Dr Laryssa Howe
Polycystic kidney disease in Perendale sheep: The nature of the primary cilia defect.	Dr Alastair Johnstone
Inherited neuroaxonal dystrophy of Romney sheep: Pathogenesis and molecular biology of spheroids.	Dr Alastair Johnstone

Updated 13/11/07