

2007
handbook

Veterinary Science



The University of Sydney

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Acknowledgments



The Arms of the University

Sidere mens eadem mutato

*Though the constellation may change
the spirit remains the same.*

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Disclaimer

The information in this handbook was as accurate as possible at the time of printing. The University reserves the right to make changes to the information in this handbook, including prerequisites for units of study, as appropriate. Students should check with faculties for current, detailed information regarding units of study.

All authorised amendments to this handbook can be found at www.usyd.edu.au/handbooks/handbooks_admin/updates.shtml

Disability

Accessible versions of this document in Microsoft Word are available at www.usyd.edu.au/handbooks/handbooks_disability/index.shtml

Resolutions

Numbering of Faculty Resolutions is for convenience only and does not affect the interpretation of the Faculty Resolutions, unless the context otherwise requires.

Price

The price of this handbook can be found on the back cover and is in Australian dollars. The price includes GST.

Handbook purchase

You can purchase handbooks at the Student Centre, or online at www.usyd.edu.au/handbooks/

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www.usyd.edu.au/about/organisation/pub/publications.shtml

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Important dates – How to use a handbook

University semester and vacation dates for 2007

Summer School lectures	Dates
December program	Monday 11 December to Friday 28 February
Main program	Thursday 4 January to Friday 28 February
Late January program	Friday 12 January to Friday 28 February
Winter School lectures	Dates
For the latest dates please refer to http://www.summer.usyd.edu.au/winter/	
Semester One	Dates
International student orientation (Semester One)	Monday 12 February to Thursday 15 February
Lectures begin	Monday 5 March
AVCC Common Week/non-teaching Easter period	Friday 6 April to Friday 13 April
International Application Deadline (Semester Two) *	Monday 30 April
Last day of lectures	Friday 8 June
Study vacation	Monday 11 June to Friday 15 June
Examination period	Monday 18 June to Saturday 30 June
Semester ends	Saturday 30 June
AVCC Common Week/non-teaching period	Monday 2 July to Friday 6 July
Semester Two	Dates
International student orientation (Semester Two)	Monday 16 July to Thursday 19 July
Lectures begin	Monday 23 July
AVCC Common Week/non-teaching period	Monday 24 September to Friday 28 September
International application deadline (Semester One 2008)*	Wednesday 31 October*
Last day of lectures	Friday 26 October
Study vacation	Monday 29 October to Friday 2 November
Examination period	Monday 5 November to Saturday 17 November
Semester ends	Saturday 17 November

*Deadlines for application to the USydMP and BDent are different. Please see: www.acer.edu.au/tests/universit/gamsat

Last dates for withdrawal or discontinuation for 2007

Semester One units of study	Dates
Last day to add a unit	Friday 16 March
Last day for withdrawal	Saturday 31 March
Last day to discontinue without failure (DNF)	Friday 27 April
Last to discontinue (Discontinued – Fail)	Friday 8 June
Semester Two units of study	Dates
Last day to add a unit	Friday 3 August
Last day for withdrawal	Friday 31 August
Last day to discontinue without a failure (DNF)	Friday 7 September
Last day to discontinue (Discontinued – Fail)	Friday 26 October
Last day to withdraw from a non-standard unit of study	Census date of the unit, which must not be earlier than 20 per cent of the way through the period of time during which the unit is undertaken
Public holidays	Dates
Australia Day	Friday 26 January
Good Friday	Friday 6 April
Easter Monday	Monday 9 April
Anzac Day	Wednesday 25 April
Queen's Birthday	Monday 11 June
Labour Day	Monday 1 October

What is a handbook?

The handbook is an official publication and an essential guide for every student who studies at the University of Sydney. It is an important source of enrolment information. It can also help you with more than just planning your course of study.

As a student at the University of Sydney you need to be aware of course structures and content, who your lecturers are, as well as examination procedures. You should also become familiar with University policies and faculty rules and regulations. The handbook will supply a lot of this information.

It will also point you to places and people around the University who can help you with enquiries about library loans, childcare, fees, casual employment, places to eat and stay, support groups and much, much more.

What new students need to know

- terminology used for courses and programs of study
- semester dates and examination periods
- important contact details
- how to plan your study program
- rules and policies on assessment, satisfactory progression, honours etc.
- what University services are available and where to find them
- how to get around your campus

At the beginning of many of these chapters there will be explanations to help you proceed further.

Where to find what

Course terminology

University terminology – like 'credit point', 'unit of study', 'WAM' etc – can be found at the back of all handbooks.

Definitions of all terminology are located in the General University information section under **Abbreviations and Glossary**, at the back of this handbook.

Dates

The start and finish dates of semester can be found in the front section of the handbook. Summer School dates are in the General University section at the back of the handbook.

Contents and index

The comprehensive **contents** section at the front of the handbook explains the details you'll find within each chapter.

You'll find information like:

- how and where to contact Faculty staff
- how to select your units of study and programs
- a list of degrees
- detailed information on all units of study – classified by unit identifiers (a four-alpha, four-digit code and a title)
- electives and streams
- scholarships and prizes
- information specific to faculties

The **index** lists units of study only. It allows you to check every reference which refers to your unit of study within the handbook.

Colour-coded sections

- Ivory – for undergraduate courses
- Blue – for postgraduate courses

Faculty rules and regulations

Faculty resolutions are the rules and regulations pertaining to a specific faculty. They can generally be found in their own chapter, or next to the relevant units of study.

These should be read along with the University's own *Coursework Rule 2000 (as amended)* which can be found in the general University information towards the back of the book. Together they outline the agreement between student and faculty, and student and University. Senate resolutions are located in the University Calendar.

General University information

This is information about the University in general, rather than information specific to the faculty. This information is at the back of the book and includes, among other things:

- the University Coursework Rule
- the PhD Rule
- University terminology and abbreviations
- campus maps to help you find your way around
- Summer School information
- international student information
- student services

Course planner

You might like to plot the course of your degree as you read about your units of study. This planner can be found at the back of the handbook.

Timetables

For information about personal timetables, centrally timetabled units of study, and venue bookings, see <http://www.usyd.edu.au/studentcentre/timetabling.shtml>.

For the session calendar, see <http://web.timetable.usyd.edu.au/calendar.jsp>

Students with a disability

Accessible versions of this document, including word, pdf and html versions are available at http://www.usyd.edu.au/handbooks/handbooks_disability/.

You can find information on Disability Services in the General University information section of the handbook. The Service can provide information regarding assistance with enrolment and course requirement modifications where appropriate.

For details on registering with the Service and online resources see the Disability Services website <http://www.usyd.edu.au/disability>.

Handbook updates

The information in the handbook is current at the time of publication. Updated information to handbooks and references to University policies such as plagiarism and special consideration, among others can be found in the University's website.

Feedback regarding the Handbook is welcome.
Visit <http://www.usyd.edu.au/handbooks/>

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Faculty of Veterinary Science

Vision

A world leader in veterinary education and research, focused on the health and welfare of animals and benefit to the community.

Values

Student life-long learning, supported by inspirational teaching

Research excellence creating new knowledge

Service to the profession and the community, as we value and develop our key relationships

A culture built on academic excellence, integrity, respect and encouragement

Animal well being guiding our work

Mission

We will educate and graduate outstanding veterinarians.

We will deliver a high quality, learning environment with a dynamic and responsive curriculum delivered by inspirational academic staff.

We will undertake high quality research and the establishment of research groups of excellence.

We will mentor our graduate students and develop a sense of ongoing commitment to and involvement with their university.

We will manage elite veterinary teaching hospitals where student learning opportunities are maximised, and excellent service is provided to the community.

We will be at all times informed and balanced advocates for the responsible care of animals.

We will work to ensure the financial viability and sustainable future of the Faculty.

We will have clear direction and effective leadership that maintains open avenues of consultation with students, staff and the wider university community.

Culture statement

We commit ourselves to developing and strengthening a unified culture that embodies:

A strong sense of common purpose supported by open and honest communication

Mutual trust and respect between all staff and students regardless of position

Fairness for all staff and students with recognition and reward for their achievements

A willingness and capability to adapt to internal and external change

Pride in the Faculty's heritage and belief in our core values

Everyone accepting personal responsibility and shared leadership for our future.

Leadership and innovation in Veterinary Science

Faculty of Veterinary Science

Welcome from the Dean

It is my pleasure to welcome you to the Faculty of Veterinary Science and to congratulate you on your admission. Now you can really begin to fulfil your dream of becoming a veterinarian or animal scientist. During the next several years you can expect to work hard, but the training will be focused and the rewards high. Upon graduation you will have the knowledge and understanding that will prepare you for success in your chosen profession. You will, of course, be responsible for showing leadership in all matters relating to animals. As Australia's first university founded in 1850, The University of Sydney is steeped in tradition, but is also mindful of the need to respond to the changing needs of the community and country. The Faculty of Veterinary Science shares that philosophy and is now celebrating more than 90 years of continuous world-class education.

The excellent staff in the Faculty are committed to providing you with the latest and best possible learning experience in the years to come. They will guide you through the difficult times and prepare you for life-long learning. In particular, the Associate Dean for Students, her two Sub-Deans and the supportive staff in the Faculty Office will be essential contacts to enable you to learn effectively. They will assist you in making contact with a wide range of University services that help students who may experience medical, financial, emotional or learning difficulties.

Students undertaking the Bachelor of Veterinary Science will be working with a wide range of animal species and at all times there will be obligations to ensure the highest standards of care for these animals. You will also be given the responsibility early on in the course to act as ambassadors for the Faculty when visiting veterinary practices, farms and other animal facilities. Later in the course you will be involved in the two Veterinary Teaching Hospitals, in Sydney and at Camden, and in external partner practices run by private practitioners. In these clinics you will take part in the treatment of companion and production animals under the supervision of experienced veterinarians. The Faculty's Veterinary Teaching Hospitals also employ many veterinarians with specialist qualifications and you will be trained by them in state-of-the-art methods of diagnosis and therapy.

The Bachelor of Animal and Veterinary Bioscience degree involves studies in the structure and function of animals, their management and welfare in an agricultural, para-veterinary, laboratory or wildlife context. As an Animal and Veterinary Bioscience student you will learn how to apply the knowledge and principles of science to the understanding and management of the production, processing and marketing of animal products and to the management and conservation of our natural resources, including native and endangered species. Emphasis will be placed on the development of analytical, quantitative, computing and communication skills, as well as practical animal handling and management. You will gain specialist research skills in fourth year through the completion of a research project. The degree provides an excellent path to careers in the animal industries, and animal and biomedical research. It will cover a wide spectrum of aspects in animal production, health and management.

While most of our BVSc graduates find satisfying careers in clinical practice, the broad knowledge and skills acquired during the five years can open up a wide range of careers. Graduates of animal and veterinary bioscience have proved to be highly employable in a wide range of disciplines. Most graduates are employed in the animal industries or research or undertake postgraduate training, both in Australia and overseas.



Knowledge in the broad area of Veterinary Science and Animal Bioscience is expanding at a tremendous rate, and it is important to have access to information on new diseases and animal related topics not only in Australia but internationally as well. To deal with this there is ongoing curriculum review and our aim is to give you the tools to undertake independent learning, which will by necessity have to continue after you graduate. We have made a major commitment, together with the Library and the Post Graduate Foundation in Veterinary Science, to the development of a unique on-line resource, the Veterinary Education and Information Network, VEIN. VEIN will be a key resource during your years in the Faculty and afterwards. To ensure that our curriculum is meeting your needs, you also will be asked to provide regular evaluation of your courses, which is very important if we are to ensure that we can provide you with the very best possible teaching and learning opportunities.

On behalf of all the staff, I reiterate our welcome to the Faculty and to your first step in becoming professional colleagues in what is a noble and rewarding task - the care and welfare of animals.

Professor Leo Jeffcott

Dean

1. Faculty of Veterinary Science

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TBA

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Teaching and Learning

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Bachelor of Veterinary Science Teaching

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Dr Imke Tammen

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International

Professor Tom Scott

Postgraduate Coursework

Hannah Forsyth

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Students Sydney

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TBA

Undergraduate Admissions

TBA

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Rebecca Stephenson, UVCC
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Mitchell Burns, Sydney
Melinda Hayter
Warren King, Camden
Antonio Nastasi, Sydney
Renee Seery, Sydney

Administration Staff

Student Administration Manager

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Coordinator, Faculty Educational Services

Irene van Ekris BSc *JCU* GradCertEducStudies (Higher Education)

Coordinator, Postgraduate Coursework

Hannah Forsyth BA MA

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Dhruba Chakravarty, Finance Assistant, Sydney

Helen Frappell, Personnel, Clinics
 Jo-Anne Geist, Poultry Res Fdn, Camden
 Michelle Heward, Camden
 Ron Henderson, Facilities Coordinator, Camden
 Elizabeth Kachembere, Pharmacy, UVCS
 Milena Kalinina, Faculty Office
 Sean Kenny
 Karen Kilpatrick, UVCS Reception
 Marianna Koureas, UVCS Reception
 Tess La Lande, Postgraduate Officer, Faculty Office
 Rhonda McDonald, Receptionist, Camden
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Julie Fahl
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Peter Williamson BSc(Hons) PhD

Senior Research Fellows

Sergio Garcia PhD
 Vivien E Reeve BSc PhD

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Roslyn Bathgate
 Kendra Davis
 Om Dhungyel BVSc&AH MScVetSc PhD
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 Matthew Hobbs PhD
 Mary Lam
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Munif Allanson
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Russell Bush BScAgr(Hons) PhD
Julie Cavanagh BScAgr(Hons) PhD
Kumudika de Silva PhD
Lyrissa Di Fiore PhD
Damien Higgins BVSc MVetStud PhD
Mehtar Khatkar
Katherine Morton BScAgr(Hons) PhD
Ronald Newman MSc PhD
Anthony Rowe BSc(Hons I) PhD

Postgraduate Fellows

Peta Phillips
Peter Houwelling

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Ajantha Horadogoda PhD
Yasmin Husaini
Reena Mehta PhD
Amy Rogers
Diane Titmuss

Honorary Appointments

Emeritus Professors

EF Annisson PhD DSc Lond
Michael M Bryden BVSc Qld DScVM Cornell PhD DSc, FAIBiol
RM Butterfield PhD DVSc Qld MVSc, FACVSc
MJ Edwards MVSc Liv PhD DVSc, MRCVS MACVSc
John Egerton BVSc Qld DipBact Lond DVSc
Brian RH Farrow BVSc PhD, FACVSc

Adjunct Professors

Graeme Allan MVSc DipACVRad, FACVSc
Chris Bellenger BVSc PhD, FACVSc MRCVS FRCVS FECVS
John Black BAgSc DipEd PhD
Grahame Feletti BA(Hons) ANU BSc UNSW PhD NZ
Graeme Kelly BSc BVSc PhD
Ian Lean BVSc PhD California, MACVSc
Richard Malik BVSc MVetClinStud DipVetAn PhD ANU FACVSc MASM
Antony Moore BVSc DipVetClinStud MVSc DACVIM (Vet Oncology)

Adjunct Associate Professor

Ian Nielsen BVSc, MACVSc

Adjunct Senior Lecturers

Angela Frimberger VMV DACVIM (Oncology)
Karon Hoffmann BVSc PhD MVSc DipVetClinStud
Paul Mills BVSc UQ PhD UQ
Tracey Rogers BVSc UQ DipEd PhD

Adjunct Lecturer

Richard Churcher BVSc, MACVSc FACVSc
Robert Nicoll BVSc BSc(Vet) DACVR

Visiting Professor

Stuart Reid BVMS PhD DVM DipEdECVHP, FRSE MRCVS

Visiting Lecturers/Demonstrators

Anthony P Black BVSc, FACVSc
David Clarke
Ken Mason
Jeffrey S Smith BVSc DipACVO, FACVSc

Honorary Professor

Heather Greenfield BSc(Hons) PhD Lond RPHNutr UK DipPublHealth
UNSW

Honorary Associate Professors

Anthony W English AM, BVSc PhD Qld, FACVSc RFD
Robert Love MVSc PhD Brun, FACVSc
R Max Zuber BVSc, FACVSc

Honorary Senior Lecturer

Paul Hopwood DipTertiaryEd NE BVSc PhD, MRCVS
Joan Lloyd DVM Canada MVetStud PhD
Ramesh Malik BVSc Punjab MSc Haryana Uni PhD UNE

Honorary Associates

Linda Beeney BArts PhD(Medicine)
Angus Cameron BVSc MVSc Melb PhD Qld
Mike Cannon BVSc GradDipEd
Yizhou Chen PhD
Juliana Croitoru-Lamoury BSc France PhD France
James Della-Vedova BVSc
Matthys Draisma BVSc
Xuequin Du BMed China MProfStud Philippines PhD UNSW
Natasha Ellis BSc PhD
Jeffery Eppleston BScAg MScAg PhD UNSW DipSolarSim (Amer Soc Photobiology) GradDipl UNSW
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Peter Higgins BVSc, CPM FAIM FAMI FASI FAICD FICA
Carolyn Hogg BSc UWA PhD
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Sally Isberg BSc PhD
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Belinda Jones BSc Sheffield PhD
Carolyn Kabore PhD
Joan Lloyd DVM Canada MVetSt PhD
Ian Martin BVSc PhD
Ron MacAlphine BRurSc New England GradDipMgt Deakin PhD
Peter McCullagh MBBS Melb DPhil Ox MRCP Lon MD Melb
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Ahmad Rabiee BVSc DVM PhD
Rodney Reece BVSc MSc JCU PhD NZ
Anthony Ross BVSc MSc JCU PhD NZ
James Rothwell BVSc PhD
Peter Selle BVSc PhD
Kirsti Seksel BVSc BA Macq MA Macq
Robyn Stanley BVSc, FACVSc
Keith Walker BVSc PhD
Phillip Widders BSc BVSc PhD Bristol

2. Introduction to undergraduate courses

Bachelor of Veterinary Science, BVSc

(see also *Bachelor of Veterinary Science units of study*)

Veterinary Science at the University of Sydney produces graduates with the knowledge and skills to pursue many career options. The five-year course has a strong emphasis on animal handling skills, and includes teaching programs in a wide range of animal industries. Students spend 12 weeks on horse, pig, beef and dairy cattle, sheep, and poultry farms. These experiences develop competency in animal management. Classes in dog and cat handling are also included in the course.

There is a strong commitment to provision of opportunities for students to spend time in veterinary practices and these extramural links with practising veterinary surgeons are an important component of the BVSc program. The Faculty is committed to a variety of teaching methods, including lectures, laboratory practical classes, tutorials, case studies, workshops, computer assisted learning, and practical demonstrations.

In Years 4 and 5 students observe and participate in clinical activities at the University Veterinary Centres located at Sydney and Camden. Clinical cases and methods of dealing with real-life veterinary problems are emphasised in the course.

In Year 5 all students are required to undertake rotations at University Veterinary Centres (Sydney and Camden), Extramural Small Animal Practices, Extramural Rural Practices, Rural Lands Protection Boards and at other sites on nomination. Students are responsible for funding their transport and accommodation expenses to complete each rotation.

The Faculty is committed to a course that will provide students with opportunities to learn about clinical veterinary science and teaching material is organised to demonstrate how basic sciences such as chemistry and biochemistry are applicable to veterinary science. The units of study are described in chapter 3.

General Information on admissions, enrolment and other matters are included in the back of this handbook. Students should also contact the Faculty Office for information on admission procedures and other course details.

Clinical experience

The Faculty of Veterinary Science maintains teaching hospitals at the University Veterinary Centres at Sydney and Camden, where students and veterinarians work together in a clinical teaching and learning environment. Referral and primary accession cases are seen at both sites, and the University Veterinary Centre at Camden also provides veterinary services to farms in the region.

A wide range of companion animals, farm animals, racing animals, exotic and native species are seen. Visiting specialists complement Faculty specialists in most disciplines in providing an excellent learning environment for veterinary students. Knowledge of medicine, surgery, anaesthesia, radiology, clinical pathology and production animal issues are developed with small group teaching.

Practical work requirements

Students are required to complete practical work in animal husbandry in the vacation periods in the first three years of the course. All arrangements for placements are made through the Faculty Office.

Students in Year 5 of the course will complete a minimum of 36 weeks of clinical rotations at approved external veterinary practices and the University Veterinary Centres (Sydney and Camden).

Assumed knowledge for school leavers

NSW Higher School Certificate or equivalent level Mathematics, Chemistry and Physics. Biology would be a distinct advantage.

BVSc Honours

Honours First Class and Honours Second Class may be awarded at graduation. Students who are eligible to pursue honours will enrol in one of the honours units of study instead of the two standard Elective Rotations as follows:

VETS5355	Prerequisites
Honours Elective Research 10 credit points	Veterinary Science Years 1–4. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. VETS5331 Preparation for Veterinary Practice. WAM => 70.

VETS5356	Prerequisites
Honours Elective Clinical Research 10 credit points	Veterinary Science Years 1–4. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. VETS5331 Preparation for Veterinary Practice. WAM => 70.

VETS5357	Prerequisites
Honours Elective ILP 10 credit points	Veterinary Science Years 1–4. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. VETS5331 Preparation for Veterinary Practice. WAM => 70.

Bachelor of Animal and Veterinary Bioscience, BAnVetBioSc

(see also Bachelor of Animal and Veterinary Bioscience units of study)

The new Bachelor of Animal and Veterinary Bioscience degree involves the study of the structure and function of animals, their management and welfare in an agricultural, para-veterinary, laboratory or wildlife context. Its scope is wide and students acquire a sound education in general science together with in-depth knowledge of fields specifically relevant to animal science and production.

Students learn how to apply the knowledge and principles of science to the understanding and management of the production, processing and marketing of animal products and the management and conservation of our natural resources, including native and endangered species. Emphasis is placed on the development of analytical, quantitative, computing and communication skills, as well as practical animal handling and management. Specialist research skills are gained in the fourth year through the completion of a research project.

This degree provides an excellent alternative to Veterinary Science for students seeking a professional career working with animals. It covers a wide spectrum of aspects in animal production, health and management.

Assumed knowledge for school leavers

Mathematics, Chemistry and Biology

Areas of study

Will include animal genetics, animal nutrition, animal reproduction, animal structure and function, cattle science and production, equine science and management, pig and poultry science and production, sheep science and production, animal health and disease, animal biotechnology and molecular biology.

Professional experience

Students are required to complete 60 days of approved professional experience and field excursions.

Career opportunities

Examples include practice, management or research in: conservation of endangered species, zoo animal science, native animal research, animal health and quarantine, sustainable agriculture, animal breeding, animal nutrition, molecular genetics (animal and human), the pharmaceutical industry, medical research, reproductive technology (animal and human), biotechnology (animal and microbial), microbiology, food science, intensive and extensive animal production enterprises, horse, cattle and sheep studs, rural consultancy and extension (domestic and international), marketing, agricultural and veterinary chemicals, media and journalism, National Parks and Wildlife, secondary and tertiary education, Government departments (e.g. Department of Agriculture, Forestry and Fisheries).

Bachelor of Science (Veterinary), BSc(Vet)

(see also Bachelor of Science (Veterinary) units of study)

After the completion of third or fourth year of the BVSc degree, students may undertake one year of supervised research in an area of veterinary science. Graduates are awarded a BSc(Vet).

Units of study

Units of study are subject to alteration. Units of study and arrangements for units of study, including staff allocated, as stated in this or any other publication, announcement or advice of the University, are an expression of intent only and are not to be taken as a firm offer or undertaking. The University reserves the right to discontinue or vary such units of study, arrangements or staff allocations at any time without notice.

Coordinators

The coordinator for each unit of study is indicated below the credit point value. These are subject to change.

Books

Students are advised not to buy textbooks until lectures commence and lecturers recommend the preferred books.

3. Units of study

Bachelor of Veterinary Science

Year 1

VETS1006

Animal Husbandry 1A

Credit points: 5 **Teacher/Coordinator:** Dr Paul McGreevy **Session:** Semester 1 **Classes:** Lectures: 43 hours. Practicals: 24 hours. **Assessment:** Intramsemester: Three (3) items of written assessment totalling 1,000 words (45%). End-of-semester: Two (2) hour examination (55%). Other: Non-barrier assessment of cat and dog handling also horse and pig handling.

This unit of study covers aspects of animal husbandry, welfare and management of: horses - their characteristics and management; the pig and poultry industries in Australia and production of meat and eggs; cats, dogs and cage and aviary birds - breeds and their management. A series of practical classes including animal training, urban animal management as well as handling of pigs, horses, pocket pets, dogs and cats.

Textbooks

The Animal Husbandry 1A Handbook will be available on-line or may be purchased in the first week of semester.

Students should inspect copies of the following books in the library before purchasing those that suit them best.

Gardner JAA. et al. ed. Pig Production in Australia. 2nd edn. Butterworths, 1990.
Houghton-Brown J. Powell-Smith VV. Pilliner S. Horse and Stable Management. Blackwell Publishing, Oxford, 1997.

Page S. Cat Owners Manual. Fog City Press.

McGreevy P. ed. Dog Lovers Companion. Herron Books, Brisbane

Reid RL. A Manual of Australian Agriculture. 5th edn. Heinemann, 1990.

Sainsbury D. Animal Health. 2nd edn. Blackwell Science, 1998.

VETS1013

Cell Biology 1A

Credit points: 4 **Teacher/Coordinator:** Dr Paul Sheehy **Session:** Semester 1 **Classes:** Lectures: 35 hours. Practicals: 10 hours. **Assumed knowledge:** HSC or senior school level chemistry and/or biology would be an advantage. **Assessment:** Intramsemester: Assignment (20%). End of Semester: 1.5 hour written exam (65%). Other: Cytology Group Learning Exercise (15%).

This unit will introduce students to the biology of the cell. Topics include cell structure and cellular metabolism. The cell structure component includes a description of cell membranes and organelles and the cellular metabolism component includes a discussion of metabolic pathways. Clinical material is used to illustrate normal structure and function.

Textbooks

Alberts B. et al. Essential Cell Biology. 2nd edn. New York: Garland Publishing, 2004.

Cell Biology 1A Handbook.

CHEM1405

Chemistry

Credit points: 6 **Session:** Semester 1 **Classes:** Lectures: 52 hours Practicals: 27 hours (nine 3 hour classes) **Assumed knowledge:** HSC Chemistry **Assessment:** Intramsemester: 4 x Quizzes (15%), Lab work (10%) End of semester: 3 hr Exam (75%)

This is a one semester unit of study designed to provide (i) a suitable foundation for subsequent units of study such as biochemistry, animal nutrition, physiology and pharmacology, and (ii) a chemical background that will aid in the understanding, diagnosis and treatment of disease. It covers chemical theory, inorganic, physical, and organic chemistry with many examples from biological areas. It pre-supposes a satisfactory prior knowledge of HSC Chemistry. A total of 52 hours of

lectures comprising 28 lectures in inorganic and physical chemistry and 24 lectures in organic chemistry.

Textbooks

Detailed information about prescribed texts is available from the School of Chemistry.

VETS1021

Professional Practice 1A

Credit points: 3 **Teacher/Coordinator:** Dr Rhondda Canfield **Session:** Semester 1 **Classes:** 9 workshop sessions of 2 hours and 18 lectures of 1 hour **Assessment:** Intramsemester only: Assignments and quiz

This course aims to introduce students to the veterinary profession and adjust to life in the faculty. The unit should enhance the ability to use libraries, information technology and other resources and enable students to acquire the skills and knowledge necessary for becoming an effective, reflective and self-motivated learner. Students will develop communication skills and an understanding of team work activities. Students will learn about the history of veterinary science and its major achievements and the wide diversity of occupations and opportunities within the profession. Students will learn how to perform a basic physical examination. Animal Welfare is introduced and the main issues for veterinary students and veterinarians identified. This unit emphasises and encourages collaborative learning, clear communication, professional behaviour and self-care, and provides a background for other units in Year 1.

Textbooks

Unit of Study Handbook

VETS1014

Veterinary Anatomy and Physiology 1A

Credit points: 6 **Teacher/Coordinator:** tba **Session:** Semester 1 **Classes:** Lectures: 32 lectures Practicals: 37 hours Tutorials: 12 hours **Assessment:** Intramsemester: April (20%) Anatomy, May (15%) Physiology. End of Semester: June (65%) 2.5 hour written examination anatomy and physiology.

Anatomy and histology refer to studies of the structure of cells, tissues and organs. Physiology refers to processes involved in normal cell, tissue or body function, and biological pathways involved in the maintenance of a healthy animal. In this unit the gross anatomy and histology of the musculoskeletal system of the dog is studied together with the histology of epithelial tissue and connective tissue including blood. Basic principles of physiological control, water and electrolyte balance and the physiology of nerve and muscle cells complete the course. Clinical material is used to illustrate normal structure and function. Examples of structural and physiological abnormalities that cause dysfunction and disease in animals are included. Computer based tutorials and assessments will be used to assist.

Textbooks

Unit of Study Handbook

Dellmann H. Eurell J. Textbook of Veterinary Histology. 5th edn. Baltimore: Williams and Wilkins 1998

Dyce KM. Sack WO. Wensing CJ. Textbook of Veterinary Anatomy. 3rd edn. Philadelphia: WB Saunders 2002

Evans HE. Miller's Anatomy of the Dog. 3rd edn. Philadelphia: WB Saunders 1993

Sjaastad. Hove. Sand. Physiology of Domestic Animals. Scandinavian Veterinary Press 2003

Reference Books

VETS1019

Animal Husbandry 1B

Credit points: 7 **Teacher/Coordinator:** Dr Pietro Celi **Session:** Semester 2 **Classes:** Lectures: 32 hours. Practical classes: 60 hours. **Prerequisites:** VETS1006 Animal Husbandry 1A **Assumed knowledge:** A basic understanding of biological principles. **Assessment:** Intramsemester: Practical animal handling

3. Units of study

skills examination (10%), quiz (20%). End of Semester: Three (3) hour written paper (60%). Other: Plant collections (10%).

This unit of study covers aspects of ruminant management and production, especially sheep, beef and dairy cattle. The agronomic and ecological principles of the production and utilisation of native and sown pastures are also covered. Full day practical handling classes are conducted at the University Farms, Camden, with horses, pigs, poultry, sheep, beef and dairy cattle and pastures. Practical classes must be attended by all students and are assessed.

Textbooks

Animal Husbandry 1B Handbook.

Students should consult lecturers before purchasing text books.

Anderson RS. Edney ATB. Practical Animal Handling. Pergamon Press, 1991.
Battaglia RA. Handbook of Livestock Management. Prentice Hall, 2001.
Cottle DJ. ed. Australian Sheep and Wool Handbook. Inkata Press, 2000.
Gardner JAA. et al. ed. Pig Production in Australia. 2nd edn. Butterworths, 1990.
Huntington PJ. Cleland F. Horse Sense: The Australian Guide to Horse Husbandry. Agmedia, 1992.
North MO. Bell DD. Commercial Chicken Production Manual. 4th edn. AVI Publishing Company, 1990.
Reid RL. A Manual of Australian Agriculture. 5th edn. Heinemann, 1990.
Sainsbury D. Animal Health. 2nd edn. Blackwell Science, 1998.

VETS1018

Cell Biology 1B

Credit points: 6 **Teacher/Coordinator:** Dr Paul Sheehy **Session:** Semester 2 **Classes:** Lectures: 43 hours Practicals: 24 hours Tutorials/Group Work: 4 hours **Prerequisites:** VETS1013 Cell Biology 1A **Assessment:** Intra-semester: Mid-semester Inquiry Task (25%). End of Semester: 2 hour written paper (65%). Other: Group Learning Activities (10%).

In this unit the study of the molecular biology of the cell is extended to include gene expression, recombinant DNA technology, membrane structure and function, cell cycle, cell differentiation and cancer. Clinical material is used to illustrate normal structure and function.

Textbooks

Alberts B. et al. Essential Cell Biology. 2nd edn. New York: Garland Publishing, 2004.

Cell Biology 1B Handbook.

VETS1017

Professional Practice 1B

Credit points: 3 **Teacher/Coordinator:** Dr John Baguley **Session:** Semester 2 **Classes:** Lectures: 10 x 3 hour presentations and workshops Practicals: 3 x 3 hour visits to Educational Support Practices. **Prerequisites:** VETS1021 Professional Practice 1A, VETS1006 Animal Husbandry 1A **Assessment:** Intra-semester: Newsletter article (250 words 20%). Essay (1,500 words 50%). Oral Presentation (30%).

This unit of study focuses upon human animal interactions as a mechanism for further exploration of professional practice themes (communication, ethics and professionalism, practice management, personal development and animal welfare). There are three scheduled visits to local veterinary practices and these provide opportunities for further development and integration of these themes within a veterinary practice setting. Assessment tasks emphasise communication skills which are vital for success in veterinary practice.

Textbooks

Unit of Study Handbook.

VETS1020

Veterinary Anatomy and Physiology 1B

Credit points: 8 **Teacher/Coordinator:** Dr Glenn Shea **Session:** Semester 2 **Classes:** Lectures: 51 hours Practicals: 34.5 hours Tutorials/Group Work: 10 hours **Prerequisites:** VETS1014 **Assessment:** Intra-semester: Respiratory physiology written paper (15%), Anatomy practical quiz (10%). End of Semester: 2 hour written theory paper (55%). Anatomy practical exam (20%).

In this unit the gross anatomy, histology and physiology of the respiratory, endocrine, cardiovascular and urinary systems are studied. Mechanisms of acid base regulation are also included. Clinical material is used to illustrate normal structure and function. Examples of structural and physiological abnormalities that cause dysfunction and disease in animals are included. Computer based tutorials and assessments will be used to assist learning.

Textbooks

Unit of Study Manual

Evans HE. Miller's Anatomy of the Dog. 3rd edn. Philadelphia: WB Saunders Co 1993

Dellmann HD. Eurell J. Textbook of Veterinary Histology. 5th edn. Baltimore: Williams and Wilkins 1998

Dyce KM. Sack WO. Wensing CJ. Textbook of Veterinary Anatomy. 3rd edn. Philadelphia: WB Saunders 2002

Sjaastad. Hove. Sand. Physiology of Domestic Animals. Scandinavian Veterinary Press 2003

Reference Book: Budras KD. McCarthy PH. Fricke W. Richter R. Anatomy of the Dog. 4th edn. Hannover: Schlütersche 2002

Year 2

VETS2010

Animal Digestion and Nutrition

Credit points: 7 **Teacher/Coordinator:** Dr Susan Hemsley **Session:** Semester 1 **Classes:** Lectures: 62 hours Practicals: 19 hours Tutorials: 10 hours **Assumed knowledge:** VETS1014 Veterinary Anatomy and Physiology 1A, VETS1020 Veterinary Anatomy and Physiology 1B. **Assessment:** Intra-semester: 38% (practical quiz, theory quiz, assignment) End of Semester: 62% (theory exams)

Animal Digestion and Nutrition is a unit of study that consists of an integrated series of lectures, practical classes and tutorials focusing on the comparative structure and the function of the digestive system and a series of lectures on the principles and practice of nutrition and interactions between nutrients that influence health and production.

Textbooks

Students are strongly advised to purchase the Unit of Study handbook.

Students should consult lecturers before purchasing textbooks. Core texts for this Unit are:

Dellmann H. Eurell J. Textbook of Veterinary Histology. 5th edn. Williams and Wilkins 1998

Dyce KM. Sack WO. Wensing CJ. Textbook of Veterinary Anatomy. 3rd edn. Philadelphia WB Saunders 2002

McDonald P. Edwards RA. Greenhalgh JFD. Morgan CA. Animal Nutrition. 6th edn. London Prentice Hall 2002

Cunningham JG. Textbook of Veterinary Physiology. 3rd edn. Philadelphia WB Saunders 2002

Reference Books and Recommended Reading: Please consult the Unit of Study Handbook or Unit of Study Coordinator

VETS2009

Genetics and Biometry

Credit points: 6 **Teacher/Coordinator:** A/Prof Peter Thomson **Session:** Semester 1 **Classes:** Lectures: 26 hours (Genetics), 26 hours (Biometry) Practicals: 13 hours (Biometry) Tutorials: 13 hours (Genetics) **Assumed knowledge:** HSC Mathematics, VETS1018 Cell Biology 1B **Assessment:** Intra-semester: Genetics: 0.5 hour Half-way exam (17%) Biometry: Regular quizzes (15%), Practical assignment (15%) End of Semester: 1 hour Genetics exam (33%), 1 hour Biometry exam (20%).

This Unit of Study presents an introduction to those aspects of genetics and statistics that are relevant to veterinarians. The genetics section covers the creation and use of genetic maps; single-locus disorders; chromosomal abnormalities; non-Mendelian familial disorders; immunogenetics; pharmacogenetics; genetic variation in pests, parasites and pathogens; genetic and environmental control of inherited diseases; relationship and inbreeding; heritability; breed history and structure; selection and crossing. The biometry section covers biological variability; descriptive statistics (numerical and graphical summaries); probability concepts; samples and populations; the normal distribution; hypothesis tests (one-and two-sample tests); confidence intervals; analysis of variance; regression and correlation; experimental design (basic principles, specific design types); and contingency tables.

Textbooks

Nicholas FW. Introduction to Veterinary Genetics. 2nd edn. Oxford Blackwell Science 2003

Petrie A. Watson P. Statistics for Veterinary and Animal Science. Oxford Blackwell Science 1999

Thomson P. Nicholas F. Moran C. Genetics and Biometry VETS2009 Unit of Study Handbook. 2007

Recommended Reading:

Additional references for both Genetics and Biometry components are included in the Unit of Study Handbook.

Unit of Study handbook.

VETS2008**Professional Practice 2**

Credit points: 4 **Teacher/Coordinator:** Dr John Baguley **Session:** Semester 1 **Classes:** Lectures: 10 x 2 hour presentations. Practicals: 3 x 2 hour visits to Educational Support Practices. Other: Independent Learning Project (24 hours). **Prerequisites:** VETS1021 Professional Practice 1A and VETS1017 Professional Practice 1B. **Assessment:** Intr semester: Practice management report (500 words, 15%), quiz (25%). End of Semester: Examination (60%).

This unit provides opportunities for the student to understand and apply basic principles in veterinary practice management. The focus is upon small animal practice and this is enhanced through continued Education Support Practice visits. In addition, students will further explore professional practice themes of animal welfare, communication and personal development. During this unit of study, students are also required to successfully complete an Independent Learning Project which must be submitted by the end of semester teaching together with the following forms: ESP Agreement Form; Supervisor Report Form; ILP Contract; and ILP Report.

Textbooks

Unit of Study Handbook.

VETS2011**Veterinary Anatomy and Physiology 2A**

Credit points: 7 **Teacher/Coordinator:** A/Prof David Evans **Session:** Semester 1 **Classes:** Lectures: 66 hours Practicals: 23 hours Tutorials: 9 hours **Assumed knowledge:** Veterinary Science Year 1 **Assessment:** Intr semester: 1 x .45 hours (total 20%) End of Semester: 2 hour exam (50%) Other: 1 hour practical exam (30%)

This unit has been designed to extend knowledge obtained during Year 1 units in Veterinary Anatomy and Physiology and explore more mechanisms of animal dysfunction. It also deals with some new topics in animal structure and function, particularly the nervous system, and covers the anatomy of common domestic bird species, with an emphasis on the chicken. The unit focuses on the nervous system and senses, mechanisms by which dysfunction of body systems leads to disease, and development of skills used to recognize normal and abnormal animals. Students will learn through inquiry and problem solving in groups and will be assessed on ability to apply and use their knowledge and development of generic skills. Neurophysiology and neuroanatomy are integrated, and students will learn how neural function is determined by the neural structures and their connections. Students will apply the principles covered in these topics to examine, describe, interpret and explain how animals perceive their environment, process and store information and respond with voluntary and involuntary activities. The primary focus will be on normal animals, however specific lesions will be used to demonstrate the role of components of the nervous system in normal function. The skills and knowledge acquired during this unit will be further used and developed in units of study in years 2-5 of the course. For example the neuroanatomy, neurophysiology and neuropharmacology component of this Unit will provide students with a basis for analysis and management of animals with abnormal neurological function in clinical medicine. The unit also covers aspects of applied cardiovascular and exercise physiology, thermoregulation and integument. Tutorials and formative assessments on webct will be used to assist learning.

Textbooks

Cunningham JG. Textbook of Veterinary Physiology. 3rd edn. Sydney: WB Saunders Co. 2002

Dellmann H. Eurell J. Textbook of Veterinary Histology. 5th edn. Williams and Wilkins 1998

Dyce KM. Sack WO. Wensing CJ. Textbook of Veterinary Anatomy. 3rd edn. Saunders 2002 (2nd edn acceptable).

Budras K. McCarthy PH. Fricke W. Richter R. Anatomy of the Dog. 4th edn. Schlutersche 2002

Reference Books: List provided by Staff.

Recommended Reading: List provided by Staff.

VETS2012**Equine Anatomy**

Credit points: 4 **Teacher/Coordinator:** Dr Glenn Shea **Session:** Semester 2 **Classes:** Lectures: 13 hours Practicals: 52 hours **Prerequisites:** VETS1014 Veterinary Anatomy and Physiology 1A, VETS1020 Veterinary Anatomy and Physiology 1B, VETS2011 Veterinary Anatomy and Physiology 2A, VETS2010 Animal Digestion and Nutrition **Assessment:** Intr semester: One (1) hour

written paper (20%). End of Semester: One (1) hour written paper (20%); practical examination (40%). Other: Assignment (20%).

In this unit of study, the topographic and regional anatomy of the horse, a large domestic animal, is studied by sequential dissection of entire preserved horses. This unit of study also involves integration of knowledge of systemic anatomy, acquired from VETS1014, 1020, 2010 and 2011, allowing the student to develop an understanding of the regional anatomy of a domestic mammal, knowledge necessary for surgery units of study in later years. Clinically relevant regions are emphasized, and the relevance illustrated by reference to common clinical conditions.

Textbooks

Equine Anatomy Handbook

Dyce KM, Sack WO, Wensing CJ. Textbook of Veterinary Anatomy. 3rd edn. Philadelphia: WB Saunders. 2002 (2nd edn acceptable).

Orsini, PG, Sack WO. Rooney's Guide to the Dissection of the Horse. 7th edn. Ithaca: Veterinary Textbooks. 2003. (First printing of 7th edn, by Hackett MS & Sack, WO. 2001 acceptable).

Additional course material will be available on the web.

Reference Books

Ashdown RR, Done SH. Color Atlas of Veterinary Anatomy. Vol.2. The Horse. London: Mosby-Wolfe. 2000.

Budras KD. Sack WO. Röck S. Anatomy fo the Horse. An Illustrated Text. 4th edn. Hannover: Schlütersche. 2003.

Clayton HM. Flood PF. Rosenstein DS. Clinical Anatomy of the Horse. Edinburgh: Mosby Elsevier. 2005.

Recommended Reading:

Stashak TS. Adams' Lameness in Horses. A5th edn. Lippincott Williams & Wilkins. 2002.

VETS2013**Principles of Disease**

Credit points: 8 **Teacher/Coordinator:** Dr Katrina Bosward **Session:** Semester 2 **Classes:** Lectures: 61 hours Practicals: 11 hours **Assumed knowledge:** Veterinary Science Year 1 (Semesters 1 and 2) and Year 2 (Semester 1 only). **Assessment:** Intr semester: Midsemester Quiz plus WebCT quizzes associated with each practical class. Essay. End of Semester: Written exam. Other: Practical Exam.

The overarching theme for this unit of study is the concept of the interaction between the host, the agent of disease and environmental factors. There is a strong emphasis on diseases encountered in veterinary practice to illustrate these concepts. Previous subjects including anatomy, histology, physiology and cell biology, lay the groundwork for this unit of study because it is essential to understand normal structure and function before we can recognize and understand the implications of the disease state. Principles of Disease is vital in preparing the student for the deeper principles studied in systemic pathology, microbiology and parasitology, as well as for some components of pharmacology, in Semester 5 of the course.

Textbooks

It is not essential to purchase a textbook for any component of this course.

Jones. Hunt. King. Veterinary Pathology. 6th edn. Williams and Wilkins 1997

Slauson DO. Cooper BJ. Mechanisms of Disease. A Textbook of Comparative General Pathology. 3rd edn. Mosby, Inc. 2002

Carlton WW. McGavin MD. Thomson's Special Veterinary Pathology. 3rd edn. Mosby 2001

Janeway CA. et al. Immunobiology. The immune system in health and disease. 4th edn. Garland Publications 1999

Tizard IR. Veterinary Immunology. An Introduction 7th edn. Philadelphia WB Saunders 2004

Murphy. Gibbs. Horzinek. Studdert. Veterinary Virology. 3rd edn. Academic Press 1999

Hirsh. Zee. Veterinary Microbiology. Massachusettes Blackwell Science 1999

Quinn. Markey. Carter. Donnelly. Leonard. Veterinary Microbiology and Microbial Disease. Massachusettes Blackwell Science 2002

VETS2015**Veterinary Conservation Biology**

Credit points: 4 **Teacher/Coordinator:** Assoc Prof D.N. Phalen **Session:** Semester 2 **Classes:** Lectures: 37 hours Practicals: 17 hours Tutorials: 3 hours (Taronga Zoo) **Assessment:** Intr semester: Written project (30%). End of Semester: 1.5 hour written paper (70%).

The term conservation biology has many different meanings to different people. Taken generally, it is the study of ecosystems and the animals and plants within them with the aim of preserving them in some semblance of what they were before the presence of man became a major modifying force. It is rooted in the belief that it is the duty of the

humanity to preserve our environment and the plants and animals in it because the survival of human kind depends on it and because there is something intrinsically sacred about each species that makes its survival important, irrespective of its perceived value by human beings. Veterinary conservation biology is a sub-discipline of conservation biology that focuses on animals. Veterinarians contribute to this field through their training and knowledge of nutrition, husbandry, genetics, reproduction, population dynamics, dynamics of disease spread, diagnostics, medicine, surgery, rehabilitation, and behaviour and by research. Activities can be grouped as follows: 1. Wildlife health. This can range from the work of veterinarians in zoos, aquaria and wildlife parks to the treatment and rehabilitation of sick, injured or orphaned wildlife in private veterinary clinics. Additionally, the investigation and management of wildlife diseases (including infectious, nutritional, environmentally-induced diseases and those caused by malicious actions) in free-living populations falls under in this group. The term 'Conservation Medicine' is now generally applied to this work, which also includes consideration of factors affecting ecosystem health. 2. Conservation of endangered species. This includes activities such as Species Management Plans, Threat Abatement Plans, and captive breeding programs as part of ex situ management programs, with veterinarians working as part of a team with other biologists. It may involve the use of enhanced reproduction program, genome resource banking, and molecular genetic technology. Identification and study of specific problems facing each species is key to the success of these programs. The advantages and limitations ex situ conservation will be considered. 3. Sustainable farming and off reserve conservation. There is an increasing need for veterinarians working with property owners to take a whole-farm approach to any advice given about management of that property. It will be necessary to work closely with other advisers in dealing with such things as erosion, salinisation, water quality and loss of wildlife habitat. Management of the impacts of vertebrate pests and introduced plants, and a range of other off-reserve conservation measures may also be required, in seeking solutions to the problems of land degradation and loss of biodiversity. 4. Sustainable utilization of wildlife. This can range from the harvest of free-living populations, e.g., macropods, feral pigs, goats, and mutton birds, to intensive game farming, e.g., crocodiles, emus, deer, and aquaculture. Hunting and ecotourism would also be included in this group. There are potential benefits in these as alternatives to traditional land use strategies, as they are more conservation friendly. Animal welfare and research into the development of new areas of wildlife utilization are key roles that veterinarians play in this area. 5. Import and export of wildlife. This encompasses both quarantine activities and enforcement of national and international treaties such as CITES. 6. Public policy. Whether employed by the government or as a private citizen, veterinarians are often called upon to contribute to the shaping of public policy in regards to wildlife and introduced animals. Issues veterinarians may be asked to consult on range from local concerns about bird roosts, to national concerns about the potential impact of avian influenza. 7. Education. Those trained in veterinary conservation biology play a critical role in raising the public's awareness to conservation issues and educating others about this field. Education can range from public speaking to local bird watcher groups or school children to teaching at a University. This course will familiarize you with the many possible opportunities for veterinarians in the field of veterinary conservation biology. This course will also emphasize the fact that Australia is a living Eden, a treasure of untold wealth. This treasure, like the rest of the world's environments, is being threatened by the activities of humans. Saving Australia's ecosystems will require determination and thoughtful approaches to difficult challenges. This course will help you develop an understanding of many of the complex questions facing Australia regarding its animals and its environment, so that if you enter the field of conservation medicine, or are a concerned citizen, you will be better prepared to enter and participate in the public debate over these issues. Learning Outcomes At the end of this Unit of Study, it is expected that students will: 1. Have a broad knowledge and general understanding of the taxonomy, ecology, biology, and conservation status of Australia's unique vertebrate fauna. 2. Have knowledge and understanding of specific key aspects of the anatomy and physiology

of Australia's native vertebrate fauna (ANF). 3. Be aware and have a good understanding of the principles of the ecology, population dynamics, conservation status and management of macropods in Australia. 4. Have a knowledge and understanding of the threatening processes past and present that continue to adversely affect Australia's fauna. 5. Have knowledge of and be able to critically evaluate the arguments for and against the sustainable utilization of wildlife, including the ethical and animal welfare aspects. 6. Have knowledge and understanding of the general principles of disease as they apply to wildlife health. 7. Have a broad knowledge and understanding of the husbandry and handling requirements for captive breeding of ANF. 8. Be aware of and understand the principles, animal welfare aspects, and ethics of wildlife rehabilitation and translocation. 9. Be aware of, understand and critically evaluate the basis for current approaches to wildlife emergency management (oil spills, bushfires, marine mammal strandings). 10. Have a working knowledge and understanding of the legislation and treaties that deal with wildlife conservation and management.

Textbooks

The VCB Handbook contains a very large proportion of the information required as background reading for this UoF.

Reference Book

Burgman MA. Linder Mayer DB. Conservation Biology for the Australian Environment. Surrey Beatty & Sons Pty Ltd. 1998. ISBN 0 949324 78 7 ISBN 0 949324 78 7.

VETS2016

Veterinary Anatomy and Physiology 2B

Credit points: 8 **Teacher/Coordinator:** Dr Rhondda Canfield **Session:** Semester 2 **Classes:** Lectures: 58 hours. Practicals: 39 hours. Tutorials: 4. **Assumed knowledge:** VETS 1014 Veterinary Anatomy and Physiology 1A, VETS 1020 Veterinary Anatomy and Physiology 1B, VETS 2011 Veterinary Anatomy and Physiology 2A, Animal Digestion & Nutrition VETS2010. **Assessment:** Intra-semester: 1 hour (25%). End of Semester: 2 hours theory and 0.5 hours practical (57%). Other: 5 minute oral presentation (5%), 2 written assignments, work in pairs (total 1,200 words) (13%)

Topics studied in this unit of study include the gross anatomy, histology and physiology of the reproductive system and mammary glands of domestic animals, fertility, pregnancy, parturition and prenatal and postnatal development. Students are introduced to clinically relevant material. Classes other than lectures will include tutorials, laboratory work, library research and small group projects. Incorporated into this unit are two sessions on the surface anatomy of the horse and cow - the focus is on clinically relevant structures.

Textbooks

Dyce KM. Sack WO. Wensing C.J.G. Textbook of Veterinary Anatomy. 3rd edn. Saunders. 2002.

Senger PL. Pathways to Pregnancy and Parturition. 2nd edn. Current Conceptions Inc. 2003.

Year 3

VETS3018

Animal Behaviour and Animal Welfare Sci

Credit points: 3 **Teacher/Coordinator:** Dr Paul McGreevy **Session:** Semester 1 **Classes:** Lectures: 16 hours Practicals: 26 hours **Assumed knowledge:** Veterinary Science Years 1 - 2. **Assessment:** Intra-semester: Two (2) x written assignments (50%). End of Semester: Two (2) hour examination (50%).

Animal Behaviour and Animal Welfare Science is the study of normal and abnormal behaviours in domestic and captive species. Animal Behaviour is one of the core knowledge areas for veterinarians because it facilitates the recognition of disease states and helps veterinarians to make informed comment on animal welfare issues. Additional training in the area would be required for those aspiring to become specialist veterinary behaviour therapists. The Unit of Study draws on knowledge of many aspects of animal husbandry, evolutionary biology and physiology, pharmacology and psychology. The course focuses on the importance of understanding ethology, learning theory and trainers' techniques and includes demonstrations from expert animal handlers and trainers.

Textbooks

Unit of Study handbook

Manning A. Dawkins MS. Introduction to Animal Behaviour. Cambridge University Press.
 Houpt KA. Domestic Animal Behaviour for Veterinarians and Animal Scientists. Iowa State University Press.
 Webster AJF. Animal Welfare - a cool eye towards Eden. Blackwell Scientific Publishing.

VETS3040

Veterinary Microbiology

Credit points: 5 **Teacher/Coordinator:** Dr Jacqui Norris **Session:** Semester 1 **Classes:** Lectures: 50 hours Practicals: 9 hours Tutorials: 2 hours **Assumed knowledge:** Veterinary Science Years 1 - 2. **Assessment:** Intra-semester: 20 minute assessment (10%). 1 hour examination (5%). End of Semester: Theory (45%), Practical (20%). Assignments: Two assignments (20%).

Veterinary Microbiology encompasses veterinary bacteriology, virology, mycology and the newly discovered microscopic agents such as prions. It uses clinical cases and practical examples to explore the role of these microorganisms as agents of disease in companion and domestic animals. The study of veterinary microbiology is based on an understanding of the structure and morphology of bacteria, viruses and fungi of veterinary significance as well as the pathological and immunological processes taught in Principles of Disease. Veterinary microbiology helps to prepare students for Animal Disease, clinical subjects and life in veterinary practice.

Textbooks

Norris. Wigney. Hodgson. Textbook of Veterinary Microbiology (VETS3040) and Animal Disease (VETS3038): Virology, Mycology and Special Bacteria. 2007.

Hodgson. Norris. Wigney. Textbook of Veterinary Microbiology (VETS3040) and Animal Disease (VETS3038): Bacteriology. 2007.

Reference Books

Greene CE. Infectious Diseases of the Dog and Cat. 3rd Edn. Philadelphia: WB Saunders. 2005.

Hirsh DC. Zee YC. Veterinary Microbiology. Mass: Blackwell Science. 1999.

Murphy FA. Veterinary Virology. et al. 3rd edn. San Diego: Academic Press. 1999.

Quinn, Markey, Carter, Donnelly. Leonard. Veterinary Microbiology and Microbial Disease. Mass: Blackwell Science 2002.

VETS3041

Veterinary Parasitology

Credit points: 5 **Teacher/Coordinator:** Assoc Prof David Emery **Session:** Semester 1 **Classes:** Lectures: 39 hours Practicals: 20 hours Tutorials: 6 hours **Prohibitions:** VETS3037 **Assumed knowledge:** Veterinary Science Years 1 and 2. **Assessment:** Intra-semester: This includes a test, 2 practical exercises (20%) as well as a group project on a topical area of parasitology (20%). End of Semester: There are two final examinations. One is a practical examination which will require some identification of parasites of veterinary importance. The other is a written examination (60%).

Veterinary Parasitology is a study of the common diseases of companion and commercial animals caused by protozoan, nematode, platyhelminth, insect and acarine parasites. The course includes the biology of parasites, and the pathogenesis, diagnosis, epidemiology, treatment and control of parasitic diseases. Veterinary Parasitology assumes an understanding of basic biological principles, and knowledge of the anatomy and physiology of animals. The unit is a preparation for Animal Disease (VETS3038).

Textbooks

Unit of Study Handbook and a Workbook are available through the Faculty.

Reference Books

An Australian test is being produced. All information needed for Parasitology is contained in the UoS Handbook.

Recommended Reading

Relevant websites with additional information are listed during lectures and practicals or posted on WebCT.

VETS3011

Veterinary Pathology

Credit points: 7 **Teacher/Coordinator:** Dr Mark Krockenberger **Session:** Semester 1 **Classes:** Lectures: 54 hours. Practicals: 20 hours gross and microscopic pathology plus 6 hours necropsy technique, description and interpretation. Case-based Learning Activities including tutorials: 12 ICAPs (28 hours timetabled for these activities). **Assumed knowledge:** Veterinary Science Years 1 - 2. **Assessment:** Intra-semester: ICAPs (15%), Practical Exam (10%), Lab Class Quizzes (5%). End of Semester: Theory (60%), Practical (10%).

Veterinary Pathology is the study of disease and disease processes in animals and includes learning skills to understand and recognise

disease in a range of animal species. Pathology is one of the core knowledge areas for veterinarians and additional training in the area would be required for those aspiring to become a specialist veterinary pathologist. The course is a practically-orientated systemic pathology unit that builds on the knowledge of normal structure and function, general pathology and agents of disease, developed in Years 1, 2 and 3 of the degree. The Integrative Case-based Applied Pathology (ICAP) exercises strongly integrate preclinical and paraclinical knowledge in a relevant clinical diagnostic setting.

Textbooks

Unit of Study Handbook.

Jones TC. et al. Veterinary Pathology. 6th edn. Williams and Wilkins, 1997.

McGavin MD. et al. Thomson's Special Veterinary Pathology. 3rd edn. Mosby, 2001.

VETS3013

Veterinary Pharmacology and Toxicology

Credit points: 4 **Teacher/Coordinator:** Dr Merran Govendir **Session:** Semester 1 **Classes:** Lectures: 30 hours Tutorials: 26 hours **Assumed knowledge:** Veterinary Science Years 1 - 2. **Assessment:** Intra-semester: quizzes, assignments End of Semester: 1 hour examination.

Pharmacology is the study of the safe use of drugs in the therapy and prevention of animal diseases. Toxicology refers to pharmacologically active toxins which adversely affect animals. These subjects build on knowledge learnt in Chemistry, Cell Biology and Veterinary Physiology and provides the basis to understand how pharmacological agents work at their site of action and how they behave in the body. In order to link the diseases of animals and their therapy the course runs parallel with Units of Study in Veterinary Pathology, Veterinary Microbiology and Veterinary Parasitology. The application of knowledge learnt in Veterinary Pharmacology and Toxicology is a major component of clinical veterinary science. The Unit covers the principles of drug action and then deals with a range of drug classes pertinent to veterinary science and the peculiarities of drugs in the core species.

Textbooks

Reference Books

Rang HP. Dale MM. Ritter JM. Moore PK. Pharmacology. 5th edn. Edinburgh: Churchill Livingstone, 2003.

Maddison JE. Page S. Church DB. Small Animal Clinical Pharmacology. Philadelphia: WB Saunders & Co, 2002.

VETS3038

Animal Disease

Credit points: 9 **Teacher/Coordinator:** A/Prof Jennie Hodgson **Session:** Semester 2 **Classes:** Lectures: 65 hours Practicals: 25 hours Group Work: 20 hours **Prohibitions:** VETS3020 **Assumed knowledge:** Veterinary Science Years 1 - 2, Year 3 (Semester 1) **Assessment:** Intra-semester: Mid Semester Exam (15%) End of Semester: Final Exam (65%) Other: 4 assignments, some of which include a group component (5% each).

This unit extends and integrates knowledge in Veterinary Parasitology, Veterinary Microbiology, Veterinary Pathology and Veterinary Pharmacology. The Unit is presented in a series of disease cases in a herd or individual animal. For each case students work through causative agents, differential diagnosis, diagnostic techniques and arrive at treatment and control solutions. The course includes diseases caused by a wide range of infectious organisms, as well as nutritional and genetic disease in a range of animals of veterinary interest. Linked to each case is a major topic which is one theme in Veterinary Public Health (epidemiology, zoonoses, hygiene) or therapy. The cases are also linked to Professional Practice themes.

Textbooks

Unit of Study Handbook

Recommended Reading: Varies between cases. Reading lists provided at the start of each case.

VETS3039

Professional Practice 3

Credit points: 4 **Teacher/Coordinator:** Dr John Baguley **Session:** Semester 2 **Classes:** Lectures: 20 x 1 hour presentations Tutorials: 11 x 1 hour tutorials Group Work: 11 x 1 hour **Assumed knowledge:** Professional Practice 1A, 1B, 2. **Assessment:** Intra-semester: Group Presentation (40%). Individual Reflection (20%). Quizzes (40%).

This unit provides students with material to aid their understanding of financial and legal perspectives in the management of cases and scenarios typical of veterinary practice life. There is a focus upon the legislative environment through a preliminary study of the various Acts and other legislation pertaining to the practice of veterinary science. Other perspectives such as implications for practice management and finance are also developed through scenarios linked to clinical material presented in other units of study this semester. Classes comprise student presentations supported by talks from appropriate authorities, lectures and tutorials. The majority of learning for this unit of study is completed in groups and hence there is an additional emphasis upon the development of teamwork skills and their application to veterinary practice.

Textbooks
Unit of Study Handbook

VETS3027 Veterinary Clinical Sciences 3

Credit points: 7 **Teacher/Coordinator:** A/Prof. Geraldine Hunt **Session:** Semester 2 **Classes:** Lectures: 78 hours Practicals: 12 hours Tutorials: 6 hours **Prerequisites:** Veterinary Science Years 1 - 2 and Semester 1 Year 3. **Assessment:** Intramsemester: Multiple choice questionnaire (20%). Essay (20%). End of Semester: 2 hour written examination consisting of short answer questions (60%).

Veterinary Clinical Science is the first Unit of several which develop skills in the clinical sciences. It builds on all of the preclinical Units and precedes a species-based approach to clinical issues. This unit of study is designed to impart basic skills in imaging, anaesthesia, surgery and medicine using relevant clinical case material.

Textbooks
Fossum. Small Animal Surgery. 2nd edn. Mosby 2002
Nelson. Couto. eds. Small Animal Internal Medicine. 3rd edn. Mosby 2003
Hall, Clarke. Trim. Veterinary Anaesthesia. 10th edn. WB Saunders. 2001
Thrall DE (ed). Textbook of Veterinary Diagnostic Radiology. WB Saunders, Philadelphia, 4th edn, 2002.
Nyland TG, Mattoon JS. Small Animal Diagnostic Ultrasound, WB Saunders Co, Philadelphia, 2nd edn, 2002.
Lavin LM, Radiography in Veterinary Technology. WB Saunders, Philadelphia, 3rd edn, 2003.

VETS3025 Veterinary Public Health

Credit points: 4 **Teacher/Coordinator:** Dr Robert Dixon **Session:** Semester 2 **Classes:** Lectures: 36 hours Practicals: 8 hours Abattoir visit: 8 hours **Assumed knowledge:** Veterinary Science Years 1 - 2 **Assessment:** Intramsemester: Group project (30%). End of Semester: Final written examination (55%). Other: Food processing plant visit and case study (15%).

Veterinary Public Health encompasses 3 topics: veterinary epidemiology, food safety and zoonoses. Knowledge of these allows veterinarians to play a vital role in maintaining human health. Veterinary Epidemiology which is the study of disease patterns provides understanding of the control of human and animal disease. Veterinarians have an increased role in Food Safety from clinical practice to food standards regulation. There will be a number of practical classes to prepare students for their compulsory extramural visit to an abattoir during the following 12 months. Zoonoses are important for veterinary occupational health and safety and for the health of our clients. The course in Veterinary Public Health builds on Veterinary Pathology, Veterinary Microbiology and Veterinary Parasitology and runs concurrently with Animal Disease. Topics are dealt with in the context provided by the Animal Disease cases.

Textbooks
A Unit of Study Handbook contains detailed notes for Veterinary Public Health.
Andriessen E. Meat Safety Quality and Veterinary Public Health in Australia. 4th edn. Port Adelaide Penny Farthing Publishing Services 2001
Buncic S. Integrated Food Safety and Veterinary Public Health. Oxford CABI 2006
Stevenson WJ. Hughes KL. Synopsis of Zoonoses in Australia. 2nd edn. Canberra Australian Government Publishing Service 1988
Thrusfield M. Veterinary Epidemiology. 3rd edn. Oxford Blackwell Science 2005

Year 4

VETS4331 Animal Husbandry Practical Report

Credit points: 2 **Teacher/Coordinator:** Dr Pietro Celi **Session:** Semester 1 **Assumed knowledge:** Veterinary Science Years 1-2 before extramural placements commence. **Assessment:** 1. Assignments that address issues related to nutrition, reproduction, animal welfare, or scope for veterinary involvement on the farm are to be submitted in the first week of semester one in fourth year of the course. One assignment of 500 words must be submitted for each of the following species; sheep, horse, dairy cattle, beef cattle, pigs and poultry. 2. A test of basic skills used for handling sheep and cattle will be administered at the Camden farms during semester 1, Year 4. Students must pass this assessment to pass the unit of study.

Students are required to undertake periods of time on farms to learn aspects of farm management and the roles of veterinarians on farms. Students may have opportunities to practice their animal handling skills during these placements. The minimum compulsory period of extramural experience in Animal Husbandry is 25 days and is to be done after commencing the course. The number of days required for placement at each farm type is: horse 5 days, dairy 5 days, beef 5 days, sheep 5 days, pig 3 days, poultry 2 days. Students will undertake 5 days of practical classes at the University's Camden farms to develop handling skills with cattle, horses, pigs, sheep and poultry. Students can commence extramural farm placements only after successful completion of animal handling practical classes at Camden and completion of enrolment in all units of study in Years 1 and 2. Students may also undertake an optional 4 weeks of elective placements, which do not carry any assignment requirements.

Textbooks
None

VETS4111 Veterinary Anaesthesia

Credit points: 4 **Teacher/Coordinator:** Dr Sanaa Zaki **Session:** Semester 1 **Classes:** Lectures: 26 hours Practicals: 10 hours Tutorials: 4 hours **Prerequisites:** Veterinary Science Years 1 - 3. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. **Assessment:** Intramsemester: A combination of assignments, quizzes and practical assessment (40%). End of Semester: 90 minute written examination (60%). Other: Formative assessment through out semester.

This course involves the planning and implementation of safe anaesthesia for small companion animals, incorporating clinical cases from the veterinary teaching hospital. The focus is primarily on cats and dogs; however, discussion of other species is included. Topics for discussion include anaesthesia for common disease conditions, different anaesthetic techniques for different species, equipment used in analgesia for the peri-operative period, transfusion therapy and resuscitation techniques for cardio-respiratory arrest. Tutorial classes reinforce and develop further the concepts discussed in lectures. Practical classes introduce students to techniques and procedures performed routinely during clinical anaesthesia as well as life saving procedures that may be required in an emergency. Clinical practical sessions introduce students to the anaesthesia unit at the UVCS and provide opportunity for students to observe and perform anaesthetic procedures in the clinical setting.

Textbooks
Unit of Study Handbook
Hall, Clarke, Trim. Veterinary Anaesthesia. 10th edn. Harcourt.
Flecknell. Waterman-Pearson. Pain Management in Animals. WB Saunders.

VETS4112 Veterinary Medicine & Clinical Pathology

Credit points: 8 **Teacher/Coordinator:** Dr Julia Beatty **Session:** Semester 1 **Classes:** Lectures: 61 hours approximately Practicals: 9 hours Tutorials: 34 hours approximately **Prerequisites:** Veterinary Science Years 1 - 3. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. **Assessment:** Intramsemester: Clinical pathology and veterinary medicine (30%) End of Semester: Veterinary Clinical Pathology (20%) Veterinary Medicine (50%). (See the VETS4112 UoS Handbook for details.)

Medicine commenced in third year as part of clinical sciences, and now continues through the first semester of fourth year. Resource sessions on diseases of various organ systems constitute the didactic

component. Case based material will be utilised for tutorials and practical classes. Veterinary Clinical Pathology is integrated into the course and assists in the diagnostic process by providing laboratory information, which may also be utilized in monitoring response to treatment. Laboratory data analysis will form the major part of lectures and tutorials. The unit of study is based on the study of dogs and cats with reference to other animal species as necessary.

Textbooks

See the VETS4112 UoS Handbook.

VETS4113

Veterinary Radiology

Credit points: 4 **Teacher/Coordinator:** Adj. Professor Graeme Allan **Session:** Semester 1 **Classes:** Lectures: 26 hours. Tutorials: 26 hours. **Prerequisites:** Veterinary Science Years 1 - 3. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. **Assessment:** Intramemester: Formative assessment using Multiple Choice Questions and/or Web CT (30%). End of Semester: Written examination (70%).

The course covers the radiographic appearance of the normal structure and function of the various organ systems commonly investigated by radiology. Students will be taught to recognise, describe and diagnose the changes in structure and function related to diseases that are commonly found in radiographs. There will be an introduction to the special radiological techniques, including radiological contrast studies that are commonly used to further demonstrate diseases. The role of diagnostic ultrasound in the diagnosis of the common diseases of soft tissues will also be covered.

Textbooks

Thrall DE. Textbook of Veterinary Diagnostic Radiology. 4th edn. Philadelphia: WB Saunders Company, 2002. Nyland TG and Mattoon JS., Small Animal Diagnostic Ultrasound. 2nd edn, WB Saunders Co, Philadelphia, 2002.

VETS4114

Veterinary Surgery

Credit points: 6 **Teacher/Coordinator:** Dr Craig Macpherson **Session:** Semester 1 **Classes:** Lectures: 44 lectures. Practicals: 24 hours. **Prerequisites:** Veterinary Science Years 1 - 3. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. **Assessment:** Intramemester: MCQ week 7 or 8 (25%). End of Semester: Written Final Exam (60%). Other: 1,000 word essay (15%).

Lectures, demonstrations and practical classes address the principles and practice of soft tissue and orthopaedic surgery in companion animals using an integrated, systems and problem-orientated approach. Practical classes provide instruction and practice in basic procedures such as desexing, cystotomy, gastrointestinal biopsy and resection, fracture fixation, surgery for cruciate ligament rupture, ophthalmic surgery, and other common surgical procedures.

Textbooks

Brinker WO. et al. Handbook of Small Animal Orthopaedics and Fracture Treatment. 3rd edn. Saunders, 1997.
Fossum TW and others. Small Animal Surgery. 2nd edn. Mosby, St Louis, 2002.
Piermattei DL, Johnson KA. An Atlas of Surgical Approaches to the Bones of the Dog and Cat. 4th edn. Saunders, 2004.
The VETS4114 Handbook provides references and material that supplements the textbooks.

VETS4221

Bird Health and Production

Credit points: 4 **Teacher/Coordinator:** Dr Patricia Holyoake, Prof Richard Whittington. **Session:** Semester 2 **Classes:** Lectures: 34 hours (14 chickens + 15 caged birds, reptiles & pocket pets + 5 fish). Practicals: 18 hours (5 chickens + 10 caged birds + 3 fish). **Prerequisites:** Veterinary Science Years 1 - 3. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. **Assessment:** Intramemester: Case studies (40%). End of Semester: Written Examination (60%). Other: Formative assessment of animal handling during practical class sessions.

The aim is to develop knowledge and skill in medicine of birds (including poultry). Emphasis is placed on the epidemiology, management and preventive medicine of chickens (commercial broiler and layer operations) and diagnostics, medicine and surgery of caged birds. For poultry, there is a large focus on how to approach a production or health-limiting problem on-farm to resolve any performance-limiting issues. The cage bird component covers a wide range of avian species including waterfowl, psittacine and passerine

birds. It will address the collection and analysis of clinical, necropsy and clinicopathologic information to investigate individual bird and flock problems. It will cover individual bird and flock therapy. This unit of study also includes medicine of reptiles, "pocket pets" (rabbits, guinea pigs etc.), fisheries and aquaculture. The reptile and "pocket pets" component will cover anatomy and physiology applicable to clinical examination and common problems encountered in practice in Australia. Diagnosis and treatment of common conditions affecting fisheries and aquaculture species will also be presented. Students will gain experience handling representatives of the common species and performing common clinical procedures.

Textbooks

Unit of Study Handbook.

Reference Books: (students are advised not to purchase)

Noga EJ. Fish Disease- Diagnosis and Treatment. Iowa State University Press 2000

Roberts RJ. Fish Pathology. 3rd edn. London Harcourt Publishers Ltd 2001

Stoskopf MK. Fish Medicine. Philadelphia WB Saunders, 1993

VETS4222

Horse Medicine and Surgery

Credit points: 6 **Teacher/Coordinator:** Professor David Hodgson **Session:** Semester 2 **Classes:** Lectures: 36 hours. Practicals: 60 hours. Tutorials: 4 hours. **Prerequisites:** Veterinary Science Years 1 - 3. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. **Assessment:** Intramemester: Case based assignment. Horse handling practical examination. End of Semester: 90 minute written examination. Other: Practical examination.

Horse Medicine and Surgery is designed to provide a foundation whereby students become competent to deal with a horse or horses experiencing common medical or surgical problems as would be encountered in mixed practice. Much of the lecture course utilises problem-based learning using a case-based approach. This approach is designed to augment skills developed in other disciplines including anatomy, pathology, microbiology and small animal medicine and surgery. The course is designed to assist the student in learning effective problem solving skills, determination of differential diagnoses and the judicious use of appropriate diagnostic aids when attempting to reach a diagnosis. Options and approaches to commonly used therapeutic measures are included. Areas of emphasis in the course include lameness, respiratory diseases, abdominal pain (colic), weight loss, diseases of foals, ophthalmology, reproductive management, dermatology and various other aspects of equine surgery and internal medicine. There are a series of practical classes designed to augment and expand the student's experiences in horse medicine and surgery.

Textbooks

Unit of Study Handbook.

Smith BP. ed. Large Animal Internal Medicine. 3rd edn. Mosby.

Reed S. Bayly W. Sellon D. eds. Equine Internal Medicine. 2nd edn. Saunders.

Hinchcliff K. Kaneps A. Goer R. eds. Equine Sports Medicine and Surgery. Saunders.

Robinson E. ed. Current Therapy in Equine Medicine. Saunders.

VETS4223

Pig Health and Production

Credit points: 4 **Teacher/Coordinator:** Dr Trish Holyoake **Session:** Semester 2 **Classes:** Lectures: 24 hours Practical: 8 hours Independent learning: 12 hours **Prerequisites:** Veterinary Science Years 1 - 3. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. **Assessment:** Intramemester: Group WebCT exercise. End of Semester: 1.5 hour written exam.

The aim of this unit of study is to provide students with an understanding of the major factors driving the profitability and sustainability of the commercial pig industry. Students will be provided with the basic skills to resolve production and profit-limiting problems on pork production units. The emphasis is on managing endemic disease and preventive medicine, with consideration given to welfare aspects of intensively housed animals. Practical classes are designed to provide students with the opportunity to observe and participate in specialized husbandry and diagnostic practices undertaken on pig farms.

Textbooks

Unit of Study Handbook.

Straw BE. et al. Diseases of Swine. 8th edn. 1999.

VETS4224**Ruminant Health and Production**

Credit points: 10 **Teacher/Coordinator:** Assoc Prof Peter Windsor **Session:** Semester 2 **Classes:** Lectures: 58 hours. Practicals: 85 hours. Tutorials: 12 hours TILHAP's. **Prerequisites:** Veterinary Science Years 1 - 3. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. **Assessment:** Intra-semester: TILHAP's (15%). Mid-semester exam (20%). End of Semester: Exam A (Grazing 40%). Exam B (Intensive 25%). Other: Practical classes: Pass/Fail.

This course aims to facilitate deeper learning approaches to gain an understanding of diseases of ruminants within various livestock production systems. It uses a case-based approach with TILHAP's (Teaching Innovations in Livestock Health & Production) to demonstrate how systematic problem investigations provide an 'evidence basis' for implementing rational disease control by management at the herd and flock level on-farm. This process is extended to problem management at the regional, national and international levels, illustrating the numerous career paths for veterinarians in servicing the food and fibre industries, and preparing students for their extramural training as interns in rural mixed and public practice. The aim is for our graduates to: use systematic pathological and epidemiological principles in the conduct of investigations to diagnose the common management and disease problems of ruminants; readily obtain information from numerous knowledge resources that can lead to constructive advice, facilitating farm animal production and welfare; develop skills in animal handling, clinical examination, pregnancy diagnosis, specimen collection, necropsy procedures, use of diagnostic laboratories and farm animal medicine and surgery; apply their skills and knowledge in problem solving to design applied research and extension programs that promote disease control and prevention programs to assist optimal farm animal production.

Textbooks

Required resources:

Unit of Study Textbook

Practical Class Handbook.

Pregnancy Diagnosis in Cattle (AACV)

Drought manual (NSW DPI)

Recommended text, either:

Veterinary Medicine 9th edition (Radostits et al) OR

Veterinary Internal Medicine (Smith et al)

Year 5**VETS5347****Anaesthesia and Intensive Care (UVCS)**

Credit points: 4 **Teacher/Coordinator:** Dr Sanaa Zaki and Dr Kim Ticehurst **Session:** Semester 1, Semester 2 **Classes:** Practicals: 15 day practicum including rostered ICU duty, anaesthesia rounds twice weekly and journal club once weekly. **Prerequisites:** Veterinary Sciences Years 1-4. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. **Assessment:** Intra-semester: Supervisor Report Form (continuous). Communication task (oral). Communication task (oral). Competency based practical skills assessment. Other: Formative self evaluation task.

This Unit of Study provides student interns with an opportunity to apply the principles and practices of veterinary anaesthesia introduced to them in VETS3027 and VETS4111 in the clinical setting of a large veterinary hospital. This unit of study is designed to give student interns exposure and experience in clinical anaesthesia to help develop a deeper understanding of this discipline and prepare them for veterinary practice. Student interns are involved in the management of a wide variety of cases from the time the patient is admitted for anaesthesia up until the patient has fully recovered. This unit of study aims to foster a culture of shared leadership, team work, professional conduct, compassion and open communication in the work environment. Student interns participate in all activities undertaken by the UVCS Anaesthesia Unit including (but not restricted to) pre-anaesthetic examination, formulation of anaesthesia and analgesia plans, induction and maintenance of anaesthesia, record keeping, post-operative care (including pain management) and ICU duty. Student interns will learn and practice the many technical skills required to perform general anaesthesia including intravenous catheterisation, endotracheal intubation, collection of blood and urine for diagnostic

testing. After completing this unit of study student interns will be able to safely and humanely anaesthetise and recover an ASA health status '1' or '2' small animal patient with a degree of proficiency acceptable for a new graduate (refer to the Veterinary Graduate Attributes).

Textbooks

Handbook for Intramural Rotations

VETS5350**Elective Rotation 1**

Credit points: 5 **Teacher/Coordinator:** Prof David Hodgson **Session:** Semester 1, Semester 2 **Classes:** Practicals: 24 day practicum. **Prerequisites:** Veterinary Sciences Years 1-4. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. **Assessment:** Intra-semester: Written assignment (2,500 words). Communication task. Supervisor Report Form.

This Unit of Study consists of a rotation in a suitable location. Suitability of locations will be negotiated between the veterinary intern, elective rotation supervisor and Faculty. In addition to the more traditional elective rotations e.g., small animal practice, equine practice, rural mixed practice and wildlife experience, veterinary interns may wish to undertake novel forms of elective rotation. Examples may include production of educational or scientific resources for use by the profession or animal owners, and promotion of new ideas to the public. Whilst attending elective rotations, students will be under the supervision of an extramural supervisor, who will liaise with Faculty. The extramural supervisor will review the aims of the rotation with the student, who will be expected to have achieved these by the end of the rotation. Interns are expected to fully participate in agreed activities whilst attending this placement, typically taking on the role and schedule of a full time supervised associate. The requirements for this rotation include the completion of the following documents: an Introductory Letter to the placement at least four weeks prior to the rotation; a Site Contract; Learning Agreement Form; Skills Report Form; and Rotation Feedback Form. During the rotation interns are expected to participate in three meetings with the extramural supervisor and complete a communication task.

Textbooks

Handbook for Extramural Rotations

VETS5351**Elective Rotation 2**

Credit points: 5 **Teacher/Coordinator:** Prof David Hodgson **Session:** Semester 1, Semester 2 **Classes:** Practicals: 24 day practicum. **Prerequisites:** Veterinary Sciences Years 1-4. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. **Assessment:** Intra-semester: Written assignment (2,500 words). Communication task. Supervisor Report Form.

This Unit of Study consists of a rotation in a suitable location. Suitability of locations will be negotiated between the veterinary intern, elective rotation supervisor and Faculty. In addition to the more traditional elective rotations e.g., small animal practice, equine practice, rural mixed practice and wildlife experience, veterinary interns may wish to undertake novel forms of elective rotation (see Elective Rotation 1). Students may wish to combine two elective rotations at the one site, for example at a referral hospital or research laboratory etc. Whilst attending elective rotations, students will be under the supervision of an extramural supervisor, who will liaise with Faculty. The extramural supervisor will review the aims of the rotation with the student, who will be expected to have achieved these by the end of the rotation. Interns are expected to fully participate in agreed activities whilst attending this placement, typically taking on the role and schedule of a full time supervised associate. The requirements for this rotation include the completion of the following documents: an Introductory Letter to the placement at least four weeks prior to the rotation; a Site Contract; Learning Agreement Form; Skills Report Form; and Rotation Feedback Form. During the rotation interns are expected to participate in three meetings with the extramural supervisor and complete a communication task.

Textbooks

Handbook for Extramural Rotations

VETS5331**Preparation Veterinary Practice**

Credit points: 2 **Teacher/Coordinator:** Dr Christine Hawke **Session:** Semester 1, Semester 2 **Classes:** Lectures: 14 hours Tutorials: 4 hours. **Prerequisites:** Veterinary Science Years 1 - 4 completed. Permit from Board of Veterinary Surgeons of NSW to perform Acts of Veterinary Science under supervision. **Assessment:** Intra-semester: Required submissions. End of Semester: Examination. Other: Competency testing in animal handling.

This unit of study will prepare students as Veterinary Interns for their Intramural and Extramural Clinical Rotations during Year 5. Students will be instructed in practice management, financial management, skills marketing, insurance for practice and human resources, communication with colleagues and clients, time management and distance learning resources, accessing Virtual Clinical Campus and VEIN, self and stress management and job seeking skills. There will be focus sessions for each Year 5 Unit of Study. Professional ethical behaviour will be discussed throughout the course. Preparation and delivery of assignments and all formal requirements for the Extramural Rotations will be presented. Learning activities include lecture presentations, seminars, small group tutorials, self-completion tasks and skills checks.

Textbooks

Unit of Study Handbook.

VETS5345**Primary Accession Med & Surgery (UVCS)**

Credit points: 4 **Teacher/Coordinator:** Dr Vanessa Barrs **Session:** Semester 1, Semester 2 **Prerequisites:** Veterinary Sciences Years 1-4. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. **Assessment:** Intra-semester: Supervisor report form. Case presentations at Clinical Rounds.

This 3 week rotation at the University Veterinary Centre, Sydney, is designed to give student interns experience in general practice and exposure to the types of cases they will encounter most commonly upon graduation. Interns will have the opportunity to practice clinically-relevant techniques such as history taking, physical examination, diagnostic sample collection, radiology and ultrasound, medical record keeping, critical analysis of case-related information, development and implementation of treatment plans and evaluation of outcomes. During this rotation interns will participate in spey and dental clinics. Spey clinic includes pre-anaesthetic evaluation, supervised ovariohysterectomy and castration and post-operative management of small animal patients in a real-practice setting. Dental clinic includes evaluation of dental and periodontal disease and participation in dental procedures such as routine prophylactic care and extractions. In addition, interns should gain an appreciation of the holistic nature of veterinary practice, the importance of client-veterinarian, veterinarian-patient and collegial interactions, from the moment the client makes an appointment through resolution of the presenting problem and beyond. Students will participate in other UVCS activities including management of patients in hospital, intensive care duty and weekend duty.

Textbooks

Handbook for Intramural Rotations
Nelson RW. Couto CG. eds. Small Animal Internal Medicine. 4th edn. Mosby 2003

VETS5346**Referral Medicine (UVCS)**

Credit points: 4 **Teacher/Coordinator:** Dr Vanessa Barrs **Session:** Semester 1, Semester 2 **Classes:** See description **Prerequisites:** Veterinary Sciences Years 1-4. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. **Assessment:** Intra-semester: Supervisor Report Form. Case-log. Case-record submission. Case-presentation at clinical rounds. Veterinary literature exercise.

In this unit of study interns will consolidate the theory of small animal internal medicine (as learnt in V3027 Veterinary Clinical Sciences and V4112 Veterinary Medicine) and to apply it to the diagnosis and treatment of disease in small animal patients. Case-material will be provided to enable the application of the problem-orientated approach to veterinary medicine. In this rotation emphasis will be placed on acquiring appropriate skills in history taking, advanced physical

examination, including (but not restricted to) abdominal palpation, thoracic auscultation (including murmur identification, grading and localisation and respiratory auscultation) and non-invasive blood pressure measurement. Interpretation of diagnostic imaging modalities and clinicopathological test results will be an integral part of the rotation. Cases will form the basis of interactive collegiate discussions on identification and assessment of problems on a patient-by-patient basis. Interns will become proficient in professional case-handover procedures through daily presentation of cases at clinical rounds. As in other UVCS rotations interns will participate in activities, including (but not restricted to) client communication, collection of samples for basic diagnostic tests, developing treatment plans, routine health management, disease management, management of patients in hospital, medical record keeping, intensive care duty and weekend duty.

Textbooks

Handbook for Intramural Rotations
Nelson RW. Couto CG. eds. Small Animal Internal Medicine. 4th edn. Mosby 2003

VETS5337**Rural Mixed Practice 2 (Extramural)**

Credit points: 5 **Teacher/Coordinator:** Assoc Prof John House **Session:** Semester 1, Semester 2 **Classes:** Practicals: 24 day practicum. **Prerequisites:** Veterinary Science Years 1 - 4 completed. Permit from Board of Veterinary Surgeons of NSW to perform Acts of Veterinary Science under supervision. **Assessment:** Intra-semester: Case Log (4 large animal cases: 2,500 words). Communication task. Supervisor Report Form.

This unit of study provides students with an opportunity to practically apply the knowledge and skills they have developed during years 1 to 4. In particular, they will gain experience in livestock and equine practice. Through participation in professional activities students are expected to develop their communication skills with the rural community, staff and colleagues. Interns are expected to fully participate in agreed activities whilst attending the practice, typically taking on the role and schedule of a full time supervised associate. The requirements for this rotation include the completion of the following documents: an Introductory Letter to the placement at least four weeks prior to the rotation; a Site Contract; Learning Agreement Form; Skills Report Form; and Rotation Feedback Form. During the rotation interns are expected to participate in three meetings with the extramural supervisor and complete a communication task.

Textbooks

Handbook for Extramural Rotations

VETS5336**Rural Mixed Practice 1 (UVCC)**

Credit points: 5 **Teacher/Coordinator:** Dr Tony D. Mogg **Session:** Semester 1, Semester 2 **Classes:** Practicals: 26 day practicum. **Prerequisites:** Veterinary Science Years 1 - 4 completed. Permit from Board of Veterinary Surgeons of NSW to perform Acts of Veterinary Science under supervision. **Assessment:** Intra-semester: Supervisor Report Form (3); Written Reports; Oral Communication Task; Unit of Study Examination.

This unit of study provides students with an opportunity to practically apply the knowledge and skills they have developed during years 1 to 4. Through participation in professional activities students are expected to develop their communication skills with the public, staff and colleagues. Veterinary Interns must achieve a satisfactory grade in all three services (equine, bovine and anaesthesia) to fulfil the requirements of this unit of study. Interns are also required to complete Written Reports and an oral Communication Task which will be evaluated by the UVCC Supervisor or nominee. Forms to be completed and submitted to the Faculty: 1. Site Contract; 2. Rotation Feedback Forms for each service; and 3. Skills Report Forms for each service.

Textbooks

Handbook for Intramural Rotations.

VETS5349**Rural Public Practice**

Credit points: 5 **Teacher/Coordinator:** Assoc Prof Peter Windsor **Session:** Semester 1, Semester 2 **Classes:** Practicals: 24 day practicum. **Prerequisites:** Veterinary Sciences Years 1-4. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. **Assessment:**

3. Units of study

Intr semester: Written Report (max. 2,000 words). Reflective Journal (max. 500 words). Communication task. Supervisor Report Form.

This unit of study involves a 24-day rotation with a public agency or company involved in servicing the rural industries and supporting the food and fire sector. In Australia, the majority of placements are with the NSW Rural Lands Protection Board (RLPB), NSW or other state government Department of Primary Industry (DPI), Australian Department of Agriculture, Fisheries and Forestry (DAFF), CSIRO or other Faculty approved livestock health and production agency servicing the rural livestock industries. This includes research and diagnostic laboratories and pre-approved overseas locations are encouraged, particularly for overseas students in their home state or country. The rotation offers practical opportunities to build on and apply knowledge of livestock production industries acquired in semester 8, particularly in herd management and health, legislation and quarantine, food production and hygiene, disease control and prevention, animal welfare and relevant basic and clinical science disciplines. Students will be under the supervision of District Veterinarians, Veterinary Officers or their equivalent and as veterinary interns, can be involved in ongoing projects, including implementation of regional animal health plans, applied research activities or veterinary surveillance, extension and regulatory programs. Interns are expected to fully participate in agreed activities whilst attending this placement, typically taking on the role and schedule of a full time supervised associate. The requirements for this rotation include the completion of the following documents: an Introductory Letter to the placement at least four weeks prior to the rotation; a Site Contract; Learning Agreement Form; Skills Report Form; and Rotation Feedback Form. During the rotation interns are expected to participate in three meetings with the extramural supervisor, complete a communication task under the supervision of the associate veterinarian, contribute a reflective journal and comments to the VETS5335 website, and compile a 'journal standard' written report on an applied research or extension project or disease investigation conducted during the rotation and of relevance to the placement.

Textbooks

Handbook for Extramural Rotations

VETS5335

Small Animal Practice (Extramural)

Credit points: 5 **Teacher/Coordinator:** Dr John Baguley **Session:** Semester 1, Semester 2 **Classes:** Practicals: 24 day practicum. **Prerequisites:** Veterinary Science Years 1 - 4 completed. Permit from Board of Veterinary Surgeons of NSW to perform Acts of Veterinary Science under supervision. **Assessment:** Intr semester: Case Log (4 cases: 2,500 words). Communication Task. Supervisor Report Form.

The core small animal practice extramural rotation builds upon skills, knowledge and attitudes, developed throughout the entire course and is designed to enable final year students or veterinary interns to gain a holistic understanding and experience of small animal practice prior to graduation. Veterinary interns are placed at a Faculty of Veterinary Science approved small animal practice of their choice for a 24 day rotation. During this time interns are expected to negotiate workplace tasks with their Extramural Supervisor that enable the achievement of learning outcomes linked to the development of graduate attributes. Interns are expected to fully participate in agreed activities whilst attending the practice, typically taking on the role and schedule of a full time supervised associate. The requirements for this rotation include the completion of the following documents: an Introductory Letter to the placement at least four weeks prior to the rotation; a Site Contract; Learning Agreement Form; Skills Report Form; and Rotation Feedback Form. During the rotation interns are expected to participate in three meetings with the extramural supervisor and complete a communication task.

Textbooks

Handbook for Extramural Rotations.

VETS5348

Small Animal Surgery (UVCS)

Credit points: 4 **Teacher/Coordinator:** Assoc Prof Geraldine Hunt **Session:** Semester 1, Semester 2 **Prerequisites:** Veterinary Sciences Years 1-4. Permit

from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision. **Assessment:** Other: Ongoing assessment using supervisor report form, and assessment of communications tasks including written medical records and oral presentation in Surgery Rounds.

The UVCS rotations are designed to give veterinary interns experience in general practice and exposure to the kinds of clients and cases they will encounter upon graduation. In addition, rotation through the referral services will provide students with the opportunity to manage more complex cases and, be exposed to scenarios where referral to a person or practice with more advanced knowledge, training or equipment is indicated. Students will participate in all UVCS activities, including (but not restricted to) client communication, history taking, physical examination, collection of samples for basic diagnostic tests, radiography, developing treatment plans, routine health management, disease management, medical, surgical and anaesthetic procedures, management of patients in hospital, medical record keeping, intensive care duty and weekend duty.

Textbooks

Handbook for Intramural Rotations.

Reference Books

Slatter DH. ed. Textbook of Small Animal Surgery. 3rd edn. Philadelphia: WB Saunders. 2002.

Recommended Reading

Lecture notes and handouts for previous clinical units of study.

Bachelor of Animal and Veterinary Bioscience

Year 1

Year 1 will have the following 48 credit point structure:

AGEC1006

Economic Environment of Agriculture

Credit points: 6 **Teacher/Coordinator:** Ms Lynn Henry **Session:** Semester 1 **Classes:** (3 lec & 1 workshop)/wk **Prohibitions:** AGE1003, AGE1004 **Assumed knowledge:** HSC Mathematics **Assessment:** One two hour exam, one assignment, workshop reports, one 1 hour mid-semester exam **Practical field work:** Laboratories, fieldwork

This unit of study introduces students to the basic principles of economics and to the major features of the economic environment impacting on and driving farm and off-farm agriculture. Topics discussed include the organization of economies and the role agriculture plays, the industrial structure of Australian agriculture, introductory principles of production economics and farm business management; elementary price theory and the factors affecting the demand and supply of agricultural commodities, nature and behaviour of markets for agricultural commodities; marketing of agricultural products; agricultural trade, resource and environmental management, and the political and administrative institutions affecting Australian agriculture

Textbooks

HE Drummond and JW Goodwin, Agricultural Economics, 2nd edn (Prentice-Hall, 2004)

ANSC2002

Animal Science 2

Credit points: 6 **Teacher/Coordinator:** Mrs I van Ekris (coordinator), Dr Melanie Collier, A/Prof Rosanne Taylor, Ms Jane Stevenson. **Session:** Semester 2 **Classes:** 3 hours/week (39 hours total) **Prerequisites:** CROP1001 and one of BIOL1001, BIOL1101, BIOL1901 **Assessment:** Assignments (55%), end of semester exam (45%) **Practical field work:** 3 hours/week

The unit of study is an integrated course providing a framework for understanding the structure, function and management of agricultural animals. The emphasis of the course is on how animals maintain a steady state in the face of variations in their environment, physiological state and management systems. It aims to help students acquire the language necessary to discuss body structure and function and to understand the fundamental internal processes and their interactions, which take place in the maintenance of normal function. Concepts

discussed in lectures are reinforced by practical classes held in the laboratory and on-farm at Camden.

Textbooks

A course handbook will be available for students to purchase. It contains details of lecture outlines, objectives, reference lists, details of practical classes, staffing as well as other relevant class material.

Battaglia, R.A. (2001) Handbook of Livestock Management. Prentice Hall.

Frandsen, R.D., Wilke, W.L. and Fails, A.D. (2003) Anatomy and Physiology of Farm Animals. Williams and Wilkins.

McDonald, P. et al. (1988) Animal Nutrition, 4th ed. Longman Scientific & Technical.

Reece, W.O. (1991) Physiology of Domestic Animals. Lea and Febiger.

Starr, C. and Taggart, R. (2004) Animal Structure and Function. Brooks and Cole.

BIOM1003

Biometry 1

Credit points: 6 **Teacher/Coordinator:** Mrs Kathryn Aufflick **Session:** Semester 2 **Classes:** (2 lec, 1 prac & 1 tut)/wk **Assumed knowledge:** 70 or more in HSC Mathematics **Assessment:** Quizzes, assignments and exam. All open book **Practical field work:** Seminars/workshops, 2 labs, fieldwork

It is a core first year unit for all our science-based degrees. It provides a foundation of quantitative skills to be used in further study in applied statistics in later years and in other Units within the Agricultural, Animal, Land & Water, or Horticultural Science degrees. It creates an awareness of the role of experimental design and statistical analysis in the research process. It examines some useful mathematical techniques such as least squares, differentiation and integration as applied to growth curves and linear and nonlinear modelling, especially via the use of computers. Basic statistical topics covered include: describing biological data and variability, sampling and estimation, framing biological hypotheses; estimating a single treatment mean via a confidence interval and testing for a particular mean via a z-test or t-test; estimating or testing the difference between two treatment means. The spreadsheet package Excel and the statistical package GenStat will be used for mathematical and statistical analysis and for graphical presentation

Textbooks

No single text is recommended as extensive course notes are made available. Reference books:

Causton, DR (1977). A Biologist's Mathematics. Edward Arnold: London.

Clewer, AG & Scarisbrick, DH (2001). Practical Statistics and Experimental Design for Plant and Crop Science. John Wiley & Sons: West Sussex.

Glover, T and Mitchell, K (2002). An Introduction to Biostatistics. McGraw-Hill: New York

McConway, KJ Jones, MC and Taylor, PC (1999). Statistical Modelling using GenStat. Arnold: London.

Mead, R, Curnow, RN and Hasted, AM (2003). Statistical Methods in Agriculture and Experimental Biology, 3rd ed. Chapman & Hall/CRC: Boca Raton.

Morris, TR (1999). Experimental Design and Analysis in Animal Sciences. Oxon: CABI Publishing

BIOL1001

Concepts in Biology

Credit points: 6 **Session:** Semester 1, Summer Main **Classes:** Three 1 hour lectures and one 3 hour practical per week. **Prohibitions:** BIOL1101, BIOL1901 **Assumed knowledge:** No previous knowledge required. Students who have not taken HSC biology are recommended to take the Biology Bridging Course (in February). Students who have completed HSC Biology are advised to enrol in BIOL1101 Ecosystems to Genes rather than BIOL1001. **Assessment:** One 2.5 hour exam, assignments, quizzes

Note: It is recommended that BIOL (1001 or 1101 or 1901) be taken before all Semester 2 Junior units of study in Biology.

Concepts in Biology is an introduction to the major themes of modern biology. Starting with interactions between organisms in biological communities, we move on to introductory cell biology, which particularly emphasises how cells obtain and use energy, followed by the diversity and biology of microorganisms. This leads into an introduction to molecular biology through the role of DNA in protein synthesis and development. The genetics of organisms is then discussed, leading to consideration of theories of evolution and the origins of the diversity of modern organisms.

Textbooks

Knox R B et al. 2005. Biology, 3rd ed. McGraw-Hill

OR

BIOL1101

Biology - Ecosystems to Genes

Credit points: 6 **Session:** Semester 1 **Classes:** Three 1 hour lectures and one 3 hours practical per week. **Prerequisites:** HSC 2-unit Biology or equivalent. **Prohibitions:** BIOL1001, BIOL901 **Assessment:** One 2.5 hour exam, assignments, quizzes.

Note: It is recommended that BIOL (1001 or 1101 or 1901) be taken before all Semester 2 Junior units of study in Biology.

Biology - Ecosystems to Genes builds on a satisfactory prior knowledge of the HSC 2-unit biology course. A brief revision of the basic concepts of the high school course is given. Biology - Ecosystems to Genes builds on the main themes introduced in HSC biology to provide a background to the breadth of biology, including genetics of organisms, theories of evolution and the origins of diversity of modern organisms; diversity of microorganisms, cell biology with emphasis on how cells obtain and use energy, modern molecular biology and interactions between organisms in biological communities.

Textbooks

Knox R B et al (2005) Biology., 3rd ed., McGraw-Hill

OR

BIOL1901

Biology - Ecosystems to Genes (Advanced)

Credit points: 6 **Session:** Semester 1 **Classes:** Three 1 hour lectures and one 3 hour practical per week. **Prerequisites:** UAI of at least 93 and HSC Biology result in the 90th percentile or better, or Distinction or better in a University level Biology unit, or by invitation. **Prohibitions:** BIOL1001, BIOL1101 **Assessment:** One 2.5 hour exam, assignments, quizzes

Note: Department permission required for enrolment .

Note: It is recommended that BIOL (1001 or 1101 or 1901) be taken before all Semester 2 Junior units of study in Biology.

This unit of study shares lectures and practical classes with BIOL1101 but also includes more demanding alternative components of Biology - Ecosystems to Genes.

Textbooks

As for BIOL1101.

BIOL1002

Living Systems

Credit points: 6 **Session:** Semester 2 **Classes:** Three 1 hour lectures and one 2 hour practical per week. **Prohibitions:** BIOL1902 **Assumed knowledge:** HSC 2-unit Biology. Students who have not undertaken an HSC biology course are strongly advised to complete a Biology Bridging Course (in February). **Assessment:** One 2.5 hour exam, assignments, quizzes.

Living Systems deals with the biology of organisms, from bacteria to large plants and animals, and emphasises the ways in which they can live in a range of habitats. The importance of energy in living systems, and how elements are used and recycled in biological communities, are described. The unit of study includes lectures and laboratory classes on the physiology of nutrition and growth, basic physiological processes of animals and plants, the ways in which organisms control and integrate their activities, and their reproduction. Finally applications of knowledge of genetics and ecology to practical problems in agriculture and conservation are introduced. It is recommended that BIOL (1001 or 1101 or 1901) be taken before this unit of study. This unit of study, together with BIOL (1001 or 1101 or 1901) provides entry to all Intermediate units of study in biology in the School of Biological Sciences.

Textbooks

Knox R B et al. 2005. Biology, 3rd ed. McGraw-Hill.

OR

BIOL1902

Living Systems (Advanced)

Credit points: 6 **Session:** Semester 2 **Classes:** Three 1 hour lectures and one 2 hour practical per week. **Prerequisites:** UAI of at least 93 and HSC Biology result in the 90th percentile or better, or Distinction or better in a University level Biology unit, or by invitation. **Prohibitions:** BIOL1002, BIOL1904, BIOL1905 **Assessment:** One 2.5 hour exam, assignments, quizzes, independent project

Note: Department permission required for enrolment .

This unit of study shares lectures and practical classes with BIOL1002 but also includes more demanding alternative components of Living Systems

Textbooks

As for BIOL1002.

CHEM1405 Chemistry

Credit points: 6 **Session:** Semester 1 **Classes:** Lectures: 52 hours Practicals: 27 hours (nine 3 hour classes) **Assumed knowledge:** HSC Chemistry **Assessment:** Intramsemester: 4 x Quizzes (15%), Lab work (10%) End of semester: 3 hr Exam (75%)

This is a one semester unit of study designed to provide (i) a suitable foundation for subsequent units of study such as biochemistry, animal nutrition, physiology and pharmacology, and (ii) a chemical background that will aid in the understanding, diagnosis and treatment of disease. It covers chemical theory, inorganic, physical, and organic chemistry with many examples from biological areas. It pre-supposes a satisfactory prior knowledge of HSC Chemistry. A total of 52 hours of lectures comprising 28 lectures in inorganic and physical chemistry and 24 lectures in organic chemistry.

Textbooks

Detailed information about prescribed texts is available from the School of Chemistry.

CROP1001 Agricultural Science 1A

Credit points: 6 **Teacher/Coordinator:** Dr Daniel Tan **Session:** Semester 1 **Classes:** (3 lec & 3 prac)/wk **Prohibitions:** HORT1001, LWSC1001 **Assumed knowledge:** HSC Chemistry **Assessment:** One 2hr exam, prac, assignments **Practical field work:** Field practical sessions allow 'hands-on' experience with some tillage, and sowing equipment

This unit of study introduces the principles and practices of modern agriculture and examines the relationships between plants, animals and natural resources that make up agricultural production systems. The concepts of environmental and economic sustainability of agricultural systems will be introduced. Topics covered include Australian farming systems, regional agricultural industries, farming operations and plant identification

Textbooks

Reference books
V. Squires and P. Tow (eds) *Dryland Farming: a Systems Approach* (Sydney University Press, 1992)
C.J. Pearson et al. *A Plain English Guide to Agricultural Plants* (Longman Cheshire, 1993)
M.W. Denny *Air and Water: The Biology and Physics of Life's Media* (Princeton University Press, 1993)

CROP1002 Agricultural Science 1B

Credit points: 6 **Teacher/Coordinator:** Dr Daniel Tan **Session:** Semester 2 **Classes:** (3 lec & 3 prac)/wk **Corequisites:** CROP1001 **Prohibitions:** HORT1002, LWSC1002 **Assessment:** One 2 hr exam, prac, assignments **Practical field work:** Laboratory and field practical sessions allow 'hands-on' experience with the equipment used by Australian farmers and feature measurement of some aspects of physical principles applied to farming operations including solar cells

This unit of study develops the theme of environmental sustainability of agricultural production, and examines the physical principles which underpin agricultural systems. It examines the broad ecological relationships between the plants, animals and natural resources used in agriculture, and deals with some of the problems facing agriculture in the future. In addition, the static and dynamic forces involved in agricultural structures and equipment, the behaviour and properties of water in agricultural systems and the physical aspects of weather and the changing Australian climate will be discussed

Textbooks

Reference books
V. Squires and P. Tow (eds) *Dryland Farming: a Systems Approach* (Sydney University Press, 1992)
C.J. Pearson et al. *A Plain English Guide to Agricultural Plants* (Longman Cheshire, 1993)
M.W. Denny *Air and Water: The Biology and Physics of Life's Media* (Princeton University Press, 1993)

Year 2

Year 2 has the following 48 credit point structure: 36 credit points of core units of study and 12 credit points of units from either (i) the Animal Biosciences area of interest OR (ii) the Ecosystem Management and Animal Production area of interest.

AGCH2004 Agricultural Chemistry

Credit points: 6 **Teacher/Coordinator:** Dr Caldwell (Coordinator), Prof Fraser **Session:** Semester 1 **Classes:** 3 lec/wk and 38 hr prac **Prerequisites:** CHEM1405 **Prohibitions:** AGCH2003 **Assessment:** One 2hr theory exam, one 1 hr theory of prac exam, lecture quizzes, laboratory reports

This introductory unit of study consists of aspects of chemistry relevant in studies of basic and applied biological sciences including agriculture, food and the rural environment. Lecture topics include an introduction to quantitative aspects of bio-analytical chemistry; the principles of basic analytical methods such as spectroscopy, chromatography and electrochemistry; environmental aspects of water such as its behaviour as a solvent of hydrophobic solutes, surfactants, neutral hydrophilic solutes, salts and other electrolytes, and gases. A component of the unit will be devoted to basic biological chemistry and enzymology having particular emphasis on biochemical processes in animals. Six laboratory sessions will demonstrate aspects of analytical chemistry including: elemental analysis of foods and natural waters, spectrophotometry, chromatographic techniques, preparation of buffers, fundamentals of pH measurement. A further three or four laboratory sessions will demonstrate some features of biological polymers and some fundamental properties of enzymes

ANSC2004 Animal Conservation Biology

Credit points: 6 **Teacher/Coordinator:** Dr Jaime Gongora **Session:** Semester 2 **Classes:** Variable consisting of up to 6hrs/week (Students advised to consult weekly timetable). Classes involve lectures, tutorials and practical classes. Lectures will involve guest speakers from specialist areas. **Prohibitions:** VETS2015 **Assessment:** 80% of the total grade for this unit shall be gained from assessment within the VETS2015 unit of study. The assessment for this is as follows: Theory Examination (2 hour written) (70%), Assignments/presentations (30%). The final 20% for this unit of study shall be assessed by a second assignment/presentation.

This unit will provide the student with a broad knowledge and general understanding of the taxonomy, ecology, biology and conservation status of Australia's unique vertebrate fauna, specified key aspects of the anatomy and physiology of Australia's native vertebrate fauna (ANF) and provide an understanding of the principles of the ecology, population dynamics, conservation status and management of macropods in Australia. The threatening processes past and present that continue to adversely affect Australia's fauna will be covered. Instruction into critically evaluating the arguments for and against the sustainable utilisation of wildlife, including the ethical and animal welfare aspects will be introduced to the student. Through examples and guest speakers the student will be shown the general principles of disease as they apply to wildlife health and gain a broad knowledge and understanding of the husbandry and handling requirements for captive breeding of ANF, as well as be made aware of and gain understanding in the principles, animal welfare aspects and ethics of wildlife rehabilitation and translocation. Further topics covered will allow the student to be aware of, understand and critically evaluate the basis for current approaches to wildlife emergency management (oil spills, bushfires, marine mammal strandings), have a working knowledge and understanding of the legislation and treaties that deal with wildlife conservation and management, have exposure to, and knowledge of, a specified range of field techniques for assessing wildlife populations and habitats. The unit provides an introduction to use of reproductive technology as a conservation tool and genetics in the management of endangered populations. It will also look at the economics of biodiversity preservation, including opportunity costs in conservation and preservation. Assignments will build on the knowledge gained in lectures and practical classes and allow students

to investigate topics related to this unit that may be of special interest to them as individuals and a group.

Textbooks

Burgman, M.A. & Linder Mayer, D.B. (1998) Conservation Biology for the Australian Environment. Surrey Beatty & Sons Pty Ltd.
 Olsen, P. (1998) Australia's Pest Animals. New Solutions to Old Problems. Bureau of Resource Sciences.
 White, S. (1997) Caring for Australian Wildlife. Australian Geographic Pty Ltd.
 Reference book:
 Strahan, R. (Ed) (1983) The Australian Museum complete book of Australian Mammals. Angus & Robertson.

BIOM2001

Biometry 2

Credit points: 6 **Teacher/Coordinator:** Mrs Kathryn Aufflick **Session:** Semester 1 **Classes:** (2 lec, 1 prac & 1 tut)/wk **Prerequisites:** BIOM1003 or equivalent **Assessment:** Quizzes, assignments and exam. All open book

This unit of study extends the techniques considered in Biometry 1, and considers problems of statistical design and analysis encountered in research in the biological, agricultural, horticultural, animal and environmental sciences. In practical classes the computer packages Minitab, GenStat and Excel are used extensively to analyse experimental data. We commence with a revision of one and two sample t tests. We then consider the concepts of randomisation and replication; sampling and experimental units; controlling variability by blocking; analysis of variance for simple and factorial treatment designs; residual diagnostic techniques. Specific experimental designs studied include completely random and randomised complete block designs; Latin square designs; split-plot designs. Next we consider linear relationships (regression, correlation) between two biological measurements; multiple linear regression; stepwise regression; analysis of covariance. We finish with a review of non-parametric analyses and the analysis of two-way contingency tables

Textbooks

Reference book: Mead, R., Curnow, R.N. and Hasted, A.M. (2003) Statistical Methods in Agriculture and Experimental Biology, 2nd ed. London: Chapman & Hall.

ENTO2002

Entomology and Parasitology

Credit points: 6 **Session:** Semester 2 **Classes:** (2 lec, 3 prac)/wk; individual insect collection (1 hr/wk) **Prerequisites:** CROP1001, BIOL1001, BIOL1901 or BIOL1101 **Assessment:** One 2 hr exam (50%), prac quizzes, test (35%), insect collection (15%)

This unit provides an introduction to insects and animal parasites. In Entomology, lectures include physiology ecology and principles of insect control. In Parasitology, there will be fifteen lectures covering major external and internal parasites including insects, arachnids and a range of Helminths (round, flat and tape worms) affecting the exterior and internal organs of farm animals. This includes life cycles, parasite identification and biology, host/parasite relationships, vectors of disease and control measures for parasite infections in individuals and herds. Entomology practicals deal with insect morphology and taxonomy including some information on economically important insect pests. Students must make a small but representative insect collection. Five parasitology practicals will deal with parasite identification, lifecycles, diagnostic sampling and techniques as well as treatment options

GENE2001

Agricultural Genetics 2

Credit points: 6 **Teacher/Coordinator:** Dr Peter Sharp, Dr Norm Darvey, Prof Chris Moran, A/Prof Frank Nicholas **Session:** Semester 1 **Classes:** (3 lec, 1 tut & 2 prac)/wk **Prerequisites:** (BIOL1001 or BIOL1101 or BIOL1901) and (BIOL1002 or and BIOL1902) and (BIOM1001 or BIOM1003) **Assessment:** One 3hr exam, tests, assignments

This lecture and practical unit of study provides an introduction to the genetics and breeding of plants and animals. It provides an understanding for parallel and following courses. Lectures cover the basics of gene transmission and interaction, cytogenetics, molecular genetics, population and quantitative genetics, as well as the more applied aspects of plant and animal breeding and biotechnology.

Practicals emphasise, with agricultural examples, the procedures of genetic and cytogenetic analysis, and the use of computers in simulation procedures in population genetics, quantitative inheritance and selection programs, and provide exposure to current plant and animal breeding and biotechnology

MICR2026

Microbes and Animal Health

Credit points: 6 **Teacher/Coordinator:** Dr Andrew Holmes **Session:** Semester 2 **Classes:** Two 1 hour lectures and one 3 hour practical per week **Prerequisites:** 12 credit points of Junior Biology **Prohibitions:** MICR2021, MICR2921, MICR2001, MICR2901, MICR2003, MICR2011, MICR2909 **Assessment:** One 2 hour exam, fortnightly practical quiz, project report and continuous practical assessment.

Note: Only available to students in the Bachelor of Animal Science or the Bachelor of Animal and Veterinary Bioscience.

This unit introduces the diversity of microbes in soil, water, air, plant and animal environments. Through an examination of their physiology and genetics it explores their interactions with plants, animals and each other, and their roles as decomposers and recyclers in the environment. There are numerous interactions between animals and microbes that are present in healthy and diseased animals. The basis of these interactions and their influence on animal development, growth, well-being and production will be explored. Practical classes introduce techniques and skills in isolating, quantifying and culturing microbes, designing and interpreting experiments to study microbial growth, and in preparing and presenting data. Students will understand the interactions of microbes and the host through an in-vivo study.

Textbooks

Atlas R.M. and Bartha R. (1997) Microbial Ecology: Fundamentals and applications. 4th Edition. Benjamin/Cummings Scientific Publishing, Menlo Park, CA.

Reference texts:

Tizard, I., (2000) Veterinary Immunology, An Introduction (6th ed), W.B. Saunders Company.
 Quinn, P.J., et al. (2002). Veterinary Microbiology and Microbial Disease. Blackwell Science.

Animal Biosciences

ANSC3103

Animal Structure and Function 3A

Credit points: 6 **Teacher/Coordinator:** Dr Melanie Collier **Session:** Semester 1 **Classes:** Lectures 3 hrs/wk, Laboratories/tutorials 2 hrs/wk (these will vary depending upon the week) **Prerequisites:** ANSC2002 **Assessment:** One theory exam (55%), assignments/presentations (45%).

Animal Structure and Function 3A will build on the understanding of animal form and operation that students have developed in prior Units, particularly ANSC 2002. In ASF3A the structure and function of the integument, digestive, endocrine, immune and central nervous systems of the body are explored in depth particularly with reference to the maintenance of homeostasis and an animal's perception of its environment. These topics will provide the basis for advanced, applied studies in Animal Nutrition, Animal Behaviour and Animal Reproduction. The overall goals of the Unit are twofold. First, to enable students to develop a rich understanding of the relationships between body systems and structures (begun in ANSC2002 and continued in ASF3B). Second, to develop an appreciation of the links between structure, function and their relevance to animal production that will be further developed in 4th year Animal Production.

Textbooks

The recommended textbook for the animal structure component of the unit is: Dyce, K.M., Sack, W.O. and Wensing, C.J.G. (2002) Textbook of Veterinary Anatomy, 3rd edn, W.B. Saunders, Philadelphia.

Each student should purchase for the physiology component of this unit:

Starr, C. & Taggart, R. (2001) Animal Structure and Function, 9th edn, Brooks/Cole, Thomson Learning, Australia.

OR

Frandsen, R.D., Wilke, W.L. & Fails, A.D. (2003) Anatomy and Physiology of Farm Animals, 6th edn. Lippincott, Williams & Wilkins.

Handbook: A course handbook will be available for students to purchase. It contains details of lecture outlines, objectives, reference lists, details of practical classes, staffing as well as other relevant class material.

ANSC3104

Animal Structure and Function 3B

Credit points: 6 **Teacher/Coordinator:** Dr Melanie Collier **Session:** Semester 2 **Classes:** Lectures 3 hrs/wk, laboratories/tutorials 3 hrs/wk. Activities will vary on a weekly basis. **Prerequisites:** ANSC2002, ANSC3103 OR ANSC3003 **Assessment:** Final exam (60%), anatomy dissection project (20%), topic test (20%).

In this Unit students will complete the study of the structure and function of organ systems in animals started in ANSC3103. The role of the cardiovascular, respiratory and renal systems will be investigated in relation to maintenance of homeostasis and applied to analysis and resolution of problems in animal production. A study of the structure and function of muscle will include its role in movement, as meat in a production setting and an integration of muscle, cardiovascular, renal and endocrine physiology in a study of a horse's response to exercise. There will be comprehensive study of both avian and fish anatomy and physiology that will form the basis for study of production systems in poultry and aquaculture. Handbook - a comprehensive course handbook will be available. It contains details of practicals, assessments, lecture outlines and handouts, objectives, reference lists and textbooks, staffing.

Textbooks

For Animal Structure:

Dyce, K.M., Sack, W.O. & Wensing, C.J.G. (2002) Textbook of Veterinary Anatomy, 3rd Edn, W.B.Saunders, Philadelphia . OR

Smallwood, J.E. (1973) An introductory study to bovine anatomy. The author, Bryan, Texas.

For Animal function:

Franson, R.D., Wilke, W.L. & Fails, A.D. (2003) Anatomy and Physiology of Farm Animals, 6th edn, Lippincott, Williams & Wilkins. OR

Starr, C. and Taggart, R. (2001) Animal Structure and Function, 9th Edn, Brooks/Cole, Thompson Learning, Australia.

OR

Ecosystem Management and Animal Production

Candidates enrolling in the Ecosystem Management and Animal Production area must enrol in ANSC3103 and ANSC3104 in year 3.

PLNT2003

Plant Form and Function

Credit points: 6 **Teacher/Coordinator:** A/Prof Bruce Sutton, A/Prof Robyn Overall **Session:** Semester 2 **Classes:** 2 lectures, 1hr tutorial and 1 prac, A/V session (2-3hr) or field trip (6hr) per wk **Prerequisites:** 12 credit points of Junior Biology (or with the Dean's permission), BIOL1201 and BIOL1202 or BIOL1001 and ENV1002 **Prohibitions:** PLNT2903, BIOL2003, BIOL2903, CROP2001 **Assumed knowledge:** The content of BIOL(1002 or 1902) is assumed knowledge and students entering from BIOL(1003 or 1903) will need to do some preparatory reading **Assessment:** One 2hr theory exam (40%), prac exam (20%), anatomy project (10%), quizzes (5%), physiology report (10%), field report (15%)

This unit of study investigates the structure of cells, tissues and organs of flowering plants and relates them to function. Topics include; how photosynthesis, translocation, water transport and nutrition relate to the structures that carry out these processes. Most of the information on plant structure will be provided in self-instructional audio-visual sessions augmented by small group discussions. This is integrated with experiments carried out in the laboratory or on field excursions to investigate the physiological aspects of plant structures. There is a focus on recent advances in plant molecular biology where they have been critical in enhancing our understanding of the form and function of plants. The physiological and anatomical responses of plants to extreme environments such as drought and salinity will also be addressed. Attention will be paid to the anatomy and physiology of crop, horticultural and Australian native plants. This unit of study complements Applied Plant Biochemistry, Australian Flora: ecology and conservation and Cell Biology and leads onto senior units of study in plant sciences, including Plant Growth and Development. It is essential for those seeking a career in plant molecular biology

Textbooks

Taiz L, Zeiger E (2002) Plant Physiology 3rd ed. Sunderland, Mass Sinauer
Recommended reading:

Atwell B, Kriedemann P, Turnbull C (1999) Plants in Action. Macmillan, South Yarra.

Buchanan BB, Gruissem W, Jones RL (2000) Biochemistry and Molecular Biology of Plants, ASPP, Rockvill, Maryland
A Study Guide for the unit will be available for purchase from the Copy Centre during the first week of Semester.

SOIL2003

Soil Properties and Processes

Credit points: 6 **Teacher/Coordinator:** Dr Cattle, Prof McBratney, Dr Singh **Session:** Semester 1 **Classes:** (3 lec & 3hr prac)/wk **Assessment:** One 2hr theory exam, one 2hr prac exam, quizzes and prac book

This unit of study is concerned with the fundamental properties of soil, the factors of soil formation, and the processes that operate in the soil system. The components of the unit of study are: pedology; soil physics and soil chemistry. These components are synthesised by reference to common soil profiles. The study of soil in the field starts with field description and assessment of essential characteristics. The physics of water and gas movement, temperature, density, swelling and strength are considered. Soil chemistry includes properties of organic matter, cation exchange capacity, nitrogen, phosphorus, potassium and acidity. Common soil types of N.S.W. are studied in relation to their formation, properties and classification.

Textbooks

Reference books

N.C. Brady The Nature and Properties of Soils 10th edn (Macmillan, 1990)

K.O. Campbell and J.W. Bowyer (eds) The Scientific Basis of Modern Agriculture (Sydney U.P., 1988)

D.L. Rowell, Soil Science: Methods and Applications (Longman, 1994)

R.E. White Introduction to the Principles and Practice of Soil Science 3rd edn (Blackwells Scientific, 1997)

A. Wild (ed.) Russell's Soil Conditions and Plant Growth 11th edn (Wiley, 1988)

Year 3

Year 3 has the following 48 credit point structure: 18 credit points of core units of study and either (i) for students enrolling in the Animal Biosciences area of interest, 30 credit points of electives chosen from those listed, OR (ii) for students enrolling in the Ecosystem Management and Animal Production area of interest, ANSC3103, ANSC3104 and 18 credit points of electives chosen from those listed.

Core units

ANSC3101

Animal Nutrition 3

Credit points: 6 **Teacher/Coordinator:** Dr Michelle Hyde **Session:** Semester 2 **Classes:** Lectures 3 hrs/week, Tutorials 0.5 hrs/week, Laboratories 1.5 hrs/week, Field work 2 field trips per semester (6 hours). **Prerequisites:** ANSC2002 **Assessment:** Assignments including web based problem solving exercises (50%), oral presentation (10%), written end of semester examination (40%).

This Unit of Study builds upon principles discussed in ANSC 2002 (Animal Science 2). The Unit is broadly divided into four sections, namely: estimating the nutritive value of feeds; estimating the nutrient requirements of animals; diet formulation; errors in feeding. The focus is on coming to an understanding of the assessment of nutritional adequacy and the avoidance and solving of nutritional problems, with a particular emphasis on animals used in agricultural production systems. The principles discussed in this course will be expanded in the following year, in which species-specific systems will be described. The basis of successful feeding management is an understanding of the following: the composition of feeds; the digestibility and efficiency of utilisation of nutrients by the animal; the requirements of the animal for nutrients; interactions between nutrients that influence health and production. And following from this an ability to: formulate diets to meet animal requirements for a variety of purposes and under a variety of constraints; identify deficiencies, excesses and imbalances in diets and so avoid a decline in productive efficiency and/or a decline in health.

Textbooks

McDonald, Edwards, Greenhalgh and Morgan (2002) Animal Nutrition, 6th edn, Prentice Hall

ANSC3102**Animal Reproduction**

Credit points: 6 **Teacher/Coordinator:** Prof G Evans **Session:** Semester 1
Classes: lectures 2 hrs/week, tutorials 1 hr/week, practicals 3 hrs/week.
Prerequisites: ANSC2002 **Assessment:** End of semester written exam (60%), intrasemester written exam (15%), written and oral assignments (25%).

A comprehensive program on basic and applied male and female reproductive biology with particular emphasis on domestic animals. The unit of study includes reproductive cycles, sexual differentiation, fertilization, development, gestation and parturition. Applied aspects include tuition on semen collection and processing, control and management of reproduction, artificial insemination, embryo transfer, pregnancy diagnosis, and induction of parturition. Tuition is given on campus in Sydney and at the University Farms, Camden.

Textbooks

Hafez, B & Hafez, E.S.E. (Eds) (2000) Reproduction in Farm Animals, Lippincott Williams and Wilkins.

Senger, P.L. (2003) Pathways to Pregnancy and Parturition, 2nd Edn. Current Conceptions Inc.

ANSC3107**Animal Genetics 3**

Credit points: 6 **Teacher/Coordinator:** Prof Chris Moran **Session:** Semester 1, Semester 2 **Classes:** Lectures 3 hrs/week, Practical 3 hrs/week.
Prerequisites: GENE2001 or MBLG2072 or MBLG2972 or equivalent
Assessment: 30 min test on practicals (25%), 1,500 words essay (25%), 1.5 hrs exam (50%).

Note: Department permission required for enrolment in the following sessions: Semester 2 .

The unit of Study explores in detail genetic aspects of commercial animal populations and investigates options for the practical application of genetics to improve animal productivity. It is designed to provide the background material, fundamental concepts and data analysis methods for breeding strategies in each of the animal industries. The unit of study develops basic principles of population and quantitative genetics from Agricultural Genetics 2 and provides a valuable complement to the molecular principles expanded in Animal Biotechnology 3. Animal Genetics provides the context and justifies the application for advanced reproductive technologies presented in Animal Reproduction 3. At the end of this Unit of Study, students will demonstrate an understanding of: the principles of population genetics and the concepts of relationship and inbreeding, and adverse effects of this inbreeding; the principles of quantitative genetics including the concepts of genetic variance, heritability and repeatability, and methods for the identification and selection of superior livestock; the use of multitrait selection procedures to increase the overall economic value of populations of animals; the constraints to production gains using genetic selection programmes and advantages obtained through crossbreeding; the practical application of selection and crossing in animals; the genetical implications of reproductive technology such as embryo sexing, splitting and cloning, artificial insemination and MOET.

Textbooks

Falconer, D.S. and Mackay, T.F.C. (1995). An Introduction to Quantitative Genetics. (4th edn). Longman Cheshire, London. [Bad, Cam 575/36/B] OR Bourdon, R.M. (1999) Understanding Animal Breeding (2nd edn). Prentice-Hall, Upper Saddle River, New Jersey. [Bad and Camden 636.082 35]

And for students enrolled in the Ecosystem Management and Animal Production area of interest:

ANSC3103**Animal Structure and Function 3A**

Credit points: 6 **Teacher/Coordinator:** Dr Melanie Collier **Session:** Semester 1 **Classes:** Lectures 3 hrs/wk, Laboratories/tutorials 2 hrs/wk (these will vary depending upon the week) **Prerequisites:** ANSC2002 **Assessment:** One theory exam (55%), assignments/presentations (45%).

Animal Structure and Function 3A will build on the understanding of animal form and operation that students have developed in prior Units, particularly ANSC 2002. In ASF3A the structure and function of the integument, digestive, endocrine, immune and central nervous systems of the body are explored in depth particularly with reference to the

maintenance of homeostasis and an animal's perception of its environment. These topics will provide the basis for advanced, applied studies in Animal Nutrition, Animal Behaviour and Animal Reproduction. The overall goals of the Unit are twofold. First, to enable students to develop a rich understanding of the relationships between body systems and structures (begun in ANSC2002 and continued in ASF3B). Second, to develop an appreciation of the links between structure, function and their relevance to animal production that will be further developed in 4th year Animal Production.

Textbooks

The recommended textbook for the animal structure component of the unit is: Dyce, K.M., Sack, W.O. and Wensing, C.J.G. (2002) Textbook of Veterinary Anatomy, 3rd edn, W.B. Saunders, Philadelphia.

Each student should purchase for the physiology component of this unit:

Starr, C. & Taggart, R. (2001) Animal Structure and Function, 9th edn, Brooks/Cole, Thomson Learning, Australia.

OR

Fransson, R.D., Wilke, W.L. & Fails, A.D (2003) Anatomy and Physiology of Farm Animals, 6th edn. Lippincott, Williams & Wilkins.

Handbook: A course handbook will be available for students to purchase. It contains details of lecture outlines, objectives, reference lists, details of practical classes, staffing as well as other relevant class material.

ANSC3104**Animal Structure and Function 3B**

Credit points: 6 **Teacher/Coordinator:** Dr Melanie Collier **Session:** Semester 2 **Classes:** Lectures 3 hrs/wk, laboratories/tutorials 3 hrs/wk. Activities will vary on a weekly basis. **Prerequisites:** ANSC2002, ANSC3103 OR ANSC3003 **Assessment:** Final exam (60%), anatomy dissection project (20%), topic test (20%).

In this Unit students will complete the study of the structure and function of organ systems in animals started in ANSC3103. The role of the cardiovascular, respiratory and renal systems will be investigated in relation to maintenance of homeostasis and applied to analysis and resolution of problems in animal production. A study of the structure and function of muscle will include its role in movement, as meat in a production setting and an integration of muscle, cardiovascular, renal and endocrine physiology in a study of a horse's response to exercise. There will be comprehensive study of both avian and fish anatomy and physiology that will form the basis for study of production systems in poultry and aquaculture. Handbook - a comprehensive course handbook will be available. It contains details of practicals, assessments, lecture outlines and handouts, objectives, reference lists and textbooks, staffing.

Textbooks

For Animal Structure:

Dyce, K.M., Sack, W.O. & Wensing, C.J.G. (2002) Textbook of Veterinary Anatomy, 3rd Edn, W.B.Saunders, Philadelphia . OR

Smallwood, J.E. (1973) An introductory study to bovine anatomy. The author, Bryan, Texas.

For Animal function:

Fransson, R.D., Wilke, W.L. & Fails, A.D. (2003) Anatomy and Physiology of Farm Animals, 6th edn, Lippincott, Williams & Wilkins. OR

Starr, C. and Taggart, R. (2001) Animal Structure and Function, 9th Edn, Brooks/Cole, Thompson Learning, Australia.

Elective units

Enrolment in elective units is subject to prerequisite and corequisite requirements, prohibitions and timetabling constraints.

AGCH3025**Chemistry and Biochemistry of Foods A**

Credit points: 6 **Teacher/Coordinator:** Dr Robert Caldwell **Session:** Semester 1 **Classes:** 3 lec/wk, 8 x 3 hr prac per semester **Prerequisites:** 6 credit points of Intermediate units in Agricultural Chemistry, Chemistry or Biochemistry **Prohibitions:** AGCH3017, AGCH3024 **Assessment:** One 2 hr theory exam, one 1 hr theory of prac exam, assignment and prac reports

This unit of study aims to give students an understanding of the constituents of foods and fibres. The lecture topics cover the chemistry, biochemistry and processing behaviour of major food constituents - oligosaccharides, polysaccharides, lipids and proteins; the relationship between molecular structure of constituents and their functionality in foods; natural fibres and gel-forming biopolymers - uses in foods, importance in dietary fibre and commercial products; enzymes in foods and food processing; wheat flour dough and protein chemistry during

baking and cooking; anti-nutritional and toxic constituents of plants and foods; and flavour chemistry. The laboratory exercises aim to give students an understanding of the methods used in the analysis of foods and other biological materials, and will include analysis of carbohydrates including starch and dietary fibre; spectroscopic, enzymic, and chromatographic methods.

AGCH3026

Chemistry and Biochemistry of Foods B

Credit points: 6 **Teacher/Coordinator:** Dr Robert Caldwell **Session:** Semester 1 **Classes:** 2 hr lec/seminar/workshop/wk; 24 hrs of prac/semester; site visits **Prerequisites:** 6 credit points of Intermediate Chemistry, Biochemistry or Agricultural Chemistry **Corequisites:** AGCH3025 **Prohibitions:** AGCH3003, AGCH3005, AGCH4006 **Assessment:** Five written assignments, one 1 hr theory of prac exam, prac reports and poster presentation

This unit of study aims to give students an understanding of global food systems and global food security. In the lecture/seminar/workshop component, topics covered will include the sustainable production of major food crops; the role of genetically modified crops in food sustainability and quality; principles and methods in food quality control and assessment; chemical and biochemical aspects of food quality in relation to food processing and nutritional values. The laboratory exercises aim to give students an understanding of the methods used in the analysis of foods and other biological materials, and will include analysis and examination of protein functionality in foods; spectroscopic, enzymic, and chromatographic methods.

AGCH3030

Rural Environmental Chemistry A

Credit points: 6 **Teacher/Coordinator:** Prof Ivan Kennedy (Coordinator) **Session:** Semester 1 **Classes:** 6 day field trip in orientation week, 21 hr lec & 25 hr prac **Prerequisites:** 6 credit points of either Intermediate Agricultural Chemistry, Chemistry, Biochemistry, Plant Science or Environmental Science **Prohibitions:** AGCH3020, AGCH3021, AGCH3022 **Assessment:** One 2 hr exam, field trip and laboratory reports

This unit commences with a field trip to the Namoi and the Macquarie Valleys, where agriculture largely based on irrigation has been developed. Environmental impacts on vegetation, soil and water of agricultural enterprises such as cotton farming and human settlement will be assessed in a professional field trip report. Field observations on pH, nutrient and salt content, pesticide, and microbial content will be made on water, sediment, soils and in constructed wetlands, with samples returned for more detailed laboratory analysis at the University. Lectures will complement the field trip, including environmental chemistry of heavy metals, their effects on organisms; mechanisms of tolerance and phytoremediation; risk assessment of pesticides including herbicides, their mode of action and environmental fate; analysis and monitoring of pesticide residues by GC, GC-MS and immunoassay (ELISA); maximum residue limits (MRLs) and residue surveys; remediation of pesticides in ecosystems; design of new pesticides and means of pest control. Laboratory sessions will be related to these lecture topics, including 6-7 sessions on atomic absorption analysis for nutrients and heavy metals, mercury analysis, pesticide analysis by GLC, HPLC, MS and ELISA.

AGCH3031

Rural Environmental Chemistry B

Credit points: 6 **Teacher/Coordinator:** Prof Ivan Kennedy (Coordinator) **Session:** Semester 2 **Classes:** 5-day field trip in AVCC common break; 21 hr lec and 30 hr prac and project/semester **Prerequisites:** 6 credit points of either Intermediate Agricultural Chemistry, Chemistry, Biochemistry, Plant Science or Environmental Science **Prohibitions:** AGCH3020, AGCH3021, AGCH3022 **Assessment:** One 2 hr exam, field-trip report and laboratory reports

This field-oriented course will (i) provide understanding of chemical and biochemical processes in rural ecosystems and their sustainability, with particular reference to global warming, (ii) include a field trip and professional report to illustrate relevant case studies at several centres in eastern Australia (Canberra, Snowy Mountains, Murray and Murrumbidgee catchments) specialising in research related to global warming, acidification and water quality including salinisation (iii) conduct laboratory sessions and group research project to study a problem in a professional setting. Practical solutions will be sought

by students, based on a field theory of action in ecosystems. Lectures will cover the environmental carbon, nitrogen and sulphur cycles, including bioenergetics of autotrophic and heterotrophic action; photosynthesis; nitrification and denitrification; biological nitrogen fixation; sulphur metabolism; production of greenhouse gases; pH balancing and efficient nutrient uptake; acidification of ecosystems and effects on plants and animals; remediation and control of greenhouse emissions; bioremediation of acidification and salinisation. The laboratory sessions and the group project will illustrate these environmental processes, including greenhouse gas production, methane and NO_x, photosynthesis and nitrogen fixation, and monitoring of endocrine-disrupting compounds including pesticides using GLC, HPLC and ELISA.

AGEC2101

Market and Price Analysis

Credit points: 6 **Teacher/Coordinator:** Dr Michael Harris **Session:** Semester 2 **Classes:** (2-3 lec & 1x1hour tut)/wk **Prerequisites:** ECON1001 or AGECE1006 or (AGECE1003 and AGECE1004) **Prohibitions:** AGECE2001 **Assessment:** Mid semester exam (1 hour), final exam (2 hours), tutorial assignments

This unit focuses on the nature of agricultural and resource commodity markets, market demand relationships, market supply relationships, price determination under alternative market structures, marketing margin relationships, derived demand for inputs, spatially and temporally related markets, market dynamics, price expectations, commodity futures markets and other pertinent topics. Applied examples from the agricultural and resource industries and the overall economy will be used throughout the semester as illustrations of the principles involved

AGEC2102

Agribusiness Marketing

Credit points: 6 **Teacher/Coordinator:** Dr Michael Harris **Session:** Semester 1 **Classes:** 2x1hour lectures, 1x1hour tutorial **Prerequisites:** AGECE1006 or (AGECE1003 and AGECE1004) or AGECE1002 or AGECE1102 or RSEC1031 or AGECE1031 **Assessment:** 1x1hour mid-semester exam, 1x2hour final exam, 1x assignment, tutorial papers

This unit of study is designed to provide an introductory understanding of agribusiness marketing. It emphasises firm-level marketing mix and marketing strategy, decision making, marketing management and planning, market research and information. The unit of study will also address the organisation and trends of agribusiness marketing including value-adding and market power in the supply chain, market efficiency and international marketing by agribusiness firms. The unit content is analytical, and draws on applied microeconomics

AGEC2103

Production Economics

Credit points: 6 **Teacher/Coordinator:** A/Prof Ross Drynan **Session:** Semester 1 **Classes:** (3 lec & 2 tut)/wk **Prerequisites:** ECON1001 or AGECE1006 or (AGECE1003 and AGECE1004) **Prohibitions:** AGECE2003 **Assessment:** One end-of semester (2 hr) exam, assignments, class work

This unit is concerned with the principles of resource allocation at the firm, industry and economy levels. The topics include: the nature of natural resource based production processes; production functions; factor substitution; constrained and unconstrained optimisation; principles of enterprise combination and multi-product production; input demands; cost functions and other dual relationships; economies of scale, size and scope in farming; principles of resource allocation over time; productivity and technical change; modelling risk in production processes; principles of resource allocation under risk and the illustration of the principles through the use of practical applications and exercises involving both the agricultural and resource industries

AGEC3101

Agribusiness Management

Credit points: 6 **Teacher/Coordinator:** Dr Michael Harris **Session:** Semester 2 **Classes:** (3 lec & 2 wkshp)/wk **Prerequisites:** AGECE2103 or AGECE2003 or AGECE1006 or (AGECE1003 and AGECE1004) **Prohibitions:** AGECE1102; AGECE3103; AGECE3001 **Assessment:** One mid semester exam (1 hour) one final exam (2 hour), assignments, workshop reports

This unit of study deals with the application of economic principles and techniques of business management to agribusiness firms, with a particular focus on farms. The topics covered will include: management goals and objectives; budgeting; gross margins analysis; parametric budgeting; sources of management information and its analysis; simple systems simulation; applications of linear programming to farm and agribusiness planning; financial management; risk in planning and management; cash, credit, debt and taxation management; evaluation of investment and firm growth alternatives; acquisition and transfer of assets; the role of financial institutions in the agricultural credit market. Students develop skills in computer-based farm planning

AGRO3002 Agronomy 3

Credit points: 6 **Teacher/Coordinator:** A/Prof Bruce Sutton **Session:** Semester 1 **Classes:** 5 student contact hrs/wk, workshops and discussions (36 hr total), labs (26 hr total) **Prerequisites:** PLNT2003 or PLNT2903 **Assumed knowledge:** CROP1001 or HORT1001 or LWSC1001 **Assessment:** One 2 hour exam, consultancy report, practical reports

Agronomy studies the practices and underlying concepts of sustainable crop and pasture production. The scientific basis of modern practices used in crop production, particularly those relevant to New South Wales, is explored. This knowledge is used to appreciate the scale of future problems such as climate change, soil degradation and increased costs of petrochemical-based inputs like fuel and fertilizer. Possible responses to these problems that will help maintain productivity will be examined. The relationship between agricultural production and natural resource management is also considered as part of a modern production environment, with the impact of recent legislation supporting Ecologically Sustainable Development on agriculture and the agricultural response to it as the focus of discussion. The practical classes will develop key skills appropriate to precision agriculture and use of current decision support systems

AGRO3003 Crop Water Management

Credit points: 6 **Teacher/Coordinator:** A/Prof Bruce Sutton **Session:** Semester 2 **Classes:** Five student contact hours per week (65 h total); workshops and discussions (36 h total) laboratories (26 h total) **Prerequisites:** PLNT2003 or PLNT2903 **Assumed knowledge:** CROP1001 or HORT1001 or LWSC1001 **Assessment:** One 2 hour exam, consultancy report, practical reports

This unit of study provides a scientific understanding and practical working knowledge of water management in dryland and irrigated agricultural systems, with most of the emphasis at the field scale. The first section of the unit examines the mechanisms underlying a crop water balance, its calculation and measurement and management options for using rainfall as effectively as possible. The second section examines the major forms of irrigation, the scientific principles involved in each, their benefits and shortcomings and management to maximize water use efficiency. The practical classes will develop key skills appropriate to irrigation system management and use of current decision support systems

Textbooks

M.E. Jensen (1980). Design and Operation of Farm Irrigation Systems (ASAE). Allen, R.G, Periera, L.S., Raes, D. and Smith, M. (1998). Crop Evapotranspiration. Guidelines for computing crop water requirements. FAO Irrigation and Drainage Paper 56.
Hillel, D. (2004). Introduction to Environmental Soil Physics. Elsevier Academic Press.

ANSC3105 Animal Biotechnology

Credit points: 6 **Teacher/Coordinator:** Prof C Moran **Session:** Semester 2 **Classes:** Lectures (3 hrs/wk), tutorials (1 hr/week), seminars/workshops (0.25 hrs/week), Laboratories (0.5 hours/week), excursions, self-directed learning, supervised reading, computer aided instruction (1.25 hours/week). **Prerequisites:** GENE2001, ANSC2002 **Assessment:** One 2 hour exam (60%), essay (20%), seminar (20%).

Lectures, tutorials, laboratories (bioinformatics), seminars and supervised reading and directed learning instruction will cover the application of biotechnology to animal productivity, disease control,

the development of new products from animals and the impact of altered micro-organisms and plants on animals. A firm foundation in molecular biology and recombinant DNA technology is provided, with an emphasis on relevance in animals. Regulation of gene expression in vivo and in expression systems, monitoring of gene expression including microarrays and proteomics, gene mapping, genomics and gene discovery are all discussed in contexts relevant to domestic animals. Genetic modifications of animals including transgenesis and gene knockout, and methods for achieving these modifications including cloning by nuclear transfer are detailed. Basic skills in bioinformatics are developed to access and utilise the vast information resources available. Legal methods of protecting intellectual property are described. Finally animal biotechnology is reviewed from an ethical perspective.

ANSC3106 Animal Behaviour and Welfare Science 3

Credit points: 6 **Teacher/Coordinator:** Dr Paul McGreevy **Session:** Semester 1 **Classes:** 6 hours/week **Prerequisites:** ANSC2002 **Prohibitions:** VETS3018 **Assessment:** Assignments/presentations (50%), Theory exam (50%)

Animal Behaviour and Welfare Science 3 builds on the understanding of animal form and operation that students have developed in prior Units. In Animal Behaviour and Welfare Science 3, the behavioural and physiological responses of animals to stressors related to husbandry, housing, training and performance are explored in some detail. This Unit enables students to develop a three-dimensional appreciation of the species differences in response to common management interventions that arise in the context of domestication. The principles of animal responses to distress are illustrated with production species as the main examples. Contemporary approaches in the scientific assessment of animal stress and wellbeing, based on an appropriate selection of scientific disciplines including ethology, physiology and neuroscience are assessed with an emphasis on livestock species. Genetic, environmental and evolutionary determinants of pain, stress and fear responses in animals are considered in the light of what is known about cognition and motivation in animals. Methods for assessing and enhancing animal environments and husbandry systems are examined and the impact on animal welfare of stockmanship and human personality is explored in the context of human-animal interactions. Finally, the design and conduct of scientific experiments is assessed with a focus on welfare issues. Animal Behaviour and Welfare Science 3 includes a compulsory library-based assignment that provides students with an opportunity to select one species on which they report a summary of scientific advances that may contribute to animal welfare. The other assessment task involves completion of core elements of an animal ethics approval application form that requires students to interpret an experimental design, giving a lay summary, an explanation of the impact on the animals' welfare and an explanation of how animal welfare will be ensured using the principle of the three R's (reduction, refinement, replacement).

Textbooks

The recommended textbook for the animal structure component of the unit is: Fraser AF, Broom DM. Farm Animal Behaviour and Welfare. 3rd edn. London: Baillière Tindall 1990

Other core texts are:

Grandin T. ed. Livestock handling and transport. 2nd edn. CABI Publishing, Wallingford UK 2000

Gregory NG. Meat Science and Animal Welfare. CABI Publishing, Wallingford UK 1998

Hemsworth PH, Coleman GJ. Human-Livestock Interactions: The Stockperson and the Productivity and Welfare of Intensively Farmed Animals. CAB International, Wallingford, UK 1998

Monamy V. Animal Experimentation: A Student Guide to Balancing the Issues. Australian and New Zealand Council for the Care of Animals in Research and Teaching. Glen Osmond, Australia 1996

Gregory NG. The physiology and behaviour of animal suffering. UFAW, Blackwell Scientific, Oxon.

Handbook: A course handbook will be available for students to purchase. It contains details of lecture outlines, objectives, reference lists, details of practical classes, staffing as well as other relevant class material.

BIOM3004**Biometry 3**

Credit points: 6 **Teacher/Coordinator:** A/Professor Mick O'Neill **Session:** Semester 1 **Classes:** (2 lec, 3 prac)/wk, individual research 1hr/wk **Prerequisites:** BIOM2001 or BIOM2002 **Prohibitions:** BIOM3005 **Assessment:** Reports (25%), assignment (20%), presentation (5%), theory/prac exam (50%). All open book

This unit is designed for students who are interested in majoring in Biometry, or for students from other disciplines with an interest in further developing their skills in experimental design and advanced statistical modelling. It builds on the topics introduced in Biometry 2, and aims to give students sufficient skills and confidence to complete the analysis of their own research data in Fourth Year with a high degree of competence. We start by learning how to determine the number of replicates to use in an experiment. We revise multiple regression and extend the linear model to a time series system. We then examine how normally distributed data from designed experiments can be analysed in a general linear model framework, and hence how to cope with missing or incomplete data. The difference between maximum likelihood and residual maximum likelihood (REML) is studied for a single sample. A REML analysis is obtained for complete and incomplete factorial designs; for fixed, random and mixed models; for data collected from repeated observations on the same experimental unit. Next, we consider various techniques for the analysis of non-normal data, specifically: logistic regression for binary and proportion data; Poisson regression for count data; loglinear modelling for multi-way contingency tables; ordinal and nominal logistic regression for scores & ratings. The assignment is to design and analyse a 4th year experiment

MICR2022**Microbes in Society**

Credit points: 6 **Teacher/Coordinator:** Dr Nick Coleman **Session:** Semester 2 **Classes:** Two 1 hour lectures per week, plus an additional six 1 hour lectures or tutorials per semester. Eleven 3 hour practicals per semester. **Prerequisites:** 6 credit points of Junior Biology and (6 credit points of MBLG1001 or PLNT2001 or PLNT2911) and 6 credit points of Junior Chemistry **Prohibitions:** MICR2922, MICR2002, MICR2902, MICR2004, MICR2008, MICR2012, MICR2909 **Assumed knowledge:** MICR (2021 or 2921 or 2024) **Assessment:** One 2 hour exam, continuous assessment in prac, 2 assignments, prac exam

Note: Students are very strongly advised to complete MICR (2021 or 2921 or 2024) before enrolling in MICR2022 in Semester 2. For progression on to Senior Microbiology units, students must also complete MBLG1001 or PLNT (2001 or 2901).

Microorganisms have a large impact on human society, and are particularly notorious as the causative agents of infectious diseases. However, microbes also have many beneficial roles in agricultural, industrial, biotechnological, and environmental processes. Understanding the biology of microorganisms and their relationship to human society is critical to fighting the 'bad' microbes, and harnessing the activities of the 'good' microbes. MICR2022 will build on the skills and knowledge gained in MICR2021/2921. An extensive set of Medical Microbiology lectures will cover bacterial, viral, and fungal pathogens, and will introduce key concepts including epidemiology and disease transmission, pathogenicity and virulence factors, host/parasite relationships, host defences, prevention of disease, and antibiotic types and functions. Lecture topics in other areas include Food Microbiology (microbial ecology of food, fermentation and production, spoilage and food poisoning), Agricultural Microbiology (plant/microbe associations), Microbial Evolution and Genomics (incl. structural and functional genomics), and Industrial Microbiology (large-scale fermentation, traditional and recombinant products, biosensors and biocontrol agents, biodeterioration and bioremediation). The laboratory sessions are integrated with the lecture series and are designed to give students practical experience in isolating, identifying and manipulating microorganisms. Work Experience - students who have completed MICR2021/2921 and MICR2022/2922 and are enrolled in the BSc or BSc (Advanced) may be offered the opportunity to undertake work experience for approximately one month in a local microbiology laboratory (hospital, food, research, environmental, etc) subject to availability of places.

Textbooks

Prescott L M et al. Microbiology. 6th edn, WCB/McGraw-Hill, 2005

PLNT2002**Aust Flora: Ecology and Conservation**

Credit points: 6 **Teacher/Coordinator:** Dr Glenda Wardle & Dr Murray Henwood. **Session:** Semester 1 **Classes:** (2 hrs lec & 3 hrs prac)/wk, audiovisual. **Prerequisites:** 12 credit points from a combination of Junior BIOL or LWSC units of study including two of BIOL (1001, 1901, 1002, 1902, 1003, 1903) LWSC1002, MBLG1001 (or with the Dean's permission BIOL1201 and BIOL1202 may be substituted for the above). **Prohibitions:** PLNT2902, BIOL2004, BIOL2904 **Assumed knowledge:** The contents of BIOL (1002 or 1902) is assumed knowledge. Students wishing to enroll in Intermediate Biology (BIOL) and Plant Science (PLNT) units of study using BIOL (1003 or 1903) will need to do some preparatory reading. **Assessment:** One 2-hr exam (40%), laboratory reports (20%) herbarium (20%), one 2-hr practical exam (20%).

This unit provides a broad understanding of the evolution, classification and diversity of terrestrial plants and the principles of plant ecology in an Australian context. The major types of Australian vegetation are discussed across a range of temporal and spatial scales, and their current distribution related to their environment and origins. Selected contemporary issues in plant conservation from Australian natural and managed systems are explored. There is a strong emphasis on practical skills such as phylogenetic inference, plant identification and the collection and analysis of ecological data. The practical component of the unit of study uses examples taken from the Australian flora (including plants of horticultural significance) and major crop plants. Important elements of this unit are half-day field trips to the Royal National Park (or production systems at Camden), the Royal Botanic Gardens Sydney and the construction of student herbaria. The unit of study complements intermediate units of study in plant science, zoology, molecular and cell biology, genetics and biotechnology, and leads on to advanced plant and ecology modules offered through the School of Biological Sciences and the Faculty of Agriculture, Food and Natural Resources.

Textbooks

A Laboratory Manual for the unit will be available for purchase from the Copy Centre during the first week of Semester.

PLNT2003**Plant Form and Function**

Credit points: 6 **Teacher/Coordinator:** A/Prof Bruce Sutton, A/Prof Robyn Overall **Session:** Semester 2 **Classes:** 2 lectures, 1hr tutorial and 1 prac, A/V session (2-3hr) or field trip (6hr) per wk **Prerequisites:** 12 credit points of Junior Biology (or with the Dean's permission), BIOL1201 and BIOL1202 or BIOL1001 and ENV11002 **Prohibitions:** PLNT2903, BIOL2003, BIOL2903, CROP2001 **Assumed knowledge:** The content of BIOL(1002 or 1902) is assumed knowledge and students entering from BIOL(1003 or 1903) will need to do some preparatory reading **Assessment:** One 2hr theory exam (40%), prac exam (20%), anatomy project (10%), quizzes (5%), physiology report (10%), field report (15%)

This unit of study investigates the structure of cells, tissues and organs of flowering plants and relates them to function. Topics include; how photosynthesis, translocation, water transport and nutrition relate to the structures that carry out these processes. Most of the information on plant structure will be provided in self-instructional audio-visual sessions augmented by small group discussions. This is integrated with experiments carried out in the laboratory or on field excursions to investigate the physiological aspects of plant structures. There is a focus on recent advances in plant molecular biology where they have been critical in enhancing our understanding of the form and function of plants. The physiological and anatomical responses of plants to extreme environments such as drought and salinity will also be addressed. Attention will be paid to the anatomy and physiology of crop, horticultural and Australian native plants. This unit of study complements Applied Plant Biochemistry, Australian Flora: ecology and conservation and Cell Biology and leads onto senior units of study in plant sciences, including Plant Growth and Development. It is essential for those seeking a career in plant molecular biology

Textbooks

Taiz L, Zeiger E (2002) Plant Physiology 3rd ed. Sunderland, Mass Sinauer
Recommended reading:

Atwell B, Kriedemann P, Turnbull C (1999) Plants in Action. Macmillan, South Yarra.

Buchanan BB, Gruissem W, Jones RL (2000) Biochemistry and Molecular Biology of Plants, ASPP, Rockville, Maryland

A Study Guide for the unit will be available for purchase from the Copy Centre during the first week of Semester.

SOIL2003

Soil Properties and Processes

Credit points: 6 **Teacher/Coordinator:** Dr Cattle, Prof McBratney, Dr Singh **Session:** Semester 1 **Classes:** (3 lec & 3hr prac)/wk **Assessment:** One 2hr theory exam, one 2hr prac exam, quizzes and prac book

This unit of study is concerned with the fundamental properties of soil, the factors of soil formation, and the processes that operate in the soil system. The components of the unit of study are: pedology; soil physics and soil chemistry. These components are synthesised by reference to common soil profiles. The study of soil in the field starts with field description and assessment of essential characteristics. The physics of water and gas movement, temperature, density, swelling and strength are considered. Soil chemistry includes properties of organic matter, cation exchange capacity, nitrogen, phosphorus, potassium and acidity. Common soil types of N.S.W. are studied in relation to their formation, properties and classification.

Textbooks

Reference books

N.C. Brady The Nature and Properties of Soils 10th edn (Macmillan, 1990)
K.O. Campbell and J.W. Bowyer (eds) The Scientific Basis of Modern Agriculture (Sydney U.P., 1988)
D.L. Rowell, Soil Science: Methods and Applications (Longman, 1994)
R.E. White Introduction to the Principles and Practice of Soil Science 3rd edn (Blackwells Scientific, 1997)
A. Wild (ed.) Russell's Soil Conditions and Plant Growth 11th edn (Wiley, 1988)

Year 4

Year 4 has the following 48 credit point structure: 12 credit points of core units of study, 24 credit point research project (AVBS4015, AVBS4016, AVBS4017, AVBS4018) and 12 credit points of electives chosen from those listed.

Core units

ANSC3107 is offered as a core unit of study in year 4 as a transitional arrangement in 2007 only. From 2008, ANSC3107 will become a core unit in year 3 and students will choose 18 credit points of electives in year 4.

AVBS4001

Animal Health and Disease

Credit points: 6 **Teacher/Coordinator:** Dr Wendy Muir **Session:** Semester 1 **Classes:** Average: 3.5 hrs/wk lectures, 0.5 hr/wk tutorials, 2 hrs/wk practical **Prerequisites:** Animal and Veterinary Bioscience years 1 - 3 **Assessment:** Participation in field trips (10%), Oral presentations (15%), Assignments (15%), 2 hr exam (60%).

This Unit of Study describes the major constituents of the immune system and how they interact to protect animals from infection. Some major microbial, viral and parasitic infections of commercial consequence to animal production are detailed as well as the range of management and interventional strategies that are currently in use to minimize their impact. After completing this Unit of Study, students will demonstrate an understanding of: The principles of animal management that are implemented to optimize health and to reduce the incidence and severity of disease; the fundamental principles of disease in animal populations; the functional components of the immune system and how they interact to minimize the impact of micro-organisms on animal production; specific infectious diseases of consequence for growth, reproduction and for the production of meat, wool, milk and eggs; approaches to their control and prevention through environmental and nutritional management, and interventional techniques such as vaccination programmes; management and interventional strategies to minimize the impact of pathogen infection on the efficiency of commercial animal production; the broad principles in managing the health of wildlife animals.

Textbooks

Students are advised to consult lecturers for recommended texts.

ANSC3107

Animal Genetics 3

Credit points: 6 **Teacher/Coordinator:** Prof Chris Moran **Session:** Semester 1, Semester 2 **Classes:** Lectures 3 hrs/week, Practicals 3 hrs/week. **Prerequisites:** GENE2001 or MBLG2072 or MBLG2972 or equivalent **Assessment:** 30 min test on practicals (25%), 1,500 words essay (25%), 1.5 hrs exam (50%).

Note: Department permission required for enrolment in the following sessions: Semester 2 .

The unit of Study explores in detail genetic aspects of commercial animal populations and investigates options for the practical application of genetics to improve animal productivity. It is designed to provide the background material, fundamental concepts and data analysis methods for breeding strategies in each of the animal industries. The unit of study develops basic principles of population and quantitative genetics from Agricultural Genetics 2 and provides a valuable complement to the molecular principles expanded in Animal Biotechnology 3. Animal Genetics provides the context and justifies the application for advanced reproductive technologies presented in Animal Reproduction 3. At the end of this Unit of Study, students will demonstrate an understanding of: the principles of population genetics and the concepts of relationship and inbreeding, and adverse effects of this inbreeding; the principles of quantitative genetics including the concepts of genetic variance, heritability and repeatability, and methods for the identification and selection of superior livestock; the use of multitrait selection procedures to increase the overall economic value of populations of animals; the constraints to production gains using genetic selection programmes and advantages obtained through crossbreeding; the practical application of selection and crossing in animals; the genetical implications of reproductive technology such as embryo sexing, splitting and cloning, artificial insemination and MOET.

Textbooks

Falconer, D.S. and Mackay, T.F.C. (1995). An Introduction to Quantitative Genetics. (4th edn). Longman Cheshire, London. [Bad, Cam 575/36/B] OR Bourdon, R.M. (1999) Understanding Animal Breeding (2nd edn). Prentice-Hall, Upper Saddle River, New Jersey. [Bad and Camden 636.082 35]

AVBS4015

Research Project A1

Credit points: 6 **Teacher/Coordinator:** Dr Wendy Muir **Session:** Semester 1, Semester 2 **Classes:** There is no face-to-face teaching. The equivalent of 6 hours per week will be allocated from the course work timetable. **Prerequisites:** Animal and Veterinary Bioscience years 1-3. Students will need to have obtained a second/third year WAM commensurate with obtaining an honours class one grade. **Corequisites:** AVBS4016, AVBS4017, AVBS4018 **Prohibitions:** AVBS4013, AVBS4014 **Assessment:** Provide a written preliminary research proposal. Provide a literature review on the research topic. Deliver an oral presentation on the research proposal. Deliver an oral presentation, on the research at the end of the project. Evaluation of the students for the research capabilities. Provide a written thesis. These assessment tasks will be scheduled throughout the four units comprising Research Project A (AVBS 4015, AVBS 4016, AVBS 4017, AVBS 4018) with the final grade averaged over all four units.

Research Project A is composed of 24 credit points and consists of units AVBS4015 (Research Project A1), AVBS4016 (Research Project A2), AVBS4017 (Research Project A3) and AVBS4018 (Research Project A4). All units can be taken in the same semester. However, the units need to be taken in chronological order if taken across both semesters. All four units are connected to the overall completion of the research project. Prior to start of this unit of study, students after consultation with an academic(s) and/or researcher(s) choose an area of research interest and this will form the basis of the entire Research Project A program (24 credit points in total). In unit AVBS4015 students will be required to undertake assessment tasks and conduct research activities. At the end of this Unit of Study, students will: Identify a research area, define a problem that impacts on animals and analyse this problem using information from various sources; critically evaluate current research (experimental design, statistical analysis, technical limitations) and identify where the present knowledge limiting for the chosen research topic; assimilate and manage information from within and across disciplines to provide new concepts or understanding in the area of research; become familiar with scientific principles of research and the ethical use of animals in research; undertake research related

3. Units of study

to the project; meet set assessment tasks designed to develop written and oral presentation skills; apply the range of interpersonal skills necessary to work with peers and other researchers; meet deadlines and maintain accurate records related to the project.

Textbooks

No textbooks are required.

AVBS4016

Research Project A2

Credit points: 6 **Teacher/Coordinator:** Dr Wendy Muir **Session:** Semester 1, Semester 2 **Classes:** There is no face-to-face teaching. The equivalent of 6 hours per week will be allocated from the course work timetable. **Prerequisites:** Animal and Veterinary Bioscience years 1-3. Students will need to have obtained a second/third year WAM commensurate with obtaining an honours one grade. **Corequisites:** AVBS4015, AVBS4017, AVBS4018 **Prohibitions:** AVBS4013, AVBS4014 **Assessment:** See AVBS4015.

Students will actively work on the research projects identified at the start of unit AVBS4015. This will include, where appropriate, undertaking animal and laboratory studies, collection and analysis of samples and data, recording of data, continue to evaluate information from various sources and meet set assessment deadlines. See under AVBS4015 for further information.

Textbooks

No textbooks are required.

AVBS4017

Research Project A3

Credit points: 6 **Teacher/Coordinator:** Dr Wendy Muir **Session:** Semester 1, Semester 2 **Classes:** There is no face-to-face teaching. The equivalent of 6 hours per week will be allocated from the course work timetable. **Prerequisites:** Animal and Veterinary Bioscience years 1-3. Students will need to have obtained a second/third year WAM commensurate with obtaining an honours class one grade. **Corequisites:** AVBS4015, AVBS4016, AVBS4018 **Prohibitions:** AVBS4013, AVBS4014 **Assessment:** See AVBS4015.

See under AVBS4015 and AVBS4016.

Textbooks

No textbooks are required.

AVBS4018

Research Project A4

Credit points: 6 **Teacher/Coordinator:** Dr Wendy Muir **Session:** Semester 1, Semester 2 **Classes:** There is no face-to-face teaching. The equivalent of 6 hours per week will be allocated from the course work timetable. **Prerequisites:** Animal and Veterinary Bioscience years 1-3. Students will need to have obtained a second/third year WAM commensurate with obtaining an honours one grade. **Corequisites:** AVBS4015, AVBS4016, AVBS4017 **Prohibitions:** AVBS4013, AVBS4014 **Assessment:** See AVBS4015

See under AVBS4015 and AVBS4016.

Textbooks

No textbooks are required.

Elective units available in 2007

Enrolment in elective units is subject to prerequisite and corequisite requirements, prohibitions and timetabling constraints.

AVBS4002

Dairy Production and Technology

Credit points: 6 **Teacher/Coordinator:** Prof Bill Fulkerson **Session:** Semester 2 **Classes:** Lectures 3 hrs/wk, Practicals 3 hrs/wk. **Prerequisites:** Animal and Veterinary Bioscience years 1-3 **Corequisites:** AVBS4001 **Assessment:** Practical report: (20%), Milking and Ha cap Report: (15%), 2 hour exam (65%).

This unit will explore the various aspects of dairy farming and the dairy industry from a scientific point of view. The lectures are a mix of the principles on which sound dairy farming is based and practical example of how this operates in practice. The course is not meant to provide a set of methods on dairying to be used as recommendations. An overall theme is the way the industry has been able to dramatically improve on farm production by adopting many labour saving and efficiency based innovations. At the end of this unit of study, students will demonstrate an understanding of: The characteristics of the dairy industry in Australia and in a world wide context; an appreciation of the practices and innovations that have been adopted by the industry

to retain its competitive advantage; the principles on which pasture and feed management on farm are based; the integration of knowledge of genetics and reproduction into the type of herd improvement structure set up in the dairy industry; the application of ruminant physiology knowledge to developing feeding programs for dairy cows; the extension of basic reproductive physiology onto the dairy farm using case studies as examples.

Textbooks

There is no single text that adequately covers the course content and for this reason no formal text is required. Where appropriate, relevant reference material will be identified for specific areas of the course.

AVBS4003

Wildlife and Evolutionary Genetics

Credit points: 6 **Teacher/Coordinator:** Dr Kyall Zenger and Dr Jaime Gongora **Session:** Semester 2 **Classes:** Lectures 2.5 hrs/week, Tutorials, 1.5 hr/week, Seminars, 1 hr/week Laboratories, 1 hr/week. **Prerequisites:** Animal and Veterinary Bioscience years 1-3 **Corequisites:** AVBS4001 **Assessment:** Written and oral assignment (20%), Practical reports (20%), Tutorial / class contribution (10%), Final written exam (50%).

This unit of study focuses on the processes of evolution and the patterns generated by these processes in our natural environment. It encompasses the field of ecology and evolutionary genetics as it applies to conservation and management of our native resources. This course reviews fundamental genetic principals and their application in the disciplines of molecular, evolutionary and conservation genetics and focuses on how we use genetic theory and knowledge to better understand and conserve our wildlife. At the end of this unit of study, students will demonstrate an understanding of: the underlying genetic structural design of the natural world and how this reflects and influences evolutionary processes; the use of molecular information to test hypotheses about evolutionary, ecological and social structure of species; how to critically review the ways in which genetic principals are applied to the management and conservation of species; the use of appropriate analytical methods and molecular markers in wildlife conservation and management; how to conduct an investigation into a management problem in wildlife including project design and management recommendations.

Textbooks

Students are expected to immerse themselves into the field of conservation and evolutionary genetics to develop the ability to critically evaluate the subject. There will be a substantial amount of reading required for the course. There is no formal text; students will be directed to a recommended reading list of both primary and secondary literature. Below is a recommended reference list for this course.

Primary reading material (Journals):

Conservation Genetics, Springer Science Publishing;

Molecular Ecology, Blackwell Publishing;

Heredity, Nature Publishing Group;

Australian Journal of Zoology, CSIRO Publishing.

Secondary reading materials:

Frankham, R., J.D. Ballou and D.A. Briscoe. 2002. Introduction to Conservation Genetics. Cambridge University Press, Cambridge, UK.

Avise, J.C. 2000 Phylogeography, the history and formation of species - Harvard University Press.

Hoelzel, A.R. 1988 Molecular genetic analysis of populations. A practical approach. 2nd Edn, Oxford University Press.

Hedrick, P.W. 2000. Genetics of populations. 2nd Edn, Jones and Bartlett Publishers. Sudbury, Massachusetts.

AVBS4008

Intensive Animal Industries

Credit points: 6 **Teacher/Coordinator:** Dr Jeff Downing **Session:** Semester 2 **Classes:** Lectures 6 hrs/week, practicals 6 hrs/week. **Prerequisites:** Animal and Veterinary Bioscience years 1-3 **Corequisites:** AVBS4001 **Prohibitions:** AVBS4006, AVBS4007 **Assessment:** Practical report and in course evaluations (25% pigs). Participation and assignment (25% Poultry). Written exam (50%: Poultry and Pigs 50:50).

This unit of study is composed of two parts, a Poultry Production component and a Pig Production component. The course will provide students with a comprehensive overview of the production of eggs and poultry meat and pork. The individual components examine various aspects of the poultry and pig production systems important in maintaining efficiency and profitability. It investigates aspects of breeding, nutrition, housing, growth performance, health, welfare, reproductive capability, waste management, marketing and current

industry issues. This unit will expand on some aspects of previous year 3 units of study in animal structure and function, nutrition and reproduction.

Textbooks

There is no single text that adequately covers in Australian pig industry and for this reason no formal text is required. There are many sites (industry, Academic institutions and government departments) on the Web which provide excellent information. Links to these will be provided. Where appropriate, relevant reference material will be identified for specific areas of the course. Often poultry specific text books are obsolete very quickly, it would be important to learn to identify trade information (the library subscribes to many; breeder management guides and product expectations; equipment web-sites, etc) and scientific journals as resources.

AVBS4009

Aquaculture

Credit points: 6 **Teacher/Coordinator:** Sesqui Lecturer in Aquatic Animal Health and Production TBA (Coordinator), Prof Richard Whittington, Prof Chris Moran, Prof Gareth Evans, Prof David Fraser, various other Veterinary Faculty staff. **Session:** Semester 2 **Classes:** Lectures 2hrs/wk, tutorials 1hr/wk, Practicals 2hrs/wk, field work 1hr/wk. **Prerequisites:** Animal and Veterinary Bioscience years 1-3 **Corequisites:** AVBS4001 **Assessment:** Written and/or oral assignment (25%), Written practical report (25%), Exam 1.5 hrs (50%).

The unit of Study explores in detail aspects of commercial aquaculture, including global trends in aquaculture development. Other topics include water quality, feeding, management, health and disease, genetics and reproduction, environmental impact and economic constraints to production. The unit of study emphasises methods to improve aquacultural productivity. It builds on basic principles of anatomy, physiology, nutrition, genetics and health and disease presented in other units of study in BAnVetBioSc. At the end of this Unit of Study, students will demonstrate an understanding of the principles of: the context of aquaculture in global food production; husbandry, management and welfare of aquaculture species; comparative aspects of husbandry in aquaria, domestic, commercial; health and Disease relevant to aquaculture; nutrition of aquaculture species; reproduction and genetics of species in aquaculture; water quality and environmental impact of aquaculture; economics and marketing of aquaculture products.

Textbooks

TBA

AVBS4012

Extensive Animal Industries

Credit points: 6 **Teacher/Coordinator:** A/Prof Peter Wynn **Session:** Semester 1 **Classes:** Lectures 2hrs/wk, tutorials 1hr/wk, Practicals 2hrs/wk, field work 1 hr/wk. **Prerequisites:** Animal and Veterinary Bioscience years 1-3. **Corequisites:** AVBS4001 **Prohibitions:** AVBS4010, AVBS4011 **Assessment:** Written assignment (25%), practical report (25%) and written exam (50%).

This unit introduces the concepts of sheep and beef cattle production in the Australian environment within the context of world food and fibre consumption and production. The key products and domestic and export markets for these are presented. The course then provides an historical perspective of the basis for each of these industries and then describes each of the production systems designed to meet the demand for these products. These will cover production in both the tropical and temperate regions of Australia and include the key elements of extensive grazing and intensive feedlot systems. Major issues will include breeds and breeding systems, animal handling, the development of a cost-effective feed base and production practices and animal welfare issues as they affect the quality and quantity of product marketed. The concepts of first stage processing of both meat and fibre products in abattoirs and top-making plants respectively will be presented. The grading of products based on quality factors. The major factors that influence the quality of product and therefore market demand will be presented. Lecture material will be supported with a visit to a sheep/beef production unit, appropriate practical classes and student presentations.

Textbooks

Anderson RS, Edney ATB. 1991 Practical Animal Handling. Pergamon Press. Battaglia RA. 2001, Handbook of Livestock Management. Prentice Hall. Lawrie, R.A. 1980, 1981, Developments in Meat Science No.s 1-2, Applied Science Publishers.

Lawrie, R.A. 1985, 1988, 1991, Developments in Meat Science No.s 3-5, Elsevier Applied Science.
Ensminger, M.E. and Perry R.C. 1997, Beef cattle science, Interstate Publishers. Temple, G. c2000, Beef cattle handling and facilities design, Grandin Livestock Systems, Fort Collins, Colo.
Cottle, DJ. 2000, Australian sheep and wool handbook WRONZ Developments, Christchurch.
Massy, C. 1990 The Australian Merino, Viking O'Neil.

Bachelor of Science (Veterinary)

VETS4042

Veterinary Research A

Credit points: 24 **Teacher/Coordinator:** Dr Glenn Shea **Session:** Semester 1 **Classes:** No lectures or other classes. **Prerequisites:** Veterinary Science Years 1, 2 and 3. **Corequisites:** VETS4043 **Assessment:** Thesis, executive summary, oral presentation and oral examination.

Note: Department permission required for enrolment .

In this unit students undertake a period of supervised research in a topic in Veterinary Science.

VETS4043

Veterinary Research B

Credit points: 24 **Teacher/Coordinator:** Dr Glenn Shea **Session:** Semester 2 **Classes:** No lectures or other classes. **Prerequisites:** VETS4042 Veterinary Research A. **Assessment:** Thesis, executive summary, oral presentation and oral examination.

Note: Department permission required for enrolment .

This unit of study is a continuation of VETS4042.

Postgraduate Coursework in the Faculty of Veterinary Science

For further information on degree programs and structure, please see chapter 6.

VETS7004

Veterinary Epidemiology I

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor: Dr Jenny-Ann Toribio **Session:** S1 Late Int, Semester 2 **Classes:** Online (Sem 2, weeks 1-7) **Assessment:** Participation of the student in the weekly online discussions and other learning activities in the online classroom; a group assignment; an individual assignment; online quiz.

Note: Department permission required for enrolment in the following sessions: S1 Late Int .

Note: This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.

After completing the Veterinary Epidemiology I unit students will be able to- Discuss epidemiology and the work of epidemiologists in relation to other disciplines; Apply the concepts of epidemic theory and herd immunity appropriately to animal disease control issues; Contribute to investigations of disease outbreaks and low productivity in animal populations; Calculate and interpret the measures of disease frequency and measures of association; Select an appropriate epidemiological study design for a specific research question; Identify and minimise sources of bias and error in study designs; Select appropriate diagnostic tests and interpret their results (at individual and herd level).

Textbooks

Thrusfield M. Veterinary Epidemiology. 2nd revised reprint. Oxford: Blackwell Science 1997
Dohoo I. Martin W. Stryhn H. Veterinary Epidemiologic Research. 2003

VETS7005

Veterinary Epidemiology II

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor: Dr Jenny-Ann Toribio **Session:** Semester 1 **Classes:** Online (Sem 1, weeks 1 - 7) **Prerequisites:** VETS7004 Veterinary Epidemiology 1 **Assessment:** Participation of the student in the weekly online

3. Units of study

discussions and other learning activities in the online classroom; group assignment; an individual assignment.

Note: This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs

After completing Veterinary Epidemiology 2, students will be able to design an appropriate epidemiology study to investigate a specific research question, including the: Sampling procedure; Data collection tools; Database for data storage and manipulation; Statistical procedures; Methods to manage confounders, clustering and collinearity.

Textbooks

Cameron A. Survey Toolbox for Livestock Diseases. ACIAR, Canberra 1999
Thrusfield M. Veterinary Epidemiology. 2nd revised reprint. Oxford: Blackwell Science 1997

Dohoo I. Martin W. Stryhn H. Veterinary Epidemiologic Research 2003

VETS7008

Hazards to Human and Animal Health

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor(s): Dr Robert Dixon, Dr Stephen Page **Session:** Semester 1 **Classes:** Online (Sem 1, weeks 1 - 7) **Assessment:** Assessment in the Hazards to Human and Animal Health unit of study will include: participation in online class; an individual report; a group assignment.

Note: This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.

After completing Hazards to Human and Animal Health, students will be able to: Describe the key elements of risk assessment and the concepts of hazard analysis and critical control point (HACCP) intervention; List sources of chemical contamination of food of animal origin and describe how to detect, monitor and prevent these; Explain how the national residue survey works; Discuss the microbial hazards in food of animal origin and the means by which they affect humans, and identify critical control points; Summarise key points of the current antibiotic resistance debate concerning the implications for public health of antibiotic use in animals; Describe critical aspects of important zoonotic diseases acquired by humans by ingestion of animal products and other routes of exposure and identify possible means of prevention; Analyse the factors that influence the emergence of new diseases and discuss changes that need to be implemented in animal and human health surveillance; List the notifiable animal diseases (endemic and emergency) in Australia and discuss the rationale and process for notification and control; describe global trends in livestock disease distribution - both in time and space; Describe the disease control programs for a range of current animal diseases and discuss their health, welfare and political ramifications.

Textbooks

No specific textbook is essential for this unit of study.

VETS7009

Animal Health Economics

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor(s): Dr Henk Hogeveen, Dr Monique Mourits **Session:** S1 Late Int, Semester 2 **Classes:** Online (Sem 1, weeks 8-14) **Assessment:** Assessment of the Animal Health Economics unit of study will include: participation of the student in the weekly online discussions and other learning activities in the online classroom; online quizzes; a report, done in pairs.

Note: Department permission required for enrolment in the following sessions: Semester 2 .

Note: This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.

After completing Animal Health Economics, participants will be able to: Discuss the importance of animal diseases in efficiency of animal production, consumers' perceptions of animals and animal products, and global trade; Analyse economic problems using basic methods such as partial budgeting, cost-benefit analysis and decision analysis; Detail the critical steps in systems analysis and choose appropriate modelling types and techniques; Describe the uses of linear and dynamic programming, and Markov chain and Monte Carlo simulations; Discuss the basic principles of risk analysis; Explain the basic steps in the decision-making process and the role of risk analysis in this process; Explain the role of decision support systems in animal health management and demonstrate their profitability; Build and interpret spreadsheet models for economic analyses in MS EXCEL; Discuss

the importance of Animal Health Economics in decision making, implementation and evaluation of animal health programs, and policy development and implementation processes.

Textbooks

Dijkhuizen AA. Morris RS. Animal Health Economics: Principles and Applications. Post Graduate Foundation in Veterinary Science, University of Sydney, Sydney 1997

VETS7010

Animal Health Policy Development

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor: Dr Kevin Doyle **Session:** S2 Late Int **Classes:** Online **Assessment:** Assessment in the Principles of Animal Health Policy Development unit of study includes: participation in online class; a group assignment; an individual report.

Note: This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.

After studying the Principles of Animal Health Policy Development unit, students will be able to: Describe the structure and role of Australia's Veterinary Service; Outline the process of law making and policy development in relation to public health and animal health in Australia; Outline current policy issues relating to veterinary public health and animal health in Australia; Discuss strategies used to resolve conflicts among stakeholders and to address the economic, political, technical and social issues that may arise; Discuss the means whereby veterinary public health and animal health policy is monitored and enforced; Discuss evaluation and improvement strategies for animal health policy.

Textbooks

Colebatch HK. Policy. 2nd edn. Buckingham: Open University Press 2002

VETS7011

Data Analysis for Policy Making

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor: Dr Evan Sergeant **Session:** S1 Late Int **Classes:** Online **Assessment:** Participation in weekly online discussions and learning activities; group assignment; individual assignment.

Note: This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.

In this course, students will work with existing data. Issues of developing a study design will not be dealt with. Students will however consider the impact of a particular study design on the interpretation of the data generated. After studying this unit students will be able to: Identify potential sources of data and their strengths and weaknesses; Identify and apply appropriate analytical and statistical methods for different purposes; Analyse data using commonly available software programs Identify and manage potential bias and confounding in data; Describe and interpret the results of data analysis; Incorporate the outcomes of data analysis in policy development.

Textbooks

Baldock FC. Cameron AR. Sergeant ESG. An introduction to data management and analysis in animal health. 2003

VETS7012

Wildlife Epidemiology

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor: Dr Hume Field **Session:** S1 Late Int **Classes:** Online **Prerequisites:** VETS7004 **Assessment:** Participation in weekly online discussions and learning activities; group assignment; individual assignment.

Note: This is an elective unit in the Veterinary Public Health and Veterinary Public Health Management programs.

After studying the Wildlife Epidemiology unit, you will be able to: Apply epidemiological concepts to wildlife populations. Explain the concept of disease ecology. Discuss issues relevant to disease determination in wildlife populations and explain the associated diagnostic challenges. Discuss alternate study methodologies and design a valid observational study for a wildlife population. Discuss design and analysis issues relevant to wildlife disease studies. Identify sources of wildlife animal health data and discuss wildlife health information systems. Critically review published literature on wildlife disease

studies. This unit is offered in alternate years to VETS7014 Aquatic Animal Epidemiology.

Textbooks

Thrusfield M. Veterinary Epidemiology. 2nd revised reprint. Oxford: Blackwell Science 1997

Dohoo I. Martin W. Stryhn H. Veterinary Epidemiologic Research. Charlottetown PEI: University of Prince Edward Island 2003

VETS7013

Risk Analysis

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor: Dr Sam Beckett **Session:** S2 Late Int **Classes:** Online **Assessment:** Participation in weekly online discussions and learning activities; group assignment; individual assignment.

Note: This is an elective unit in the Veterinary Public Health and Veterinary Public Health Management programs.

After studying Risk Analysis you will be able to: Apply the terminology and major concepts, principles, tools and techniques used in risk management in an animal health context; Analyse and evaluate the main approaches to risk management in animal health (including veterinary public health) and trade; Evaluate the strengths and weaknesses of some of the tools used in risk management; Synthesise the tasks and issues associated with risk management with your knowledge of animal and public health; Approach risk communication with an understanding of the different methods of good risk communication and the relationship between risk perception and risk communication.

Textbooks

There is no single textbook that covers all of the topics explored in this unit. The unit does, however, draw heavily on the Australian and New Zealand Standard for Risk Management, AS/NZS:4360. 2004 and it is recommended that you are familiar with this document. The unit also draws on the OIE Handbook on Import Risk Analysis for Animals and Animal Products: Vols 1 & 2. 2004. As the name suggests, this reference document provides detail about import (or quarantine) risk analysis, but also some discussion about the application of risk analysis in broader field of animal health.

VETS7014

Aquatic Animal Epidemiology

This unit of study is not available in 2007

Credit points: 3 **Teacher/Coordinator:** Dr Ed Peeler & Dr Sophie St-Hilaire **Classes:** Online **Corequisites:** VETS7005 **Assessment:** Participation in weekly online discussions and learning activities (15%); group assignment (40%); individual assignment (45%).

Learning Outcomes: After studying the Wildlife Epidemiology unit, you will be able to: - Apply epidemiological concepts to farmed and wild aquatic animals - Explain the requirements of import risk analysis for aquatic animals and identify sources of aquatic animal health data - Explain the requirements of aquatic animal disease surveillance and targeted surveys - Design analytic epidemiological studies - Explain sources of bias in aquatic animal systems - Contribute to investigations of fish kills.

Textbooks

Thrusfield M. Veterinary Epidemiology. 2nd revised reprint. Blackwell Science, Oxford. 1997.

Dohoo I. Martin W. Stryhn H. Veterinary Epidemiologic Research. Charlottetown PEI: 2003.

VETS7015

Surveillance, Preparedness & Response

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor: Dr Tracey Bradley **Session:** Semester 2 **Classes:** Online **Assessment:** Participation in weekly online discussions and learning activities; group assignment; individual assignment.

Note: This is an elective unit in the Veterinary Public Health and Veterinary Public Health Management programs.

After studying Surveillance, Preparedness & Response you will be able to: Explain how surveillance contributes to the assessment and management of risks that affect public health, animal health, or trade; Provide advice on the development of a surveillance strategy to meet defined objectives; Describe a preferred framework for managing animal health emergencies.

Textbooks

Thrusfield M. Veterinary Epidemiology. 2nd revised reprint. Oxford: Blackwell Science 1997

Salman MD. Animal disease surveillance and survey systems: methods and applications. 1st edn. Iowa State Press 2003

VETS7016

Animal Health Data Management

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor: Dr Evan Sergeant **Session:** Semester 1 **Classes:** Online **Assessment:** Participation in weekly online discussions and learning activities; group assignment; individual assignment.

Note: This is an elective unit in the Veterinary Public Health and Veterinary Public Health Management programs.

After studying this unit students will be able to: Describe the important characteristics of the main epidemiological data types; Develop a data-collection form for an epidemiological study; Design a simple relational database for recording animal health-related data; Manage data in a computer spreadsheet, including importing, exporting, recoding, transforming and summarising data; Undertake descriptive analysis of data using computer spreadsheets or other appropriate software; Undertake descriptive analysis of data using computer spreadsheets or other appropriate software.

Textbooks

Baldock FC. Cameron AR. Sergeant ESG. An introduction to data management and analysis in animal health. 2003

VETS7017

Food Safety

Credit points: 3 **Teacher/Coordinator:** Academic Supervisor: Dr Jenny-Ann Toribio Instructor: Dr Jonathan Webber **Session:** Semester 2 **Classes:** Online **Assessment:** Participation in weekly online discussions and learning activities; group assignment; individual assignment.

After completing Food Safety participants will be able to describe the respective roles and recent initiatives in food safety of the various government and industry organisations that make up the global, national and regional regulatory system for the safety of food of animal origin; Describe and critically analyse the key elements in food safety risk assessment and management and critically apply this to the analysis of a total quality management food safety system; Describe the critical aspects of the epidemiology, pathogenesis, management and prevention of the well-recognised bacterial food-borne pathogens; Identify emerging food-borne pathogens of animal origin and describe the critical aspects of the epidemiology that make them a particular public health concern; Describe the principles used in newer microbiological diagnostic tests and their application in food safety programs; Discuss the elements required for an effective national antimicrobial resistance management program; List the potential sources of and critically assess the potential public health threats posed by the presence of natural toxins and environmental contaminants in food of animal origin.

Textbooks

Torrence ME. Isaacson RE. eds. Microbial Food Safety in Animal Agriculture Current Topics. Iowa State Press. 2003

VETS7018

Research Paper A

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor: Meg Vost **Session:** S1 Intensive, S2 Intensive **Classes:** Supervised project. Online seminar. **Corequisites:** VETS7005 **Assessment:** Dissertation; and participation in online seminar; progress Reports.

Note: Department permission required for enrolment.

Note: This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.

Completing the research project will enable you to execute research in a professional and ethical manner. A six credit point project should equate to at least 150 hours work.

VETS7019

Research Paper B

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor: Meg Vost **Session:** S1 Intensive, S2 Intensive **Classes:** Supervised project. Online seminar. **Corequisites:** VETS7018 **Assessment:** Dissertation; and participation in online seminar; progress Reports.

3. Units of study

Note: Department permission required for enrolment .

Note: This is an elective unit in the Veterinary Public Health Management program and a core unit in the Veterinary Public Health program.

Completing the research project will enable you to execute research in a professional and ethical manner. A 12 credit point project should equate to at least 300 hours work.

VETS7020

Diagnostic Tests

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio **Instructor:** Professor Ian Gardner **Session:** S2 Late Int **Classes:** Online. **Prerequisites:** VETS7005 Veterinary Epidemiology 2 **Assessment:** Participation in online class; Group assignment; Individual assignment.

Note: This is an elective unit in the Veterinary Public Health and Veterinary Public Health Management programs.

After completing this unit, students will be able to: Understand and describe the biologic principles of common tests and how their inherent characteristics affect their accuracy and precision; Analyse and summarise data from a test evaluation or test comparison study; Critique published test evaluation studies and describe their strengths and weaknesses considering design and analysis guidelines in the veterinary medical literature; Incorporate quantitative test results in clinical decision making about an individual animal's disease status; Interpret test results from prevalence estimation studies involving single and multiple animal; opulations, from risk factor studies and from disease surveillance systems; Plan a disease surveillance system or disease survey and select a diagnostic test(s) (considering its strengths and weaknesses) to meet specified surveillance or survey objectives.

VETS7025

Leadership, People and Organisations

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio **Instructor:** Wendy Grusin **Session:** Semester 1, Semester 2 **Classes:** Residential and Online. 5-day Residential session in February, Online classes. **Assessment:** Assessment of the Leadership, People & Organisations unit of study will include: a case study analysis done in a group; an individual action learning review; participation in a range of activities during the residential week and online.

Note: This is a core unit in the Veterinary Public Health Management and Animal Breeding Management programs.

After completing the Leadership 1 unit students will be able to: Apply leadership concepts in the context of animal health management; Assess how individual human traits, behaviour and values interact with leadership; Use and explain the principles of action learning; Explain the effects of group dynamics in work teams; Discuss how power and influence impact on success at work.

Textbooks

Please refer to website for details.

VETS7026

Leadership: Managing Change

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio **Instructor:** Ms Loretta O'Donnell **Session:** Semester 1 **Classes:** Residential and online. 3-day Residential session in February, Online classes. **Prerequisites:** VETS7025 or VETS7002 **Assessment:** Group assignment, individual assignment, participation in online classroom and residential.

Note: This is a core unit in the Veterinary Public Health Management and Animal Breeding Management programs.

This course looks at change on many levels, beginning with a micro focus on the individual and culminating with a more macro view of the whole organisational system. It balances practical skill building with a solid foundation of theoretical understanding. In this unit of study students will explore managing change around three central concepts: the change agent; change perspectives; change and organisations.

Textbooks

Please refer to website for details.

VETS7027

Project Management

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio **Instructor:** Mr Gary Timm **Session:** Semester 2 **Classes:** Residential and online. The unit of study is limited to a 3-day residential and online classes. **Assessment:** Presentation at the residential; two individual assignments; group assignment; Post-Project Review; Participation in online classroom.

Note: This is a core unit in the Veterinary Public Health Management and Animal Breeding Management programs.

After completing Project Management the participant will be able to: Define project context, project phases and project knowledge areas; Use common project management terminology; Define project initiation stage processes and deliverables; Define project planning stage processes and create a project plan; Define the processes required to execute and control the project plan; Define project closing processes and to create a project review report (PRR) as part of a process to continually improve their understanding of project management; Discuss the complexities and challenges of project management; Propose effective strategies to deal with these complexities and challenges; Manage a group to achieve a specific outcome within a specific timeframe.

Textbooks

Phillips J. PMP Project Management Professional Study Guide. Book and CD-ROM edn. Certification Press. McGraw-Hill Osborne Media 2003 ISBN: 0072230622

VETS7038

Research Paper C

Credit points: 6 **Teacher/Coordinator:** Meg Vost **Session:** S1 Intensive, S2 Intensive **Classes:** Supervision. **Corequisites:** VETS7018 **Assessment:** Dissertation/treatise (90%); Progress Reports (10%)

Note: Department permission required for enrolment .

Completing the research project will enable you to execute research in a professional and ethical manner. Each six credit points should equate to at least 150 hours work. This unit of study is for candidates of the MVPHMgt and the MVPH who wish to complete further research towards honours.

VETS7039

Research Paper D

Credit points: 6 **Teacher/Coordinator:** Meg Vost **Session:** S1 Intensive, S2 Intensive **Classes:** Supervision **Corequisites:** VETS7038 **Assessment:** Dissertation/treatise (90%); Progress Reports (10%)

Note: Department permission required for enrolment .

Completing the research project will enable you to execute research in a professional and ethical manner. Each six credit points should equate to at least 150 hours work. This unit of study is for candidates of the MVPHMgt and the MVPH who wish to complete further research towards honours.

VETS8002

Genetic Evaluation and Breeding

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Professor Chris Moran **Instructor:** Associate Professor Julius van der Werf **Session:** Semester 2 **Classes:** Residential and Online **Prerequisites:** VETS8004 **Assessment:** Online participation, 5,000 - 6,000 words of formal, written assignments.

Note: Department permission required for enrolment .

Note: This unit is core in the Animal Breeding Management stream of the Postgraduate Program in Animal Science.

This unit of study builds on the knowledge gained in VETS8004 Advanced Animal Genetics to enable students to enhance their understanding of quantitative genetics and apply them to animal breeding programs. The unit will be taught online with one short residential session in Armidale and is a core unit of study in the Animal Breeding Management course. After completing Genetic Evaluation and Breeding, students will be able to: Apply quantitative genetic principles in animal breeding programs; Explain commonly used genetic evaluation methods; Discuss the issues involved in breeding program design; Discuss the potential influence of new reproductive

and genetic technologies on animal breeding programs; Independently solve common animal breeding problems.

Textbooks

Course Notes GENE422/522. 2000. UNE Armidale
Cameron ND. Selection Indices and Prediction of Genetic Merit in Animal Breeding. Oxon: CAB Int. Oxon. 1997
Falconer DS. Mackay TFC. Introduction to Quantitative Genetics. 4th edn. Longman 1996
Kingham BP, Van Der Werf J, Ryan M. Animal Breeding: use of new technologies. Postgrad. Found. Veterinary Sciences, Univ. of Sydney. 2000
Lynch M, Walsh B. Genetic analysis of quantitative traits. Sinauer. 1998
Mrode RA. Linear Models for the Prediction of Animal Breeding Values. Oxon: CAB Int. 1996

VETS8004

Advanced Animal Genetics

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Professor Chris Moran Instructor(s): Professor Chris Moran, Professor Frank Nicholas **Session:** Semester 1 **Classes:** On-campus or online. On-campus Classes: Lectures, practical classes. Online classes: Online learning activities. **Prohibitions:** ANSC5002 **Assessment:** Examination, assignments. Online participation, quiz, assignments.

Note: This unit is core in the Animal Genetics and Animal Breeding Management streams of the Postgraduate Program in Animal Science.

This unit will cover: principles of population genetics and the concepts of relationship and inbreeding, and adverse effects of this inbreeding; The principles of quantitative genetics including the concepts of genetic variance, heritability and repeatability, and methods for the identification and selection of superior livestock; The use of multitrait selection procedures to increase the overall economic value of populations of animals; The constraints to production gains using genetic selection programmes and advantages obtained through crossbreeding; The practical application of selection and crossing in animals; The genetical implications of reproductive technology such as embryo sexing, splitting and cloning, artificial insemination and MOET.

VETS8005

Advanced Animal Biotechnology

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Professor Chris Moran Instructor: Professor Chris Moran **Session:** Semester 2 **Classes:** Mode: On-campus OR online. On-campus Classes: Lectures, practical classes. Online classes: Online learning activities. Degree: This unit is core in the Animal Genetics and Reproduction streams of the Postgraduate Program in Animal Science. It is an el **Prohibitions:** ANSC3005 **Assessment:** Examination, assignments. Online: online participation, quiz, assignments.

At the end of this Unit of Study, students will demonstrate an understanding of: the application of biotechnology to animal productivity, disease control, the development of new products from animals and the impact of altered micro-organisms and plants on animals; molecular biology and recombinant DNA technology, with an emphasis on relevance in animals; regulation of gene expression in vivo and in expression systems; monitoring of gene expression including microarrays and proteomics, gene mapping, genomics and gene discovery in contexts relevant to domestic animals; genetic modifications of animals including transgenesis and gene knockout, and methods for achieving these modifications including cloning by nuclear transfer; basic skills in bioinformatics; legal methods of protecting intellectual property; ethics & animal biotechnology.

VETS8006

Advanced Animal Nutrition

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Professor Chris Moran Instructor(s): Dr Michelle Hyde, Prof David Fraser, Dr Paul Sheehy, Mrs Irene van Ekris **Session:** Semester 2 **Classes:** On-campus lectures, tutorials, laboratory sessions and field work. **Prohibitions:** ANSC3001 **Assessment:** Examination, assignments.

Note: This unit is core in the Animal Nutrition stream of the Postgraduate Program in Animal Science.

The Unit is broadly divided into four sections, namely: Estimating the nutritive value of feeds; Estimating the nutrient requirements of animals; Diet formulation; Errors in feeding. The focus is on coming to an understanding of the assessment of nutritional adequacy and the avoidance and solving of nutritional problems, with a particular

emphasis on animals used in agricultural production systems. The basis of successful feeding management is an understanding of the following: the composition of feeds; the digestibility and efficiency of utilisation of nutrients by the animal; the requirements of the animal for nutrients; interactions between nutrients that influence health and production; And following from this an ability to: formulate diets to meet animal requirements for a variety of purposes and under a variety of constraints; identify deficiencies, excesses and imbalances in diets and so avoid a decline in productive efficiency and/or a decline in health.

VETS8008

Advanced Animal Reproduction

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Professor Chris Moran Instructor(s): Gareth Evans, Chis Maxwell **Session:** Semester 1 **Classes:** On-campus lectures, tutorials, practical sessions. **Prohibitions:** ANSC3002 **Assessment:** Examination, assignments.

Note: This unit is core in the Animal Reproduction stream of the Postgraduate Program in Animal Science.

A comprehensive program on basic and applied male and female reproductive biology with particular emphasis on domestic animals. The unit of study includes reproductive cycles, sexual differentiation, fertilization, development, gestation and parturition. Applied aspects include tuition on semen collection and processing, control and management of reproduction, artificial insemination, embryo transfer, pregnancy diagnosis, and induction of parturition. Tuition is given on campus in Sydney and at the University Farms, Camden.

VETS8009

Production Animal Health

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Professor Chris Moran Instructor(s): Wendy Muir, Irene Van Ekris **Session:** Semester 1 **Classes:** On-campus lectures and tutorials. **Prohibitions:** ANSC4001 **Assessment:** Examination, assignments.

Note: Department permission required for enrolment .

Note: This unit is an elective in the Postgraduate Program in Animal Science

Biology and immunology of host responses to infectious and parasitic diseases; definition of general disease states; examination of several livestock diseases of major economic significance; the development of livestock management programs which minimise the occurrence of or eradicate the above diseases; the use of commercial biological and chemical products to control animal health.

VETS8010

Advanced Pig Production

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Professor Chris Moran Instructor(s): Trish Holyoake, Peter Wynn **Session:** Semester 2 **Classes:** On-campus lectures and tutorials **Prerequisites:** VETS8009 **Prohibitions:** VETS4223 **Assessment:** Examination, assignments.

Note: This unit is an elective in the Postgraduate Program in Animal Science.

A series of lectures and practical classes with emphasis on the efficiency of pig meat production. All aspects of the production cycle are covered including management of the breeding sow and growing pig. Environmental requirements, housing, feeding practices and disease control are considered. Application of computer-based models to commercial piggeries.

VETS8011

Advanced Poultry Production

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Professor Chris Moran Instructor(s): Tom Scott **Session:** Semester 2 **Classes:** On-campus lectures, practical classes, case studies **Prerequisites:** VETS8009 **Prohibitions:** VETS4221 **Assessment:** Examination, assignments.

Avian biology, with emphasis on the unique features of the digestion, absorption and utilisation of nutrients, and on the physiology of egg formation. Commercial production of broilers and table eggs, with consideration of environmental requirements, housing and disease control.

VETS8012

Advanced Ruminant Production

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Professor Chris Moran Instructor: Peter Windsor **Session:** Semester 2 **Classes:** On-campus lectures, practical classes, case studies. **Prerequisites:** VETS8009 **Prohibitions:** VETS4224 **Assessment:** Examination, assignments.

This unit presents a package of integrated information to facilitate learning towards the understanding of diseases of ruminants and how they impact on farm animal production. The aim is for students to: diagnose the common management and disease problems of ruminants; conduct detailed disease investigations of flocks and herds using epidemiological principles that can lead to constructive advice, facilitating animal production and welfare; readily obtain information from knowledge resources and provide assistance on farm health and production problems and issues; develop skills in animal handling, clinical examination, pregnancy diagnosis, specimen collection, use of diagnostic laboratories. Apply their skills and knowledge to problem solving and the design of disease control and prevention programs.

VETS8013

Special Topics in Animal Science

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Professor Chris Moran Instructor(s): Supervisors on arrangement. **Session:** Semester 1, Semester 2 **Classes:** Supervised. Tutorials, seminars, essays and directed reading. **Assessment:** 6,000 words or equivalent.

Note: Department permission required for enrolment.

Note: This unit is an elective in the Postgraduate Program in Animal Science.

This unit will allow students to be supervised in specific areas of study that are not covered in any existing postgraduate units. The purpose of this unit may include: interest in specific practical skill area, allowing greater depth of skill development following from core units of study at Graduate Certificate level; interest in enhanced knowledge of a particular subject matter; additional learning required to support a research project. Students must discuss learning outcomes, methods for achieving them, assessment and assessment criteria with their supervisor and submit documentation to the Sub Dean for Postgraduate Coursework by the census date of the relevant semester. At the end of this Unit of Study, students will be able to: Discuss the major issues associated with their subject area; Interpret and critically evaluate scientific material or information in their subject area; Make informed decisions in their subject area and implement them; Clearly communicate understanding of their subject area.

VETS8014

Advanced Anatomy and Physiology A

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Chris Moran Instructor(s): Rosanne Taylor, David Fraser, David Evans, Melanie Collier, Jane Stevenson **Session:** Semester 1 **Classes:** Lectures, tutorials, practical sessions, workshops, computer-based learning. **Prohibitions:** ANSC3003 **Assessment:** Dissection project, examination, assignments.

Note: This unit is an elective in the Postgraduate Program in Animal Science.

This unit of study provides an integrated study of the structure and function of animals, with a detailed coverage of topics of particular importance to agricultural scientists, such as reproduction, digestion, animal welfare and behaviour.

VETS8016

Advanced Livestock Genetics

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Chris Moran Instructor(s): Frank Nicholas, Chris Moran, Imke Tammen **Session:** Semester 1 **Classes:** lectures/tutorials/practicals **Prohibitions:** ANSC5011 **Assessment:** examinations/assignments to the equivalent of 5000 - 6000 words

Note: This unit is an elective in the Postgraduate Program in Animal Science.

Lectures in livestock genetics with special emphasis on the genetic basis of animal disease.

VETS8017

Technologies of Animal Reproduction

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Chris Moran Instructor: Gareth Evans **Session:** Semester 1a **Classes:** Residential: One month intensive starting one week before Semester 1 to week 3. About 50% practical tuition at Camden, and a practical field trip to Arthursleigh, with

remainder a mix of self-directed (on-line) learning, case studies and presentations. **Assessment:** Participation, learning journal and case reports, written report, oral presentation.

Note: This unit is an elective in the Postgraduate Program in Animal Science.

This Unit of Study is designed specifically for students wishing to extend their skills and knowledge of artificial breeding technologies, and will particularly suit students intending to work in the artificial breeding industries, or in rural mixed practice, and students interested in pursuing research in reproduction and biotechnology. The practical work will primarily focus on sheep and cattle, but the Unit of Study will be of interest to those wishing to work with other species, including companion animals, pigs, laboratory animals and wildlife. The Unit of Study will integrate the disciplines of quantitative and molecular genetics, animal health, nutrition, and reproduction, including advanced reproductive technologies as applied to managed breeding and assisted reproduction programs. Students will gain practical skills in artificial insemination, embryo transfer, gamete preservation and banking, pregnancy diagnosis, molecular genetics (proof of parentage, marker assisted selection), selection of breeding stock, and management of breeding programs. By the end of this unit students will be able to: Advise on implementation and management of artificial breeding programs in production animals, companion animals, and wildlife; Demonstrate proficiency in the legal, ethical and animal welfare aspects in managing artificial breeding programs; Design and manage an artificial breeding program in sheep or cattle, including appropriate selection of breeding stock; Perform breeding soundness examinations on sheep and cattle; Perform artificial insemination, embryo recovery and transfer, and pregnancy diagnosis in sheep and cattle; Advise on appropriate nutritional regimes for breeding stock; Advise on health requirements and management for breeding stock, and on the international transfer of semen and embryos; Students will also be able to describe: Artificial breeding techniques applicable to pigs, companion animals and wildlife; Techniques of gamete and embryo preservation and banking; Advanced biotechnology techniques applicable to the AB industries.

VETS8018

Advanced Anatomy and Physiology B

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Chris Moran Instructor(s): Melanie Collier, David Evans, Rosanne Taylor, P McGreevy, David Fraser, Jane Stevenson **Session:** Semester 2 **Classes:** On campus lectures, tutorials, practical sessions, workshops, computer-based learning. **Prerequisites:** VETS8014 **Prohibitions:** ANSC3004 **Assessment:** Dissection project, examination, assignments.

Note: This unit is an elective in the Postgraduate Program in Animal Science.

This unit of study provides an integrated study of the structure and function of livestock animals, covering topics which were not covered in VETS8014. It will build on the concepts which were introduced and skills acquired in the VETS8014 unit of study and extend students' knowledge of the structure and function of the urinary tract, nerve, muscle, bone and skin, cardiovascular system and nervous system, avian structure and function, aquaculture and deer production. The concepts developed will be applied to analysis and resolution of problems in animal production.

VETS8021

Animal Science Research Project A

Credit points: 6 **Teacher/Coordinator:** Professor Chris Moran **Session:** Semester 1, Semester 2 **Classes:** By supervision. **Assessment:** Dissertation, progress reports.

Note: This unit is core in the Postgraduate Program in Animal Science.

In this Unit of Study, participants will learn to conduct animal science research in a professional and ethical manner.

VETS8022

Animal Science Research Project B

Credit points: 6 **Teacher/Coordinator:** Professor Chris Moran **Session:** Semester 1, Semester 2 **Classes:** By supervision. **Corequisites:** VETS8021 **Assessment:** Dissertation, progress reports.

Note: This unit is core in the Postgraduate Program in Animal Science.

In this Unit of Study, participants will learn to conduct animal science research in a professional and ethical manner.

VETS8023

Animal Science Research Project C

Credit points: 6 **Teacher/Coordinator:** Professor Chris Moran **Session:** Semester 1, Semester 2 **Classes:** By supervision. **Corequisites:** VETS8022 **Assessment:** Dissertation, progress reports.

Note: This unit is core in the Postgraduate Program in Animal Science.

In this Unit of Study, participants will learn to conduct animal science research in a professional and ethical manner.

VETS8024

Animal Science Research Project D

Credit points: 6 **Teacher/Coordinator:** Professor Chris Moran **Session:** Semester 1, Semester 2 **Classes:** By supervision. **Corequisites:** VETS8023 **Assessment:** Dissertation, progress reports.

Note: This unit is core in the Postgraduate Program in Animal Science.

In this Unit of Study, participants will learn to conduct animal science research in a professional and ethical manner.

VETS8501

Applied Reproduction in Cattle

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: A/Professor John House Instructor: John House **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assessment:** Participation in face to face and WebCT tutorials, Skill test, Knowledge quiz, Individual assignment.

Note: This is a core unit in the postgraduate program in Veterinary Studies (Animal Production).

The objective of this course is to teach applied reproduction in cattle within the context of different husbandry systems. The course will include reproductive physiology, pharmacology, assisted reproductive techniques, and whole farm approaches to reproduction including management of reproductive records and records analysis. At the end of this Unit of Study, students will be able to: Make decisions regarding the reproductive management of individual animals; Perform common reproductive techniques including rectal palpation, artificial insemination, and embryo transfer; Evaluate herd reproductive performance; Develop a reproductive program to facilitate the reproductive management of beef and dairy cattle

Textbooks

Radostits OM. Herd Health, Food Animal Production Medicine. 3rd edn. St Louis: WB Saunders. InCalf Online Resources. <http://www.incalf.com.au>
Youngquist RS. Current Therapy in Large Animal Theriogenology. Philadelphia: WB Saunders

VETS8503

Applied Mastitis Prevention

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: A/Professor John House Instructor: John House **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assessment:** Participation in face to face and WebCT tutorials, Skill test, Knowledge quiz, Individual assignment.

Note: This is a core unit in the postgraduate program in Veterinary Studies (Animal Production).

The objective of this unit of study is to review dairy farm management and how it relates to mastitis risk and prevention. Students will gain on farm experience and use this experience and farm derived data to develop a mastitis monitoring and control program. At the end of this Unit of Study, students will be able to: Describe the common causes and symptoms of mastitis in cattle; Describe the principles of mastitis prevention; Design and implement an on farm mastitis monitoring program based on HACCP principals; Design and implement a farm based mastitis program

Textbooks

Countdown Downunder Technical notes available from <http://www.countdown.org.au/technotes.htm>

VETS8504

Lameness in Cattle

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: A/Professor John House Instructor: John House **Session:** Semester 1, Semester

2 **Classes:** Supervision. **Assessment:** Participation in face to face and WebCT tutorials, Skill test, Knowledge quiz, Individual assignment.

Note: This is a core unit in the postgraduate program in Veterinary Studies (Animal Production).

Lameness is one of the most costly diseases of dairy cattle. The objective of this unit is to outline the mechanisms of disease that contribute to lameness and the interactions between nutritional and environmental management that may contribute to the risk of lameness. Common causes of lameness will be illustrated and treatment strategies demonstrated. Students will conduct a whole farm lameness evaluation identifying risks for lameness and outlining strategies to prevent lameness. Practical experience will be derived from participation in on farm hoof and corrective trimming. During this process students will develop a record keeping system to record significant foot lesions and relate the observed findings to herd management practices that predisposed to their development. At the end of this Unit of Study, students will be able to: Identify and describe the common causes of lameness in cattle; Recognize environmental and nutritional variables that contribute to the risk of lameness; Develop the skills to correctly trim and treat lameness in cattle; Develop an effective health monitoring program that facilitates pattern recognition and disease investigation; Provide advice on the prevention of lameness in cattle; Apply and evaluate management systems to prevent lameness.

Textbooks

Radostits OM. Herd Health Food Animal Production Animal Medicine. 3rd edn. Philadelphia: WB Saunders

VETS9001

MVetStud Research Project A

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Hannah Forsyth Instructor(s): Supervisor(s) in relevant discipline. **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assessment:** 6,000 words or equivalent of publishable work.

Note: This unit is core to the MVetStud.

To conduct and communicate the results of scientific veterinary investigation in a professional and ethical manner. Conduct of this research project may require veterinary qualifications registrable in NSW.

VETS9002

MVetStud Research Project B

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Hannah Forsyth Instructor(s): Supervisor(s) in relevant discipline. **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Corequisites:** VETS9001 **Assessment:** 6,000 words or equivalent of publishable work.

Note: This unit is core to the MVetStud.

To conduct and communicate the results of scientific veterinary investigation in a professional and ethical manner. Conduct of this research project may require veterinary qualifications registrable in NSW.

VETS9003

Special Topics in Veterinary Studies

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Hannah Forsyth Instructor(s): Supervisor(s) in relevant discipline. **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assessment:** 6,000 words or equivalent.

Note: This unit is an elective in the Postgraduate Program in Veterinary Studies.

This unit will allow students to be supervised in specific areas of study that are not covered in any existing postgraduate units in veterinary studies. The purpose of this unit may include: interest in specific practical or clinical subject area, allowing greater depth of learning following from core units of study at Graduate Certificate level; interest in enhanced knowledge of a particular discipline/species; additional learning required to support a research project or case report. Students must discuss learning outcomes, methods for achieving them, assessment and assessment criteria with their supervisor and submit documentation to the Sub Dean for Postgraduate Coursework by the census date of the relevant semester. At the end of this Unit of Study, students will be able to: Discuss the major issues associated with their subject area; Interpret and critically evaluate scientific material or

information in their subject area; Make informed decisions in their subject area and implement them; Clearly communicate understanding of their subject area.

VETS9004

Case Report in Veterinary Studies

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Vanessa Barrs Instructor(s): Supervisor(s) in relevant discipline. **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assessment:** 6,000 words or equivalent.

Note: This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the GradDipVetStud (Small Animal Clinical Studies).

This unit will require the investigation and preparation of a case report suitable for publication in a scientific journal. The case chosen should make a novel contribution to the veterinary literature. The length of the case report will vary according to journal requirements. Oral presentation(s) will form a part of the assessment for this unit, varying according to the required length of the report. Students should discuss the case regularly with their supervisor and complete a student/supervisor agreement form early to submit to the Sub Dean for Postgraduate Coursework. At the end of this Unit of Study, students will be able to: Identify, locate and critically analyse information resources relevant to the case; Identify and communicate major issues; Accurately describe the features of a case; Communicate the interventions and outcomes of the case; Discuss the implications of the case for future cases and/or research and what aspects of the case have made a novel contribution to veterinary science in the field of study; Demonstrate technical expertise within an ethical and professional approach. Conduct of this case report may require veterinary qualifications registrable in NSW.

VETS9005

Veterinary Internal Medicine 1

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Dr Vanessa Barrs Instructor(s): Dr Vanessa Barrs, Dr Jules Beatty **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assumed knowledge:** Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. **Assessment:** On-going assessment of performance (40% of the final mark); submission of a detailed case log that will be assessed by a Board (10%); 45 minute viva voce interview (25%); individual assignment (25%). Students must possess a veterinary qualification registrable in NSW.

Note: This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Small Animal Clinical Studies). Employment in the University Veterinary Clinic would normally be a condition of enrolment.

Veterinary interns will be rostered to consult with the University Veterinary Centre, Sydney (UVCS) Medicine Service, primarily on first opinion cases. Interns will be supervised closely by a veterinary specialist in small animal, feline or canine medicine or by a referral medicine registrar. Veterinary interns will participate in the daily consultation, diagnostic investigation and treatment of primary accession cases. They will receive further training in problem-oriented medical case-solving and in diagnostic procedures on a case-by-case basis. Case investigation and management will be discussed on a daily basis at medicine rounds with colleagues in the medicine unit and with Program Academic Supervisors. Veterinary interns will present cases at weekly specialist medicine rounds where academics, external specialists and other practitioners attend. They will participate in weekly medicine journal club, appraising and critiquing literature relevant to small animal medicine. Opportunities for participation in clinical research projects will also be provided. This unit aims to re-inforce the principles of internal medicine as applied to the diagnostic investigation and therapy of disease in small animals. It focuses on implementation of the problem-oriented approach to medicine: defining the problems, identifying systems involved, localising lesions and identifying possible pathogenetic mechanisms of disease. It aims to show how application of this approach facilitates correct diagnosis and lays the foundation for advanced studies in internal medicine.

Textbooks

Ettinger SJ, Feldman EC. eds. Textbook of Veterinary Internal Medicine. Vol 1 & 2. Elsevier Saunders Missouri 2005

VETS9006

Veterinary Internal Medicine 2

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Dr Vanessa Barrs Instructor(s): Dr Vanessa Barrs, Dr Jules Beatty **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Prerequisites:** VETS9005 **Assumed knowledge:** Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. **Assessment:** On-going assessment of performance (40% of the final mark); submission of a detailed case log that will be assessed by a Board (10%); individual assignment (one of the following: literature review for a research study (approx 5000 words); preparation of a written case-report (approx 5000 words); preparation of an interactive case for web-CT; design of a medicine tutorial (40%). Students must possess a veterinary qualification registrable in NSW.

Note: This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Small Animal Clinical Studies). Employment in the University Veterinary Clinic would normally be a condition of enrolment.

Veterinary interns will be rostered to consult with the University Veterinary Centre, Sydney (UVCS) Medicine Service, primarily on first opinion cases. Interns will be supervised closely by a veterinary specialist in small animal, feline or canine medicine or by a referral medicine registrar. Veterinary interns will participate in the daily consultation, diagnostic investigation and treatment of primary accession cases. They will receive further training in problem-oriented medical case-solving and in diagnostic procedures on a case-by-case basis. Case investigation and management will be discussed on a daily basis at medicine rounds with colleagues in the medicine unit and with Program Academic Supervisors. Veterinary interns will present cases at weekly specialist medicine rounds where academics, external specialists and other practitioners attend. They will participate in weekly medicine journal club, appraising and critiquing literature relevant to small animal medicine. Opportunities for participation in clinical research projects will also be provided. This unit aims to re-inforce the principles of internal medicine as applied to the diagnostic investigation and therapy of disease in small animals. It focuses on implementation of the problem-oriented approach to medicine: defining the problems, identifying systems involved, localising lesions and identifying possible pathogenetic mechanisms of disease. It aims to show how application of this approach facilitates correct diagnosis and lays the foundation for advanced studies in internal medicine.

Textbooks

Ettinger SJ, Feldman EC. eds. Textbook of Veterinary Internal Medicine. Vol 1 & 2. Elsevier Saunders Missouri 2005

VETS9007

Veterinary Surgery

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Dr Vanessa Barrs Instructor(s): Associate Professor Geraldine Hunt, Dr Craig Macpherson **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assumed knowledge:** Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. **Assessment:** On-going assessment of performance (40% of the final mark); submission of a detailed case log that will be assessed by a Board (10%); external presentation (10%), individual assignment (40%). Students must possess a veterinary qualification registrable in NSW.

Note: Students must possess a veterinary qualification registrable in NSW. This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Small Animal Clinical Studies). Employment in the University Veterinary Clinic would normally be a condition of enrolment.

Veterinary interns will participate in second opinion, referral, in-house and primary accession consultations with the University Veterinary Centre, Sydney Surgery Service. They will participate in surgical procedures performed by the surgery service. Veterinary interns will perform surgical procedures on primary accession cases and participate in a spey clinic. They will be closely supervised by a surgery specialist or surgery referral registrar. Case management will be discussed at daily surgery rounds and on a case-by-case basis with supervisors. At the end of this Unit of Study, students will: Apply effective problem solving skills, including consideration of differential diagnoses, and the use of appropriate and cost effective diagnostic aids to diagnose the common surgical conditions of small animals; Develop and implement appropriate surgical techniques for common conditions in small animals; Communicate effectively with clients

regarding the management, treatment and relevant costs involved with the surgical conditions of their animals; Communicate effectively, orally and through appropriate sources of veterinary literature, with fellow veterinarians within the University and wider veterinary community; Work effectively individually and part of a team, including provision of support and advice to junior and senior colleagues; Demonstrate an ability to adapt to an environment of change and make decisions and act accordingly in unpredictable circumstances that might be encountered in small animal surgery; Demonstrate an ability to instruct/supervise junior colleagues in ovariohysterectomy and castration of small animals, through practical and theoretical demonstration of knowledge of the anatomy of the abdominal wall, urogenital tract, anatomical features that may complicate or facilitate ovariohysterectomy/ castration, advantages and disadvantages of open and closed castration.

Textbooks

Slatter DH. ed. Textbook of Small Animal Surgery. 2nd edn. Philadelphia: WB Saunders 2002

Fossum T. ed. Small Animal Surgery. 2nd edn. Mosby 2002

VETS9008

Veterinary Anaesthesia

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Vanessa Barrs Instructor: Dr Sanaa Zaki **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assumed knowledge:** Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. **Assessment:** On-going assessment of performance (50% of the final mark); 45 minute viva voce interview (25%); individual assignment (25%). Students must possess a veterinary qualification registrable in NSW.

Note: Students must possess a veterinary qualification registrable in NSW. This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Small Animal Clinical Studies). Employment in the University Veterinary Clinic would normally be a condition of enrolment.

'At the end of this Unit of Study, students should be able to: Demonstrate the ability to consistently and accurately assess a broad range of animal patients in terms of anaesthetic risk by integrating information obtained from the results of a physical examination and the interpretation of laboratory and other diagnostic tests; Demonstrate the ability to formulate logical, structured, flexible and appropriate anaesthetic and analgesia regimens for a variety of patients, including those which are healthy and those presenting with common disease conditions; Demonstrate the ability to safely induce and maintain anaesthesia in healthy patients and those presenting with common disease conditions. Included in this is the demonstrated ability to monitor, accurately assess and respond appropriately to changes in anaesthetic depth and to recognise and respond appropriately to complications that may arise in the perioperative period as well as the ability to recognise and respond appropriately to pain in cats and dogs; Demonstrate the ability to consistently maintain complete and structured anaesthetic records.

Textbooks

Hall WL. Clarke KW. Trim CM. Veterinary Anaesthesia. 10th edn. Harcourt Publishers Ltd 2001

Seymour C. Gleed R. BSAVA Manual of Small Animal Anaesthesia and Analgesia. BSAVA publishers 1999

Muir WW. Hubbell JAE. Skarda RT. Bednarski RM. Handbook of Veterinary Anaesthesia. 3rd edn. Mosby 2001

Paddleford RR. Manual of Small Animal Anaesthesia. 3rd edn. WB Saunders 2003

Thurmon. Tranquilli. Benson. Essentials of Small Animal Anesthesia and Analgesia. Lippincott, Williams & Wilkins 1999

Thurmon JC. Tranquilli WJ. Benson GJ. Lumb and Jones' Veterinary Anaesthesia. 3rd edn. Williams and Wilkins 1996

Nunn JF. Utting JE. Brown BR. General Anaesthesia. 5th edn. Butterworths 1989

Bedford PGC. Small Animal Anaesthesia The Increased - Risk Patient. Bailliere Tindell 1991

Stoelting RK. Dierdorf SF. Anesthesia and Co-Existing Disease. 3rd edn. Churchill & Livingstone 1993

Flecknell P. Waterman-Pearson A. Pain Management in Animals. WB Saunders 2000

Gayner JS. Muir WW. Handbook of Veterinary Pain Management. 1st edn. Mosby 2002

Greene SA. Veterinary Anaesthesia and Pain Management secrets. Hanley & Belfus. Medical Publishers 2002

Hall WL. Taylor PM. Feline Anaesthesia. 1st edn. Bailliere Tindall 1994

Taylor. Clarke. Handbook of Equine Anaesthesia. Saunders 1999
Meredith. Redrobe. BSAVA Manual of Exotic Pets. 4th edn. BSAVA Publishers 2002

Macintire. Drobatz. Haskins. Saxon. Manual of Small Animal Emergency and Critical Care Medicine. Lippincott, Williams & Wilkins 2005

Day. Mackin. Littlewood. BSAVA Manual of Small Animal Haematology and Transfusion Medicine. BSAVA publishers 2000

West JB. Respiratory Physiology - the Essentials. 7th edn. Lippincott Williams & Wilkins 2005

VETS9009

Veterinary Diagnostic Imaging

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Vanessa Barrs Instructor: Dr Graeme Allen **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assumed knowledge:** Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. **Assessment:** On-going assessment of performance (50% of the final mark); submission of a detailed case log that will be assessed by a Board (10%); 30 minute viva voce interview interpreting diagnostic images (30%); 15 minute abdominal ultrasound examination in a dog or a cat.

Note: This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Small Animal Clinical Studies). Employment in the University Veterinary Clinic would normally be a condition of enrolment.

At the end of this Unit of Study, students will develop skills in the use of diagnostic imaging in small animal clinical studies including: An ability to interpret and evaluate the clinical and pathophysiological features of disease of small animals as related to veterinary diagnostic imaging; A demonstrable skill in interpretation and reporting of radiographic and sonographic images; Knowledge of special diagnostic imaging procedures, including radiography, ultrasonography and other imaging modalities, including the pharmacology of radiographic contrast media and their physiological effects; Ability to perform and interpret the findings of an abdominal ultrasound examination in a dog and a cat.

VETS9021

Equine Surgery and Anaesthesia 1

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Dr Tony Mogg Instructor(s): Dr Tony Mogg, Dr Christine Smith, Associate Professor Andrew Dart, Dr Robin Bell, Dr Jamie Textor, Dr Christina Dart, Dr Zara Watson, Dr Jo Rainger **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assumed knowledge:** Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. Bachelor of Veterinary Science or equivalent. Degree registerable with Veterinary Surgeons Board of NSW. **Assessment:** On-going assessment of performance (40% of the final mark); submission of a detailed case log that will be assessed by a Board (10%); written report (25%); oral presentation (25%).

Note: This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Equine Medicine and Surgery). Employment in the University Veterinary Clinic would normally be a condition of enrolment.

At the end of this Unit of Study, students will: Have a detailed understanding of the history, signalment, presenting signs, physical examination findings, diagnosis, treatment and prognosis of the common surgically treated equine diseases in Australasia. This includes surgical diseases of the musculoskeletal system, alimentary tract, respiratory tract, urogenital system, skin and eye; Have a detailed understanding of the indications for, surgical techniques, post-operative care and potential complications of the common surgical procedures performed in ambulatory equine practice; Have a detailed understanding of the management of equine wounds; Have a detailed understanding of appropriate anaesthetic protocols for field anaesthesia in horses; Be able to identify and appropriately manage potential anaesthetic complications, as they pertain to field anaesthesia.

Textbooks

Auer JA. ed. Equine Surgery. 3rd edn. St Louis: Saunders Elsevier 2006

Taylor PM. Clarke KW. Handbook of Equine Anaesthesia. London: Saunders 1999

VETS9023

Equine Lameness

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Dr Tony Mogg Instructor(s): Dr Tony Mogg, Dr Christine Smith, Associate Professor Andrew Dart, Dr Robin Bell, Dr Jamie Textor **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assumed knowledge:** Students will have fundamental

3. Units of study

understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. Bachelor of Veterinary Science or equivalent. Degree registerable with Veterinary Surgeons Board of NSW. **Assessment:** On-going assessment of performance (40% of the final mark); submission of a detailed case log that will be assessed by a Board (10%); written report (25%); oral presentation (25%).

Note: This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Equine Medicine and Surgery). Employment in the University Veterinary Clinic would normally be a condition of enrolment.

At the end of this Unit of Study students will: Be able to perform a thorough lameness examination; including assessment of conformation, gait analysis, palpation, manipulation, and local analgesic techniques; Have a detailed understanding of the history, signalment, presenting signs, physical examination findings, diagnosis, treatment and prognosis of the common causes of equine lameness in Australasia; Have a basic understanding of the principles of podiatry as they apply to equine lameness.

Textbooks

Ross MW, Dyson SJ. eds. Diagnosis and Management of Lameness in the Horse. Philadelphia: Saunders 2003

VETS9024

Equine Medicine 1

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Dr Tony Mogg Instructor(s): Dr Tony Mogg, Professor David Hodgson **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assumed knowledge:** Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. Bachelor of Veterinary Science or equivalent. Degree registerable with Veterinary Surgeons Board of NSW. **Assessment:** On-going assessment of performance (40% of the final mark); submission of a detailed case log that will be assessed by a Board (10%); written report (25%); oral presentation (25%).

Note: This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Equine Medicine and Surgery). Employment in the University Veterinary Clinic would normally be a condition of enrolment.

At the end of this Unit of Study, students will: Be able to perform a thorough physical examination of a horse (including the neonatal foal); Have a detailed understanding of the history, signalment, presenting signs, physical examination findings, diagnosis, treatment and prognosis of the common medically treated equine diseases in Australasia; This includes medical diseases of the alimentary tract, respiratory tract, cardiovascular system, nervous system, urogenital system, haemopoietic system, endocrine system, skin and eye; Have a basic understanding of the clinical pharmacology of those drugs routinely used in equine practice; Have a basic understanding of the interpretation of common equine clinicopathologic abnormalities; including haematologic, biochemical and cytologic abnormalities.

Textbooks

Reed SM, Bayly WM, Sellon DC. eds. Equine Internal Medicine. 2nd edn. St Louis: Saunders 2004

Robinson NE. ed. Current Therapy in equine Medicine 5. Philadelphia: Saunders 2003

Bertone JJ, Horspool LJI. eds. Equine Clinical Pharmacology. Edinburgh: Saunders 2004

VETS9026

Equine Diagnostic Imaging

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Dr Tony Mogg Instructor(s): Dr Tony Mogg, Dr Christine Smith, Associate Professor Andrew Dart, Dr Robin Bell, Dr Jamie Textor **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assumed knowledge:** Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. Bachelor of Veterinary Science or equivalent. Degree registerable with Veterinary Surgeons Board of NSW. **Assessment:** On-going assessment of performance (40% of the final mark); submission of a detailed case log that will be assessed by a Board (10%); practical examination (50%).

Note: This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Equine Medicine and Surgery). Employment in the University Veterinary Clinic would normally be a condition of enrolment.

At the end of this Unit of Study, students will: Have a basic understanding of the principles of radiography, ultrasonography, nuclear scintigraphy and magnetic resonance imaging as they pertain to equine practice; Be able to produce radiographs of diagnostic quality of the equine lower limb; Be able to identify equine radiographic abnormalities, especially those of the lower limb; Be able to perform

routine ultrasonographic examinations of the equine lower limb, abdomen and thorax; Be able to identify equine ultrasonographic abnormalities, especially those of the lower limb, abdomen and thorax.

Textbooks

Butler JA, Colles CM, Dyson SJ. et al. eds. Clinical Radiology of the Horse. 2nd edn. Oxford: Blackwell Science 2000

Reef VB. Equine Diagnostic Ultrasound. Philadelphia: Saunders 1998

VETS9031

Ruminant Medicine

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: A/Professor John House Instructor: John House **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assumed knowledge:** Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. Bachelor of Veterinary Science or equivalent. Degree registerable with Veterinary Surgeons Board of NSW. **Assessment:** On-going assessment of performance (40% of the final mark); submission of a detailed case log that will be assessed by a Board (10%); 45 minute viva voce interview (25%), individual assignment (25%).

Note: This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Ruminant Medicine and Surgery). Employment in the University Veterinary Clinic would normally be a condition of enrolment.

The objective of this course is to provide advanced training in ruminant medicine. The course is conducted in a clinical setting providing for hands on experience and development of problem solving skills. Students will be presented with a mixture of case material that ranges from health problems in individual animals to health and production problems that relate to specific herds or larger populations of livestock. The emphasis of the program is to develop an analytical approach to large animal medicine based on sound science, a systematic diagnostic approach and a thorough analysis of available data. The extension of this process is a transition from a reactive problem solving relationship with clients to a proactive involvement in decision making, design, implementation, and monitoring of livestock populations to promote animal health, production, and welfare. At the end of this Unit of Study, students will: Develop a detailed knowledge regarding the pathophysiology of common ruminant diseases; Develop a systematic approach to the diagnosis of ruminant diseases in individual animals and an understanding of the implications for the population at risk; Implement management and/or treatment protocols for common medical conditions in ruminants; Develop analytical skills to investigate health and performance in livestock production animal systems; Design, implement, and monitor management protocols to promote animal health, production, and welfare in livestock populations; Communicate effectively with clients regarding individual animal and herd management; Communicate effectively, orally and through appropriate sources of veterinary literature, with fellow veterinarians within the University and wider veterinary community; Work effectively individually and as part of a team, including provision of support and advice to junior and senior colleagues; Ability to adapt to an environment of change and make decisions and act accordingly in unpredictable circumstances that might be encountered in a veterinary referral centre

Textbooks

Smith BP. Large Animal Internal Medicine. 3rd edn. St Louis: Mosby

Radostis OM, Gay CC, Blood DC, Hinchcliff KW. Veterinary Medicine. 9th edn. London: WB Saunders

Radostis OM. Herd Health, Food Animal Production Medicine. London: WB Saunders

VETS9032

Ruminant Nutrition

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: A/Professor John House Instructor: John House **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assumed knowledge:** Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. Bachelor of Veterinary Science or equivalent. **Assessment:** On-going assessment of performance (40% of the final mark); submission of a detailed herd nutritional assessment derived from a review conducted over the duration of the course (35%); 45 minute viva voce interview (25%).

Note: This unit is core to the postgraduate program in Vet Studies (Ruminant Medicine and Surgery and Animal Production). Employment in the University Veterinary Clinic would normally be a condition of enrolment.

The objective of this course is to provide theoretical and practical training in ruminant nutrition. Students will evaluate the nutritional status of herds during disease investigations and develop experience formulating rations working with client herds. These experiences are anticipated to provide students with skills in problem solving nutrition related health problems and an opportunity to observe the health and production response of livestock to the varied nutritional management practices found in herds utilizing the services of the Ruminant Health and Production Clinical Service. At the end of this Unit of Study, students will: Formulate rations using available feed ingredients; Investigate and interpret the impact of nutritional management on livestock health and production; Communicate effectively with clients regarding ruminant nutrition and the interactions between nutrition, health, reproduction and production; Communicate effectively, orally and through appropriate sources of veterinary literature, with fellow veterinarians within the University and wider veterinary community; Work effectively individually and as part of a team, including provision of support and advice to junior and senior colleagues.

Textbooks

Nutrient Requirements of Dairy Cattle, Subcommittee on Dairy Cattle Nutrition, Committee on Animal Nutrition, National Research Council

VETS9033

Ruminant Surgery

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: A/Professor John House Instructor: John House **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assumed knowledge:** Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. Bachelor of Veterinary Science or equivalent. Degree registerable with Veterinary Surgeons Board of NSW. **Assessment:** On-going assessment of performance (40% of the final mark), submission of a detailed case log that will be assessed by a Board (30%), 45 minute viva voce interview (30%).

Note: This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Ruminant Medicine and Surgery). Employment in the University Veterinary Clinic would normally be a condition of enrolment.

At the end of this Unit of Study, students will: Identify indications for surgical procedures in ruminants; Develop and implement an appropriate pre surgical management plan; Develop and implement appropriate analgesia or anaesthesia protocols in order to perform surgical or diagnostic procedures in ruminants; Conduct appropriate surgical techniques for common conditions in ruminants; Develop and implement an appropriate post surgical management plan for patients following surgery; Communicate effectively with clients regarding the management, treatment and relevant costs involved with the surgical conditions of their animals in an Australian context; Communicate effectively, orally and through appropriate sources of veterinary literature, with fellow veterinarians within the University and wider veterinary community; Work effectively individually and as part of a team, including provision of support and advice to junior and senior colleagues; Ability to adapt to an environment of change and make decisions and act accordingly in unpredictable circumstances that might be encountered in a veterinary referral centre.

Textbooks

Fabini SL. Ducharme NG. Farm Animal Surgery. St Louis: WB Saunders

VETS9050

Diagnostic Laboratory Techniques

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Paul Canfield Instructor: Prof Paul Canfield **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Assessment:** 5,000 word assignment and an oral presentation or equivalent.

Note: This unit is core to the Postgraduate Program in Veterinary Studies (Veterinary Diagnostic Pathology).

This unit focuses on components that allow a diagnostic veterinary laboratory to provide quality information for the purposes of diagnosis and prognosis. There will be opportunities to understand specimen handling and processing, safety in the laboratory, diagnostic instrumentation, aspects of quality control and assurance for laboratory results, and the establishment and use of reference ranges. Students will be exposed to the theory and practice of a wide range of diagnostic techniques and procedures. At the end of this Unit of Study, students

will: Operate common laboratory instrumentation; Know safety requirements for handling and processing biological specimens; Understand aspects of quality control and assurance in relation to laboratory results; Understand the use of reference ranges; Know the theory behind common diagnostic laboratory techniques; Communicate effectively to colleagues results of laboratory tests.

Textbooks

Raphael SS (senior author). Lynch's Laboratory Technology. 4th edn. Philadelphia: WB Saunders 1983 ISBN 0-7216-7465-8

Kaplin LA. Pesce AJ. eds. Clinical Chemistry. 3rd edn. St Louis: Mosby 1996 ISBN 0-8151-5243-4

Burtis CA. Ashwood ER. eds. Tietz Fundamentals of Clinical Chemistry. 5th edn. Philadelphia: WB Saunders 2001 ISBN 0-7216-8634-6

VETS9051

Haematological and Biochemical Analysis

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Paul Canfield Instructor: Prof Paul Canfield **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Corequisites:** VETS9050 **Assessment:** 5,000 word assignment and an oral presentation or equivalent.

Note: This unit is core to the Postgraduate Program in Veterinary Studies (Veterinary Diagnostic Pathology).

This unit focuses on the use of haematological and biochemical tests in the investigation of disease. Faecal analysis and Urinalysis (all aspects) are included in this unit for convenience. Students will develop knowledge of commonly used tests and analytes, and skill in interpretation of results. Practical skills will be developed in haematology, urinalysis and faecal analysis. At the end of this Unit of Study, students will: Know and use the range of haematological and biochemical tests available for investigation of disease; Perform a full blood count; Understand haematological investigation of anaemia, leukaemia and bleeding disorders; Perform routine urinalysis; Perform faecal analysis; Identify cells and other morphological structures on blood films, urine wet preparations, and faecal smears; Interpret the significance of results and communicate these effectively to colleagues.

Textbooks

Archer RK. Jeffcott LB. Comparative Clinical Haematology. 1st edn. Oxford: Blackwell Scientific. 1977 ISBN 0-632-00289-1

VETS9052

Necropsy and Surgical Pathology

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Paul Canfield Instructor(s): Dr Mark Krockenberger, Dr Kate Bosward, Prof Paul Canfield **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Corequisites:** VETS9050 **Assessment:** 5,000 word assignment and an oral presentation or equivalent.

Note: This unit is core to the Postgraduate Program in Veterinary Studies (Veterinary Diagnostic Pathology).

This unit focuses on developing observation, interpretation and reporting skills for morbid anatomy and histopathology. Students will perform necropsies and select tissues for histopathological examination. They will also be exposed to techniques of processing and staining (H&E, special stains and immunohistochemical staining). There will be special attention paid to describing gross and microscopic changes, and writing reports. Students will be exposed to the fundamentals of interpretation. At the end of this Unit of Study, students will: Perform necropsies on, and collect tissues from, standard species; Effectively describe and communicate gross pathological changes (necropsy and biopsy); Select fixed tissues for histopathological processing; Understand the theory and practice of tissue processing and staining; Examine and describe histopathological slides; Understand basic interpretive techniques; Write adequate biopsy and necropsy reports.

Textbooks

Slauson DO. Cooper BJ. Mechanisms of Disease. A Textbook of Comparative General Pathology. 3rd edn. Mosby 2002

McGavin MD. Carlton WW. Zachary JF. Thomson's Special Veterinary Pathology. 3rd edn. Mosby 2000

VETS9053**Microbi-, Cyt-&Parasit-ological Analysis**

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Paul Canfield Instructor: Prof Paul Canfield **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Corequisites:** VETS9050 **Assessment:** 6,000 word assessment (includes case reports), oral presentation or equivalent.

Note: This unit is core to the Postgraduate Program in Veterinary Studies (Veterinary Diagnostic Pathology).

This unit focuses on the routine processing and basic interpretation of samples. Part of this unit will be an understanding of the appropriateness of samples, especially for microbiological processing. Detection and identification of micro-organisms (especially bacteria and fungi) and determination of appropriate treatment will be a major component, as will the identification and interpretation of cells in fluids and fine needle cell aspirates. In many cases, cytological examination and interpretation is likely to be linked with microbiological investigation. Students will be exposed to some simple virological tests and procedures, and parasitological (metazoa and protozoa) examination and interpretation. At the end of this Unit of Study, students will: Process appropriate microbiological, cytological and parasitological samples; Detect and identify common microbes and parasites; Understand and determine antimicrobial treatment; Understand fundamental concepts surrounding infection, infestation and the production of disease; Identify and interpret cells and other morphological structures in fluids and fine needle cell aspirates; Write adequate reports for microbiological, cytological and parasitological samples.

Textbooks

Raskin RE. Meyer DJ. eds. Atlas of Canine and Feline Cytology. 1st edn. Philadelphia: WB Saunders 2001 ISBN 0-7216-6335-4

VETS9054**Diagnostic Instrumentation Advanced**

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Paul Canfield Instructor: Prof Paul Canfield **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Corequisites:** VETS9050, VETS9051, VETS9052, VETS9053 **Assessment:** 5,000 word assessment and oral presentations or equivalent.

Note: This unit is an elective in the Postgraduate Program in Veterinary Studies (Veterinary Diagnostic Pathology).

This unit focuses on laboratory instrumentation used in veterinary practice as well as in a commercial laboratory practice. Students will be exposed to in-depth theory and practice of a wide range of diagnostic techniques and procedures. There will be a greater emphasis on quality control and assurance for laboratory results. Statistical analysis of results and establishment of reference intervals will be an important component of this UoS. At the end of this Unit of Study, students will: Effectively operate common and advanced laboratory instrumentation; Know safety requirements for handling and processing biological specimens; Have advanced understanding aspects of quality control and assurance in relation to laboratory results; Understand the statistical evaluation of laboratory results; Be able to develop reference intervals for a range of biochemical and haematological tests; Know in-depth the theory behind common and advanced diagnostic laboratory techniques; Communicate effectively to colleagues results of laboratory tests.

Textbooks

Kaneko JJ. Harvey JW. Bruss ML. eds. Clinical Biochemistry of Domestic Animals. 5th edn. San Diego: Academic Press Inc. 1997. ISBN 0-12-396305-2

VETS9055**Clinical Pathology Interpretation Adv**

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Paul Canfield Instructor: Prof Paul Canfield **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Corequisites:** VETS9050 **Assessment:** 6,000 word assessment and oral presentations or equivalent.

Note: This unit is an elective in the Postgraduate Program in Veterinary Studies (Veterinary Diagnostic Pathology).

This unit focuses on the advanced interpretation of clinical pathology results for purposes of diagnosis and prognosis. There will be a great emphasis on haematological and biochemical test analysis, with students being introduced to specialist topics such as bone marrow

analysis, blood typing, coagulation studies, endocrinological analysis, protein electrophoresis analysis and acute phase proteins determination. At the end of this Unit of Study, students will: Understand advanced haematological investigation of anaemia, leukaemia and bleeding disorders; Perform bone marrow analysis; Perform and interpret coagulation studies; Perform and interpret endocrine assays; Perform and interpret protein electrophoretic and acute phase protein analysis; Interpret the significance of all clinical pathology results and communicate these effectively to colleagues.

Textbooks

Archer RK. Jeffcott LB. Comparative Clinical Haematology. 1st edn. Oxford: Blackwell Scientific 1977. ISBN 0-632-00289-1

VETS9056**Necropsy and Surgical Pathology Adv**

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Paul Canfield Instructor(s): Prof Paul Canfield, Dr Mark Krockenberger, Dr Katrina Bosward **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Corequisites:** VETS9050, VETS9052 **Assessment:** 6,000 words assessment, oral presentation (may be included in necropsy procedures), necropsy and surgical pathology techniques and reporting are a major emphasis and will incorporate most of the 6,000 words assessment

Note: This unit is an elective in the Postgraduate Program in Veterinary Studies (Veterinary Diagnostic Pathology).

This unit focuses on developing advanced observation, interpretation and reporting skills for morbid anatomy and histopathology. Students will perform necropsies and select complete ranges of tissues for histopathological examination. They will also be expected to develop skills in techniques of processing a wide range of tissues and staining (in particular histochemical and immunohistochemical stains). There will be a greater emphasis (compared to VETS6052) paid to describing gross and microscopic changes, and writing reports. Students will be exposed to advanced levels of interpretation. At the end of this Unit of Study, students will: Perform necropsies on, and collect a wide range of tissues from, standard species; Describe and communicate gross pathological changes (necropsy and biopsy) at an advanced level; Select a wide range of fixed tissues for histopathological processing; Understand the theory and practice of routine tissue processing and staining; Understand the theory and practice of histochemical and immunohistochemical processing and staining; Perform histochemical and immunohistochemical processing and staining; Examine and describe histopathological slides to an advanced level; Be able to interpret common diseases from necropsy and biopsy material; Write superior biopsy and necropsy reports.

Textbooks

Slauson DO. Cooper BJ. Mechanisms of Disease. A Textbook of Comparative General Pathology. 3rd edn. Mosby 2002

VETS9057**Cytological Analysis Advanced**

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Paul Canfield Instructor: Prof Paul Canfield **Session:** Semester 1, Semester 2 **Classes:** Supervision. **Corequisites:** VETS9050, VETS9053 **Assessment:** Assessment may be negotiated between student and supervisor to the equivalent of: 5,000 - 6,000 words of formal, written assignments (includes case reports), One 15 minute presentation, Cytological processing and reporting (non-negotiable).

Note: This unit is an elective in the Postgraduate Program in Veterinary Studies (Veterinary Diagnostic Pathology).

This unit focuses on the processing and interpretation of cytological samples. This will include both fluid and solid tissue analysis. There will be an emphasis on description and interpretation of fluids and solid tissue cytology. There will be an expectation that report writing will be of a high standard. At the end of this Unit of Study, students will: Process cytological samples from urine, joints, body cavities and cerebrospinal fluid; Process cytological samples from solid tissue (including fine needle cell aspirates, imprints and scrapings); Identify and interpret cells and other morphological structures in fluids and solid; Interpret pathological processes and common conditions in cytological samples; Write superior reports for cytological samples.

Textbooks

Raskin RE. Meyer DJ. eds. Atlas of Canine and Feline Cytology. 1st edn. Philadelphia: WB Saunders 2001. ISBN 0-7216-6335-4

Baker R. Lumsden JH. eds. Color Atlas of Cytology of the Dog and Cat. 1st edn. St Louis: Mosby. 2000. ISBN 0-8151-0402-2
 Cowell RL, Tyler RD, Meinkoth JH. eds. Diagnostic Cytology and Hematology of the Dog and Cat. 2nd edn, St Louis: Mosby. 1999. ISBN 0-8151-0362-X
 Cowell RL, Tyler RD. eds Diagnostic Cytology and Hematology of the Horse. 2nd edn. St Louis: Mosby Inc. 2002. ISBN 0-323-01317-1

PUBH5018

Introductory Biostatistics

Credit points: 6 **Teacher/Coordinator:** Dr Petra Macaskill **Session:** Semester 1 **Classes:** 1x2hr lecture, 11x1hr lectures, 11x2hr tutorials, 2x2hr and 10x0.5hr statistical computing self directed learning tasks over 12 weeks **Assessment:** 1x4page assignment (30%) and 1x2.5hr open-book exam (70%)

This unit aims to provide students with an introduction to statistical concepts, their use and relevance in public health. This unit covers: summarising and displaying data; sampling; probability distributions; sampling distribution of the mean; confidence interval and significance tests for one-sample and paired continuous data, for a proportion and paired binary data, for two independent proportions, for the means of two independent samples; correlation and simple linear regression; distribution-free methods for two independent samples, two paired samples and correlation; sample size estimation; statistical aspects of study design and analysis and implementing methods using statistical software (SPSS). It is expected that students spend an additional 2 hours preparing for their tutorials. This unit may be undertaken in face to face or online/distance mode. Computing tasks are self-directed.

Textbooks

Course notes are provided.

WILD5001

Australasian Wildlife: Introduction

Credit points: 6 **Session:** S1 Intensive **Classes:** Intensively taught unit, the remainder of the unit will involve personal study and project activity. See the Wildlife Health and Population Management website for dates. **Assessment:** assessments for each unit may include practical work, field studies, student presentations and written reports

Note: Core

This unit of study provides an introduction to the wildlife of Australasia, an overview of the present status of that wildlife, and an understanding of both conservation problems and management solutions. Issues in wildlife management are exemplified using a broad range of vertebrate species occupying different environments. Emphasis is placed on providing students with a coordinated and interdisciplinary approach to wildlife health and management, and on developing expertise in recognising and solving a broad range of problems in field populations. The unit integrates lectures, practical work and supervised study, and offers students the opportunity to work through real-world wildlife conservation problems relevant to their individual backgrounds.

WILD5002

Australasian Wildlife: Field Studies

Credit points: 6 **Session:** S1 Intensive **Classes:** Intensively taught unit. See the Wildlife Health and Population Management website for dates. **Assessment:** Assessments for each unit may include practical work, field studies, student presentations and written reports

Note: Core

This unit of study provides a first-hand introduction to the wildlife of Australasia, a practical overview of the present status of that wildlife, and an understanding of both conservation problems and management solutions. Issues in wildlife management are exemplified using sampling and diagnostic methods on a broad range of vertebrate species occupying different environments. The unit follows on from WILD5001 and provides practical experience via a five day field trip.

WILD5003

Wildlife Health

Credit points: 6 **Teacher/Coordinator:** A/Prof Tony English **Session:** S1 Late Int **Classes:** A full-time week on the Camden campus, with one day spent on a field trip to Taronga Zoo. **Assessment:** The assessment of this unit occurs both in the full-time week and in individual written assignments done in the student's own time. The full-time week contributes 40% of the total mark through a number of individual and syndicate tasks, with presentations to the group.

The remaining 60% comes from two written assignments of 3,000 words (20%) and 5,000 words (40%) respectively.

This unit of study provides an introduction to the health issues confronting wildlife in Australasia, an overview of the health status of that wildlife, and an understanding of both the investigation of health problems and the effective management of these. Issues in wildlife disease management are exemplified using a broad range of vertebrate species occupying different environments. Emphasis is placed on providing students with a coordinated and interdisciplinary approach to wildlife health, and on developing expertise in recognising and solving a broad range of health problems in field populations. The unit is taught intensively in a full-time week on the Camden campus, with one day spent on a field trip to Taronga Zoo. The unit integrates lectures, practical work and supervised study, and offer students the opportunity to work through real-world wildlife conservation problems relevant to their individual backgrounds.

Textbooks

Unit of Study Handbook is the primary reference.

WILD5004

Vertebrate Pest Management

Credit points: 6 **Teacher/Coordinator:** A/Prof Tony English **Session:** S2 Intensive **Classes:** The Unit is taught in a full-time week at the university farm "Arthursleigh" near Marulan NSW. There are lectures, tutorials, and a variety of practical classes. **Assessment:** The assessment of this unit occurs both in the full-time week and in individual written assignments done in the student's own time. The full-time week contributes 40% of the total mark through a number of individual and syndicate tasks, with presentations to the group. The remaining 60% comes from two written assignments of 3,000 words (20%) and 5,000 words (40%) respectively.

Note: Optional

Vertebrate pests occur in many parts of the world, and can pose significant problems for management of habitat, agricultural productivity, human and wildlife health. This unit focuses on vertebrates that have been introduced to new environments, and considers in detail the impacts and management of pest vertebrates in Australia. Steps in pest management are reviewed, from problem analysis to acceptable levels of control, using case studies of cane toads, rabbits, house mice and red foxes. Traditional mortality methods of management are reviewed, and emphasis placed on developing methods based on fertility control. The Unit is taught in a full-time week at the university farm "Arthursleigh" near Marulan NSW. There are lectures, tutorials, and a variety of practical classes. The Unit is taught in a full-time week at the university farm "Arthursleigh" near Marulan NSW. There are lectures, tutorials, and a variety of practical classes.

Textbooks

Unit of Study Handbook is the primary reference.

WILD5005

In Situ Wildlife Management

Credit points: 6 **Teacher/Coordinator:** A/Prof Tony English **Session:** S1 Late Int **Classes:** Intensively taught unit. See the Wildlife Health and Population Management website for dates. **Assessment:** Assessments for each unit may include practical work, field studies, student presentations and written reports

Note: Optional

Wildlife populations do not remain static, but change in size and composition over both time and space. The challenge for managers is to recognise when change in target populations exceeds acceptable limits and intervention is necessary. This unit of study develops skills in assessing population status and recognising differences between 'small populations' and 'declining populations'. It introduces methods used in population pattern analysis, demographic analysis, threat and resource assessment, and determination of health, emphasising the value of a coordinated and interdisciplinary approach to problem recognition and resolution.

WILD5006

Ex Situ Wildlife Management

Credit points: 6 **Teacher/Coordinator:** A/P Tony English **Session:** S2 Late Int **Classes:** The Unit is taught in a full-time week at Western Plains Zoo in Dubbo, NSW. **Assessment:** The assessment of this unit occurs both in the

3. Units of study

full-time week and in individual written assignments done in the student's own time. The full-time week contributes 40% of the total mark through a number of individual and syndicate tasks, with presentations to the group. The remaining 60% comes from two written assignments of 3,000 words (20%) and 5,000 words (40%) respectively.

Wildlife populations are under a variety of threats, most of which result from human activities. Modern conservation biology seeks practical solutions to these problems, using a wide variety of options. These options may include captive breeding and re-introduction programs, provided that a range of biological, ethical and politico-economic issues are addressed. This unit of study will provide students with the ability to evaluate the likely cost-effectiveness of such programs. It will also develop knowledge of the technologies available to capture and translocate wildlife, and of the planning required to ensure the best possible chance of success. The Unit is taught in a full-time week at Western Plains Zoo in Dubbo, NSW. The unit integrates lectures, tutorials, practical work and supervised study, and offers students the opportunity to examine real-world problems in the conservation and management of threatened wildlife populations using case studies relevant to their individual backgrounds.

Textbooks

Unit of Study Handbook is the primary reference.

WILD5007

Sustainable Wildlife Use and Stewardship

Credit points: 6 **Teacher/Coordinator:** A/Prof Tony English **Session:** S2 Late Int **Classes:** A full-time week at the Camden campus (2 days) and at "Arthursleigh" farm (3 days). **Assessment:** The assessment of this unit occurs both in the full-time week and in individual written assignments done in the student's own time. The full-time week contributes 40% of the total mark through a number of individual and syndicate tasks, with presentations to the group. The remaining 60% comes from two written assignments of 3,000 words (20%) and 5,000 words (40%) respectively.

The unit considers the potential for sustainable use of wildlife to contribute to the conservation of biodiversity and the economic well-being of local communities. There will be consideration of both consumptive and non-consumptive utilisation programs, using both Australian and international examples. Ethical and animal welfare issues will be considered in some detail. The Unit is taught in a full-time week at the Camden campus (2 days) and at "Arthursleigh" farm (3 days). There are lectures, tutorials and practical classes. A case study on the Australian kangaroo harvesting industry will provide an opportunity to examine all the factors that need to be taken into account - biological, socio-cultural, economic and animal welfare issues.

4. Tables of units of study

Bachelor of Veterinary Science

Bachelor of Animal and Veterinary Bioscience

Bachelor of Science (Veterinary)

Postgraduate Coursework in the Faculty of Veterinary Science

<i>Unit of study</i>	<i>Credit points</i>	<i>A: Assumed knowledge P: Prerequisites C: Corequisites N: Prohibition</i>	<i>Session</i>
Bachelor of Veterinary Science			
Year 1			
VETS1006 Animal Husbandry 1A	5		Semester 1
VETS1013 Cell Biology 1A	4	A HSC or senior school level chemistry and/or biology would be an advantage.	Semester 1
CHEM1405 Chemistry	6	A HSC Chemistry	Semester 1
VETS1021 Professional Practice 1A	3		Semester 1
VETS1014 Veterinary Anatomy and Physiology 1A	6		Semester 1
VETS1019 Animal Husbandry 1B	7	A A basic understanding of biological principles. P VETS1006 Animal Husbandry 1A	Semester 2
VETS1018 Cell Biology 1B	6	P VETS1013 Cell Biology 1A	Semester 2
VETS1017 Professional Practice 1B	3	P VETS1021 Professional Practice 1A, VETS1006 Animal Husbandry 1A	Semester 2
VETS1020 Veterinary Anatomy and Physiology 1B	8	P VETS1014	Semester 2
Year 2			
VETS2010 Animal Digestion and Nutrition	7	A VETS1014 Veterinary Anatomy and Physiology 1A, VETS1020 Veterinary Anatomy and Physiology 1B.	Semester 1
VETS2009 Genetics and Biometry	6	A HSC Mathematics, VETS1018 Cell Biology 1B	Semester 1
VETS2008 Professional Practice 2	4	P VETS1021 Professional Practice 1A and VETS1017 Professional Practice 1B.	Semester 1
VETS2011 Veterinary Anatomy and Physiology 2A	7	A Veterinary Science Year 1	Semester 1
VETS2012 Equine Anatomy	4	P VETS1014 Veterinary Anatomy and Physiology 1A, VETS1020 Veterinary Anatomy and Physiology 1B, VETS2011 Veterinary Anatomy and Physiology 2A, VETS2010 Animal Digestion and Nutrition	Semester 2
VETS2013 Principles of Disease	8	A Veterinary Science Year 1 (Semesters 1 and 2) and Year 2 (Semester 1 only).	Semester 2
VETS2015 Veterinary Conservation Biology	4		Semester 2
VETS2016 Veterinary Anatomy and Physiology 2B	8	A VETS 1014 Veterinary Anatomy and Physiology 1A, VETS 1020 Veterinary Anatomy and Physiology 1B, VETS 2011 Veterinary Anatomy and Physiology 2A, Animal Digestion & Nutrition VETS2010.	Semester 2
Year 3			
VETS3018 Animal Behaviour and Animal Welfare Sci	3	A Veterinary Science Years 1 - 2.	Semester 1
VETS3040 Veterinary Microbiology	5	A Veterinary Science Years 1 - 2.	Semester 1

4. Tables of units of study

Unit of study	Credit points	A: Assumed knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
VETS3041 Veterinary Parasitology	5	A Veterinary Science Years 1 and 2. N VETS3037	Semester 1
VETS3011 Veterinary Pathology	7	A Veterinary Science Years 1 - 2.	Semester 1
VETS3013 Veterinary Pharmacology and Toxicology	4	A Veterinary Science Years 1 - 2.	Semester 1
VETS3038 Animal Disease	9	A Veterinary Science Years 1 - 2, Year 3 (Semester 1) N VETS3020	Semester 2
VETS3039 Professional Practice 3	4	A Professional Practice 1A, 1B, 2.	Semester 2
VETS3027 Veterinary Clinical Sciences 3	7	P Veterinary Science Years 1 - 2 and Semester 1 Year 3.	Semester 2
VETS3025 Veterinary Public Health	4	A Veterinary Science Years 1 - 2	Semester 2
Year 4			
VETS4331 Animal Husbandry Practical Report	2	A Veterinary Science Years 1-2 before extramural placements commence.	Semester 1
VETS4111 Veterinary Anaesthesia	4	P Veterinary Science Years 1 - 3. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision.	Semester 1
VETS4112 Veterinary Medicine & Clinical Pathology	8	P Veterinary Science Years 1 - 3. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision.	Semester 1
VETS4113 Veterinary Radiology	4	P Veterinary Science Years 1 - 3. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision.	Semester 1
VETS4114 Veterinary Surgery	6	P Veterinary Science Years 1 - 3. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision.	Semester 1
VETS4221 Bird Health and Production	4	P Veterinary Science Years 1 - 3. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision.	Semester 2
VETS4222 Horse Medicine and Surgery	6	P Veterinary Science Years 1 - 3. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision.	Semester 2
VETS4223 Pig Health and Production	4	P Veterinary Science Years 1 - 3. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision.	Semester 2
VETS4224 Ruminant Health and Production	10	P Veterinary Science Years 1 - 3. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision.	Semester 2
Year 5			
VETS5347 Anaesthesia and Intensive Care (UVCS)	4	P Veterinary Sciences Years 1-4. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision.	Semester 1 Semester 2
VETS5350 Elective Rotation 1	5	P Veterinary Sciences Years 1-4. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision.	Semester 1 Semester 2
VETS5351 Elective Rotation 2	5	P Veterinary Sciences Years 1-4. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision.	Semester 1 Semester 2
VETS5331 Preparation Veterinary Practice	2	P Veterinary Science Years 1 - 4 completed. Permit from Board of Veterinary Surgeons of NSW to perform Acts of Veterinary Science under supervision.	Semester 1 Semester 2
VETS5345 Primary Accession Med & Surgery (UVCS)	4	P Veterinary Sciences Years 1-4. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision.	Semester 1 Semester 2
VETS5346 Referral Medicine (UVCS)	4	P Veterinary Sciences Years 1-4. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision.	Semester 1 Semester 2
VETS5337 Rural Mixed Practice 2 (Extramural)	5	P Veterinary Science Years 1 - 4 completed. Permit from Board of Veterinary Surgeons of NSW to perform Acts of Veterinary Science under supervision.	Semester 1 Semester 2
VETS5336 Rural Mixed Practice 1 (UVCC)	5	P Veterinary Science Years 1 - 4 completed. Permit from Board of Veterinary Surgeons of NSW to perform Acts of Veterinary Science under supervision.	Semester 1 Semester 2
VETS5349 Rural Public Practice	5	P Veterinary Sciences Years 1-4. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision.	Semester 1 Semester 2
VETS5335 Small Animal Practice (Extramural)	5	P Veterinary Science Years 1 - 4 completed. Permit from Board of Veterinary Surgeons of NSW to perform Acts of Veterinary Science under supervision.	Semester 1 Semester 2
VETS5348 Small Animal Surgery (UVCS)	4	P Veterinary Sciences Years 1-4. Permit from Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision.	Semester 1 Semester 2
Bachelor of Animal and Veterinary Bioscience			
Year 1			
Year 1 will have the following 48 credit point structure:			
AGEC1006 Economic Environment of Agriculture	6	A HSC Mathematics N AGEC1003, AGEC1004	Semester 1
ANSC2002 Animal Science 2	6	P CROP1001 and one of BIOL1001, BIOL1101, BIOL1901	Semester 2
BIOM1003 Biometry 1	6	A 70 or more in HSC Mathematics	Semester 2

Unit of study	Credit points	A: Assumed knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
BIOL1001 Concepts in Biology	6	A No previous knowledge required. Students who have not taken HSC biology are recommended to take the Biology Bridging Course (in February). Students who have completed HSC Biology are advised to enrol in BIOL1101 Ecosystems to Genes rather than BIOL1001. N BIOL1101, BIOL1901 <i>It is recommended that BIOL (1001 or 1101 or 1901) be taken before all Semester 2 Junior units of study in Biology.</i>	Semester 1 Summer Main
OR			
BIOL1101 Biology - Ecosystems to Genes	6	P HSC 2-unit Biology or equivalent. N BIOL1001, BIOL901 <i>It is recommended that BIOL (1001 or 1101 or 1901) be taken before all Semester 2 Junior units of study in Biology.</i>	Semester 1
OR			
BIOL1901 Biology - Ecosystems to Genes (Advanced)	6	P UAI of at least 93 and HSC Biology result in the 90th percentile or better, or Distinction or better in a University level Biology unit, or by invitation. N BIOL1001, BIOL1101 <i>Note: Department permission required for enrolment</i> <i>It is recommended that BIOL (1001 or 1101 or 1901) be taken before all Semester 2 Junior units of study in Biology.</i>	Semester 1
BIOL1002 Living Systems	6	A HSC 2-unit Biology. Students who have not undertaken an HSC biology course are strongly advised to complete a Biology Bridging Course (in February). N BIOL1902	Semester 2
OR			
BIOL1902 Living Systems (Advanced)	6	P UAI of at least 93 and HSC Biology result in the 90th percentile or better, or Distinction or better in a University level Biology unit, or by invitation. N BIOL1002, BIOL1904, BIOL1905 <i>Note: Department permission required for enrolment</i>	Semester 2
CHEM1405 Chemistry	6	A HSC Chemistry	Semester 1
CROP1001 Agricultural Science 1A	6	A HSC Chemistry N HORT1001, LWSC1001	Semester 1
CROP1002 Agricultural Science 1B	6	C CROP1001 N HORT1002, LWSC1002	Semester 2
Year 2			
Year 2 has the following 48 credit point structure: 36 credit points of core units of study and 12 credit points of units from either (i) the Animal Biosciences area of interest OR (ii) the Ecosystem Management and Animal Production area of interest.			
AGCH2004 Agricultural Chemistry	6	P CHEM1405 N AGCH2003	Semester 1
ANSC2004 Animal Conservation Biology	6	N VETS2015	Semester 2
BIOM2001 Biometry 2	6	P BIOM1003 or equivalent	Semester 1
ENTO2002 Entomology and Parasitology	6	P CROP1001, BIOL1001, BIOL1901 or BIOL1101	Semester 2
GENE2001 Agricultural Genetics 2	6	P (BIOL1001 or BIOL1101 or BIOL1901) and (BIOL1002 or and BIOL1902) and (BIOM1001 or BIOM1003)	Semester 1
MICR2026 Microbes and Animal Health	6	P 12 credit points of Junior Biology N MICR2021, MICR2921, MICR2001, MICR2901, MICR2003, MICR2011, MICR2909 <i>Only available to students in the Bachelor of Animal Science or the Bachelor of Animal and Veterinary Bioscience.</i>	Semester 2
Animal Biosciences			
ANSC3103 Animal Structure and Function 3A	6	P ANSC2002	Semester 1
ANSC3104 Animal Structure and Function 3B	6	P ANSC2002, ANSC3103 OR ANSC3003	Semester 2
OR			
Ecosystem Management and Animal Production			
Candidates enrolling in the Ecosystem Management and Animal Production area must enrol in ANSC3103 and ANSC3104 in year 3.			
PLNT2003 Plant Form and Function	6	A The content of BIOL(1002 or 1902) is assumed knowledge and students entering from BIOL(1003 or 1903) will need to do some preparatory reading P 12 credit points of Junior Biology (or with the Dean's permission), BIOL1201 and BIOL1202 or BIOL1001 and ENVI1002 N PLNT2903, BIOL2003, BIOL2903, CROP2001	Semester 2
SOIL2003 Soil Properties and Processes	6		Semester 1
Year 3			
Year 3 has the following 48 credit point structure: 18 credit points of core units of study and either (i) for students enrolling in the Animal Biosciences area of interest, 30 credit points of electives chosen from those listed, OR (ii) for students enrolling in the Ecosystem Management and Animal Production area of interest, ANSC3103, ANSC3104 and 18 credit points of electives chosen from those listed.			
Core units			
ANSC3101 Animal Nutrition 3	6	P ANSC2002	Semester 2
ANSC3102 Animal Reproduction	6	P ANSC2002	Semester 1

4. Tables of units of study

Unit of study	Credit points	A: Assumed knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
ANSC3107 Animal Genetics 3	6	P GENE2001 or MBLG2072 or MBLG2972 or equivalent <i>Note: Department permission required for enrolment in the following sessions: Semester 2</i>	Semester 1 Semester 2
And for students enrolled in the Ecosystem Management and Animal Production area of interest:			
ANSC3103 Animal Structure and Function 3A	6	P ANSC2002	Semester 1
ANSC3104 Animal Structure and Function 3B	6	P ANSC2002, ANSC3103 OR ANSC3003	Semester 2
Elective units			
Enrolment in elective units is subject to prerequisite and corequisite requirements, prohibitions and timetabling constraints.			
AGCH3025 Chemistry and Biochemistry of Foods A	6	P 6 credit points of Intermediate units in Agricultural Chemistry, Chemistry or Biochemistry N AGCH3017, AGCH3024	Semester 1
AGCH3026 Chemistry and Biochemistry of Foods B	6	P 6 credit points of Intermediate Chemistry, Biochemistry or Agricultural Chemistry C AGCH3025 N AGCH3003, AGCH3005, AGCH4006	Semester 1
AGCH3030 Rural Environmental Chemistry A	6	P 6 credit points of either Intermediate Agricultural Chemistry, Chemistry, Biochemistry, Plant Science or Environmental Science N AGCH3020, AGCH3021, AGCH3022	Semester 1
AGCH3031 Rural Environmental Chemistry B	6	P 6 credit points of either Intermediate Agricultural Chemistry, Chemistry, Biochemistry, Plant Science or Environmental Science N AGCH3020, AGCH3021, AGCH3022	Semester 2
AGEC2101 Market and Price Analysis	6	P ECON1001 or AGECE1006 or (AGECE1003 and AGECE1004) N AGECE2001	Semester 2
AGEC2102 Agribusiness Marketing	6	P AGECE1006 or (AGECE1003 and AGECE1004) or AGECE1002 or AGECE1102 or RSEC1031 or AGECE1031	Semester 1
AGEC2103 Production Economics	6	P ECON1001 or AGECE1006 or (AGECE1003 and AGECE1004) N AGECE2003	Semester 1
AGEC3101 Agribusiness Management	6	P AGECE2103 or AGECE2003 or AGECE1006 or (AGECE1003 and AGECE1004) N AGECE1102; AGECE3103; AGECE3001	Semester 2
AGRO3002 Agronomy 3	6	A CROP1001 or HORT1001 or LWSC1001 P PLNT2003 or PLNT2903	Semester 1
AGRO3003 Crop Water Management	6	A CROP1001 or HORT1001 or LWSC1001 P PLNT2003 or PLNT2903	Semester 2
ANSC3105 Animal Biotechnology	6	P GENE2001, ANSC2002	Semester 2
ANSC3106 Animal Behaviour and Welfare Science 3	6	P ANSC2002 N VETS3018	Semester 1
BIOM3004 Biometry 3	6	P BIOM2001 or BIOM2002 N BIOM3005	Semester 1
MICR2022 Microbes in Society	6	A MICR (2021 or 2921 or 2024) P 6 credit points of Junior Biology and (6 credit points of MBLG1001 or PLNT2001 or PLNT2911) and 6 credit points of Junior Chemistry N MICR2922, MICR2002, MICR2902, MICR2004, MICR2008, MICR2012, MICR2909 <i>Students are very strongly advised to complete MICR (2021 or 2921 or 2024) before enrolling in MICR2022 in Semester 2. For progression on to Senior Microbiology units, students must also complete MBLG1001 or PLNT (2001 or 2901).</i>	Semester 2
PLNT2002 Aust Flora: Ecology and Conservation	6	A The contents of BIOL (1002 or 1902) is assumed knowledge. Students wishing to enroll in Intermediate Biology (BIOL) and Plant Science (PLNT) units of study using BIOL (1003 or 1903) will need to do some preparatory reading. P 12 credit points from a combination of Junior BIOL or LWSC units of study including two of BIOL (1001, 1901, 1002, 1902, 1003, 1903) LWSC1002, MBLG1001 (or with the Dean's permission BIOL1201 and BIOL1202 may be substituted for the above). N PLNT2902, BIOL2004, BIOL2904	Semester 1
PLNT2003 Plant Form and Function	6	A The content of BIOL(1002 or 1902) is assumed knowledge and students entering from BIOL(1003 or 1903) will need to do some preparatory reading P 12 credit points of Junior Biology (or with the Dean's permission), BIOL1201 and BIOL1202 or BIOL1001 and ENVI1002 N PLNT2903, BIOL2003, BIOL2903, CROP2001	Semester 2
SOIL2003 Soil Properties and Processes	6		Semester 1
Year 4			
Year 4 has the following 48 credit point structure: 12 credit points of core units of study, 24 credit point research project (AVBS4015, AVBS4016, AVBS4017, AVBS4018) and 12 credit points of electives chosen from those listed.			
Core units			
ANSC3107 is offered as a core unit of study in year 4 as a transitional arrangement in 2007 only. From 2008, ANSC3107 will become a core unit in year 3 and students will choose 18 credit points of electives in year 4.			
AVBS4001 Animal Health and Disease	6	P Animal and Veterinary Bioscience years 1 - 3	Semester 1
ANSC3107 Animal Genetics 3	6	P GENE2001 or MBLG2072 or MBLG2972 or equivalent <i>Note: Department permission required for enrolment in the following sessions: Semester 2</i>	Semester 1 Semester 2
AVBS4015 Research Project A1	6	P Animal and Veterinary Bioscience years 1-3. Students will need to have obtained a second/third year WAM commensurate with obtaining an honours class one grade. C AVBS4016, AVBS4017, AVBS4018 N AVBS4013, AVBS4014	Semester 1 Semester 2

Unit of study	Credit points	A: Assumed knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
AVBS4016 Research Project A2	6	P Animal and Veterinary Bioscience years 1-3. Students will need to have obtained a second/third year WAM commensurate with obtaining an honours one grade. C AVBS4015, AVBS4017, AVBS4018 N AVBS4013, AVBS4014	Semester 1 Semester 2
AVBS4017 Research Project A3	6	P Animal and Veterinary Bioscience years 1-3. Students will need to have obtained a second/third year WAM commensurate with obtaining an honours class one grade. C AVBS4015, AVBS4016, AVBS4018 N AVBS4013, AVBS4014	Semester 1 Semester 2
AVBS4018 Research Project A4	6	P Animal and Veterinary Bioscience years 1-3. Students will need to have obtained a second/third year WAM commensurate with obtaining an honours one grade. C AVBS4015, AVBS4016, AVBS4017 N AVBS4013, AVBS4014	Semester 1 Semester 2
Elective units available in 2007			
Enrolment in elective units is subject to prerequisite and corequisite requirements, prohibitions and timetabling constraints.			
AVBS4002 Dairy Production and Technology	6	P Animal and Veterinary Bioscience years 1-3 C AVBS4001	Semester 2
AVBS4003 Wildlife and Evolutionary Genetics	6	P Animal and Veterinary Bioscience years 1-3 C AVBS4001	Semester 2
AVBS4008 Intensive Animal Industries	6	P Animal and Veterinary Bioscience years 1-3 C AVBS4001 N AVBS4006, AVBS4007	Semester 2
AVBS4009 Aquaculture	6	P Animal and Veterinary Bioscience years 1-3 C AVBS4001	Semester 2
AVBS4012 Extensive Animal Industries	6	P Animal and Veterinary Bioscience years 1-3. C AVBS4001 N AVBS4010, AVBS4011	Semester 1
Bachelor of Science (Veterinary)			
VETS4042 Veterinary Research A	24	P Veterinary Science Years 1, 2 and 3. C VETS4043 <i>Note: Department permission required for enrolment</i>	Semester 1
VETS4043 Veterinary Research B	24	P VETS4042 Veterinary Research A. <i>Note: Department permission required for enrolment</i>	Semester 2
Postgraduate Coursework in the Faculty of Veterinary Science			
For further information on degree programs and structure, please see chapter 6.			
VETS7004 Veterinary Epidemiology I	3	<i>Note: Department permission required for enrolment in the following sessions: S1 Late Int</i> <i>This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	S1 Late Int Semester 2
VETS7005 Veterinary Epidemiology II	3	P VETS7004 Veterinary Epidemiology 1 <i>This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs</i>	Semester 1
VETS7008 Hazards to Human and Animal Health	3	<i>This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	Semester 1
VETS7009 Animal Health Economics	3	<i>Note: Department permission required for enrolment in the following sessions: Semester 2</i> <i>This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	S1 Late Int Semester 2
VETS7010 Animal Health Policy Development	3	<i>This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	S2 Late Int
VETS7011 Data Analysis for Policy Making	3	<i>This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	S1 Late Int
VETS7012 Wildlife Epidemiology	3	P VETS7004 <i>This is an elective unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	S1 Late Int
VETS7013 Risk Analysis	3	<i>This is an elective unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	S2 Late Int
VETS7014 Aquatic Animal Epidemiology <i>This unit of study is not available in 2007</i>	3	C VETS7005	
VETS7015 Surveillance, Preparedness & Response	3	<i>This is an elective unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	Semester 2
VETS7016 Animal Health Data Management	3	<i>This is an elective unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	Semester 1
VETS7017 Food Safety	3		Semester 2
VETS7018 Research Paper A	6	C VETS7005 <i>Note: Department permission required for enrolment</i> <i>This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	S1 Intensive S2 Intensive
VETS7019 Research Paper B	6	C VETS7018 <i>Note: Department permission required for enrolment</i> <i>This is an elective unit in the Veterinary Public Health Management program and a core unit in the Veterinary Public Health program.</i>	S1 Intensive S2 Intensive
VETS7020 Diagnostic Tests	3	P VETS7005 Veterinary Epidemiology 2 <i>This is an elective unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	S2 Late Int

4. Tables of units of study

Unit of study	Credit points	A: Assumed knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
VETS7025 Leadership, People and Organisations	6	<i>This is a core unit in the Veterinary Public Health Management and Animal Breeding Management programs.</i>	Semester 1 Semester 2
VETS7026 Leadership: Managing Change	3	P VETS7025 or VETS7002 <i>This is a core unit in the Veterinary Public Health Management and Animal Breeding Management programs.</i>	Semester 1
VETS7027 Project Management	6	<i>This is a core unit in the Veterinary Public Health Management and Animal Breeding Management programs.</i>	Semester 2
VETS7038 Research Paper C	6	C VETS7018 <i>Note: Department permission required for enrolment</i>	S1 Intensive S2 Intensive
VETS7039 Research Paper D	6	C VETS7038 <i>Note: Department permission required for enrolment</i>	S1 Intensive S2 Intensive
VETS8002 Genetic Evaluation and Breeding	6	P VETS8004 <i>Note: Department permission required for enrolment</i> <i>This unit is core in the Animal Breeding Management stream of the Postgraduate Program in Animal Science.</i>	Semester 2
VETS8004 Advanced Animal Genetics	6	N ANSC5002 <i>This unit is core in the Animal Genetics and Animal Breeding Management streams of the Postgraduate Program in Animal Science.</i>	Semester 1
VETS8005 Advanced Animal Biotechnology	6	N ANSC3005	Semester 2
VETS8006 Advanced Animal Nutrition	6	N ANSC3001 <i>This unit is core in the Animal Nutrition stream of the Postgraduate Program in Animal Science.</i>	Semester 2
VETS8008 Advanced Animal Reproduction	6	N ANSC3002 <i>This unit is core in the Animal Reproduction stream of the Postgraduate Program in Animal Science.</i>	Semester 1
VETS8009 Production Animal Health	6	N ANSC4001 <i>Note: Department permission required for enrolment</i> <i>This unit is an elective in the Postgraduate Program in Animal Science</i>	Semester 1
VETS8010 Advanced Pig Production	6	P VETS8009 N VETS4223 <i>This unit is an elective in the Postgraduate Program in Animal Science.</i>	Semester 2
VETS8011 Advanced Poultry Production	6	P VETS8009 N VETS4221	Semester 2
VETS8012 Advanced Ruminant Production	6	P VETS8009 N VETS4224	Semester 2
VETS8013 Special Topics in Animal Science	6	<i>Note: Department permission required for enrolment</i> <i>This unit is an elective in the Postgraduate Program in Animal Science.</i>	Semester 1 Semester 2
VETS8014 Advanced Anatomy and Physiology A	6	N ANSC3003 <i>This unit is an elective in the Postgraduate Program in Animal Science.</i>	Semester 1
VETS8016 Advanced Livestock Genetics	6	N ANSC5011 <i>This unit is an elective in the Postgraduate Program in Animal Science.</i>	Semester 1
VETS8017 Technologies of Animal Reproduction	6	<i>This unit is an elective in the Postgraduate Program in Animal Science.</i>	Semester 1a
VETS8018 Advanced Anatomy and Physiology B	6	P VETS8014 N ANSC3004 <i>This unit is an elective in the Postgraduate Program in Animal Science.</i>	Semester 2
VETS8021 Animal Science Research Project A	6	<i>This unit is core in the Postgraduate Program in Animal Science.</i>	Semester 1 Semester 2
VETS8022 Animal Science Research Project B	6	C VETS8021 <i>This unit is core in the Postgraduate Program in Animal Science.</i>	Semester 1 Semester 2
VETS8023 Animal Science Research Project C	6	C VETS8022 <i>This unit is core in the Postgraduate Program in Animal Science.</i>	Semester 1 Semester 2
VETS8024 Animal Science Research Project D	6	C VETS8023 <i>This unit is core in the Postgraduate Program in Animal Science.</i>	Semester 1 Semester 2
VETS8501 Applied Reproduction in Cattle	6	<i>This is a core unit in the postgraduate program in Veterinary Studies (Animal Production).</i>	Semester 1 Semester 2
VETS8503 Applied Mastitis Prevention	6	<i>This is a core unit in the postgraduate program in Veterinary Studies (Animal Production).</i>	Semester 1 Semester 2
VETS8504 Lameness in Cattle	6	<i>This is a core unit in the postgraduate program in Veterinary Studies (Animal Production).</i>	Semester 1 Semester 2
VETS9001 MVetStud Research Project A	6	<i>This unit is core to the MVetStud.</i>	Semester 1 Semester 2
VETS9002 MVetStud Research Project B	6	C VETS9001 <i>This unit is core to the MVetStud.</i>	Semester 1 Semester 2
VETS9003 Special Topics in Veterinary Studies	6	<i>This unit is an elective in the Postgraduate Program in Veterinary Studies.</i>	Semester 1 Semester 2
VETS9004 Case Report in Veterinary Studies	6	<i>This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the GradDipVetStud (Small Animal Clinical Studies).</i>	Semester 1 Semester 2
VETS9005 Veterinary Internal Medicine 1	6	A Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. <i>This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Small Animal Clinical Studies). Employment in the University Veterinary Clinic would normally be a condition of enrolment.</i>	Semester 1 Semester 2

Unit of study	Credit points	A: Assumed knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
VETS9006 Veterinary Internal Medicine 2	6	A Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. P VETS9005 <i>This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Small Animal Clinical Studies). Employment in the University Veterinary Clinic would normally be a condition of enrolment.</i>	Semester 1 Semester 2
VETS9007 Veterinary Surgery	6	A Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. <i>Students must possess a veterinary qualification registrable in NSW. This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Small Animal Clinical Studies). Employment in the University Veterinary Clinic would normally be a condition of enrolment.</i>	Semester 1 Semester 2
VETS9008 Veterinary Anaesthesia	3	A Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. <i>Students must possess a veterinary qualification registrable in NSW. This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Small Animal Clinical Studies). Employment in the University Veterinary Clinic would normally be a condition of enrolment.</i>	Semester 1 Semester 2
VETS9009 Veterinary Diagnostic Imaging	3	A Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. <i>This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Small Animal Clinical Studies). Employment in the University Veterinary Clinic would normally be a condition of enrolment.</i>	Semester 1 Semester 2
VETS9021 Equine Surgery and Anaesthesia 1	6	A Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. Bachelor of Veterinary Science or equivalent. Degree registerable with Veterinary Surgeons Board of NSW. <i>This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Equine Medicine and Surgery). Employment in the University Veterinary Clinic would normally be a condition of enrolment.</i>	Semester 1 Semester 2
VETS9023 Equine Lameness	6	A Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. Bachelor of Veterinary Science or equivalent. Degree registerable with Veterinary Surgeons Board of NSW. <i>This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Equine Medicine and Surgery). Employment in the University Veterinary Clinic would normally be a condition of enrolment.</i>	Semester 1 Semester 2
VETS9024 Equine Medicine 1	6	A Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. Bachelor of Veterinary Science or equivalent. Degree registerable with Veterinary Surgeons Board of NSW. <i>This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Equine Medicine and Surgery). Employment in the University Veterinary Clinic would normally be a condition of enrolment.</i>	Semester 1 Semester 2
VETS9026 Equine Diagnostic Imaging	6	A Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. Bachelor of Veterinary Science or equivalent. Degree registerable with Veterinary Surgeons Board of NSW. <i>This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Equine Medicine and Surgery). Employment in the University Veterinary Clinic would normally be a condition of enrolment.</i>	Semester 1 Semester 2
VETS9031 Ruminant Medicine	6	A Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. Bachelor of Veterinary Science or equivalent. Degree registerable with Veterinary Surgeons Board of NSW. <i>This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Ruminant Medicine and Surgery). Employment in the University Veterinary Clinic would normally be a condition of enrolment.</i>	Semester 1 Semester 2
VETS9032 Ruminant Nutrition	6	A Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. Bachelor of Veterinary Science or equivalent. <i>This unit is core to the postgraduate program in Vet Studies (Ruminant Medicine and Surgery and Animal Production). Employment in the University Veterinary Clinic would normally be a condition of enrolment.</i>	Semester 1 Semester 2
VETS9033 Ruminant Surgery	6	A Students will have fundamental understanding of the causes, development, appearance and investigation of veterinary medicine to a veterinary graduate level. Bachelor of Veterinary Science or equivalent. Degree registerable with Veterinary Surgeons Board of NSW. <i>This unit is an elective in the Postgraduate Program in Veterinary Studies and is core to the MVetStud (Ruminant Medicine and Surgery). Employment in the University Veterinary Clinic would normally be a condition of enrolment.</i>	Semester 1 Semester 2
VETS9050 Diagnostic Laboratory Techniques	6	<i>This unit is core to the Postgraduate Program in Veterinary Studies (Veterinary Diagnostic Pathology).</i>	Semester 1 Semester 2
VETS9051 Haematological and Biochemical Analysis	6	C VETS9050 <i>This unit is core to the Postgraduate Program in Veterinary Studies (Veterinary Diagnostic Pathology).</i>	Semester 1 Semester 2
VETS9052 Necropsy and Surgical Pathology	6	C VETS9050 <i>This unit is core to the Postgraduate Program in Veterinary Studies (Veterinary Diagnostic Pathology).</i>	Semester 1 Semester 2
VETS9053 Microbi-, Cyt-&Parasit-ological Analysis	6	C VETS9050 <i>This unit is core to the Postgraduate Program in Veterinary Studies (Veterinary Diagnostic Pathology).</i>	Semester 1 Semester 2
VETS9054 Diagnostic Instrumentation Advanced	6	C VETS9050, VETS9051, VETS9052, VETS9053 <i>This unit is an elective in the Postgraduate Program in Veterinary Studies (Veterinary Diagnostic Pathology).</i>	Semester 1 Semester 2
VETS9055 Clinical Pathology Interpretation Adv	6	C VETS9050 <i>This unit is an elective in the Postgraduate Program in Veterinary Studies (Veterinary Diagnostic Pathology).</i>	Semester 1 Semester 2
VETS9056 Necropsy and Surgical Pathology Adv	6	C VETS9050, VETS9052 <i>This unit is an elective in the Postgraduate Program in Veterinary Studies (Veterinary Diagnostic Pathology).</i>	Semester 1 Semester 2

4. Tables of units of study

Unit of study	Credit points	A: Assumed knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
VETS9057 Cytological Analysis Advanced	6	C VETS9050, VETS9053 <i>This unit is an elective in the Postgraduate Program in Veterinary Studies (Veterinary Diagnostic Pathology).</i>	Semester 1 Semester 2
PUBH5018 Introductory Biostatistics	6		Semester 1
WILD5001 Australasian Wildlife: Introduction	6	Core	S1 Intensive
WILD5002 Australasian Wildlife: Field Studies	6	Core	S1 Intensive
WILD5003 Wildlife Health	6		S1 Late Int
WILD5004 Vertebrate Pest Management	6	Optional	S2 Intensive
WILD5005 In Situ Wildlife Management	6	Optional	S1 Late Int
WILD5006 Ex Situ Wildlife Management	6		S2 Late Int
WILD5007 Sustainable Wildlife Use and Stewardship	6		S2 Late Int

5. Regulations

These Resolutions must be read in conjunction with the University of Sydney (Coursework) Rule 2000 (as amended)

Bachelor of Animal and Veterinary Bioscience, BAnVetBioSc

[Section 1]

1. Admission

- 1.1 Admission for Year 12 applicants is based on performance in Higher School Certificate Examination with applicants ranked on the basis of their UAI or equivalent.
- 1.2 Non recent school leavers are considered for selection on the basis of:
 - 1.2.1 the successful completion of the equivalent of at least 2 full-time semesters of approved tertiary study, or
 - 1.2.2 the successful completion of an approved preparatory course provided that the program of study and the standard of examination are considered to be equivalent to the program and standard required of candidates for the HSC.

2. Units of study

- 2.1 A candidate for the degree of Bachelor of Animal and Veterinary Bioscience shall successfully complete units of study as prescribed by the Faculty.
- 2.2 A candidate may choose elective units of study for which there is no prerequisite unit of study or for which the prerequisite/corequisite has been satisfied, provided that the timetable permits attendance at all classes.

3. Requirements for the pass degree

- 3.1 To qualify for the pass degree candidates must:
 - 3.1.1 complete successfully the units of study prescribed by the Faculty for a total of 192 credit points and Professional Experience specified for the degree course; and
 - 3.1.2 satisfy the requirements of all other relevant By-Laws, Rules and Resolutions of the University.

4. Requirements for honour degrees

- 4.1 Honours First Class and Honours Second Class, Division One or Division Two may be awarded at graduation.
- 4.2 First Class Honours candidates whose work is of sufficient merit, shall receive a bronze medal.

5. Award of honours at graduation

- 5.1.1 All candidates who have completed an independent research project as part of the final year degree program are formally eligible to be considered for honours.
- 5.1.2 Except with the special permission of the Faculty, honours shall not be awarded to any candidate for the Bachelor of Animal and Veterinary Biosciences unless the candidate has completed the course in the minimum time.
 - 5.1.3.1 Notwithstanding the previous condition, candidates who complete the first three years of the course in four years, and who by virtue of their weighted average marks would otherwise qualify for the award of honours, will be considered.
 - 5.1.3.2 Such candidates may however be disadvantaged in terms of honours grading and ranking.
- 5.2 For the determination of the overall honours mark for the award of honours at the end of the Fourth Year:
 - 5.2.1 Each of the units of study provided for in the resolutions in Second and Third Years shall be weighted according to credit point value and a weighted average mark (WAM) obtained.
 - 5.2.2 The overall honours mark shall be the average of the Second and Third Year WAM and the Fourth Year mark.
- 5.3 In computing the aggregate marks of students, the mark achieved on the first attempt at a unit of study shall be the mark used.

- 5.4 For the award of a particular level of honours, a candidate, except in special circumstances, must obtain the relevant minimum marks as set out in the following table:

Level of honours	Min overall honours mark	Min WAM Year 4	Min WAM Years 2/3
First Class	75	75	70
Second Class Division 1	66	70	63
Second Class Division 2	61	65	58

- 5.5.1 The Board of Management shall be responsible for the award of the university medal and the award of honours.
- 5.5.2 Achievement of the minimum standards referred to elsewhere in these resolutions is not in itself sufficient justification for these awards.

[Section 2]

6. Details of units of study

- 6.1 Course content, mode of delivery, assessment, assumed knowledge, corequisites and prerequisites for all units of study are published annually in the Veterinary Science Handbook, chapter 3, Units of study.

7. Enrolment in more/less than minimum load

- 7.1 In a full-time program the normal load will be 48 credit points in each year for four years.
- 7.2 A student may enrol in units of study additional to the requirements in an academic year, only with the permission of the Dean.
- 7.3 Part-time study for the Bachelor of Animal and Veterinary Biosciences is permitted.

8. Cross-institutional study

- 8.1 Provided that permission has been obtained in advance, the Dean may permit a student to complete a unit of study at another institution and have that unit credited to his/her course requirements provided that either:
 - 8.1.1 the unit of study content is material not taught in any corresponding unit of study in the University, or
 - 8.1.2 the student is unable for good reason to attend a corresponding unit of study at the University.

9. Restrictions on enrolment

- 9.1 A student must obtain the written permission of the Dean to enrol in level 3000 units of study unless he/she has successfully completed or is concurrently enrolled in compulsory level 2000 units of study.
- 9.2 A candidate may choose elective units of study for which there is no prerequisite unit of study or for which the prerequisite/corequisite has been satisfied, provided that the timetable permits attendance at all scheduled classes.

10. Discontinuation of enrolment - any faculty procedures

- 10.1 A student who wishes to discontinue enrolment in a course or a unit of study must apply to the Dean or the Dean's nominee.
- 10.2 Students enrolled in a course for a degree in the Faculty of Veterinary Science and, without permission of the Faculty, discontinue a year or a full-year unit of study after the last day of the first week of July semester, or discontinue a one-semester unit after the last day of the seventh week of teaching, will be deemed to have failed such year or unit.
- 10.3 The University's regulations governing 'Discontinuation, Exclusion and Suspension of Candidature' are available at: http://www.usyd.edu.au/senate/policies/Cwk_Rule.pdf

11. Re-enrolment after an absence

11.1 Students who wish to re-enrol after an absence must contact the Dean in writing no less than six (6) weeks prior to commencement of the semester to allow administrative processes to be carried out.

12. Satisfactory progress

12.1 Under normal circumstances students will satisfy the degree requirements in four years.

12.2 There are certain circumstances in which a student may be asked to show good cause why he/she should be permitted to repeat any previously attempted study, if, in the opinion of the Faculty Exclusions and Re-admissions Committee, he/she has not made satisfactory progress towards fulfilling the requirements of the degree or the unit.

12.3 Satisfactory progress cannot be defined in all cases in advance but a student who has:

12.3.1 twice failed (F), or discontinued enrolment to count as a failure (DF), any unit of study as defined in Resolution 2 relating to the bachelor degrees of the Faculty; or

12.3.2 failed more than 60 per cent of the credit points for which enrolled in any four successive semesters, shall be deemed not to have made satisfactory progress.

12.4 In cases where the Faculty permits the re-enrolment of a student whose progress has been deemed unsatisfactory, the Faculty may require the completion of specified units of study in a specified time, and if the student does not comply with these conditions the student may again be called upon to show good cause why he/she should be allowed to re-enrol in the Faculty of Veterinary Science.

12.4.1 It is not possible to define in advance all the reasons that constitute 'good cause' but serious ill-health, or misadventure properly attested, will be considered.

12.4.2.1 In addition your general record, for example in other courses, would be taken into account.

12.4.2.2 In particular if you were transferring from another faculty your record in your previous faculty would be considered.

12.4.3 Not usually acceptable as good cause are such matters as demands of employers, pressure of employment, time devoted to non-university activities and so on, except as they may be relevant to any serious ill-health or misadventure.

13. Assessment

13.1 Assessment methods for units of study offered in the Faculty will be included in unit details in the Faculty Handbook and made available to students enrolled in the units at the beginning of the semester.

13.2 Examinations**13.2.1 Completion of unit of study**

13.2.1.1 A student who has been absent from more than 10 per cent of classes in a unit may be deemed to have failed to complete the requirements specified by the Faculty for the unit and may be excluded by the Dean from admission to examinations in that unit.

13.2.2 Further assessment

13.2.2.1 The Unit of Study Coordinator may arrange for further assessment of students in addition to scheduled assessments and examinations, in accordance with the Faculty Special Consideration policy.

13.2.2.2 Further assessment may be awarded where the candidate has been prevented by sufficient and duly certified illness or misadventure from completing the assessment for a unit of study.

13.2.2.3 The full range of common result grades is available for these candidates.

13.2.2.4.1 Applications for special consideration must be made on the form available from the Student Centre or the Faculty Office and must comply with the University's requirements for supporting documentation.

13.2.2.4.2 For consideration due to serious illness a registered medical practitioner or councillor must complete the Professional Practitioners Certificate.

13.2.2.4.3 For consideration due to misadventure appropriate documentation must be attached.

13.2.2.4.4 This documentation must indicate the nature of the misadventure, the date and time where relevant, and the likely impact on the student's ability to perform.

13.2.2.4.5 The Professional Practitioners Certificate is available from the Faculty Office.

13.2.2.4.6 The certificate must be signed by the medical practitioner (who must not be a family member) and must have been

obtained during the illness or immediately afterwards (as soon as it is practicable to visit the medical practitioner).

Note: This is a summary of the Faculty's and University's policy relating to special consideration which may be viewed on the Faculty and University websites.

13.2.2.5 Further assessments will be held according to a timetable which will be posted on the Faculty website.

13.2.2.6 Further assessment may take such form as the Unit of Study Coordinator directs.

13.2.2.7 A candidate who is absent from a further assessment without sufficient reason will be deemed to have failed the assessment.

13.2.2.8 It is the responsibility of the student to provide written evidence of illness or misadventure to the appropriate Unit of Study Coordinator as soon as possible and practicable and in any case before the close of the relevant examination period.

13.2.2.9 Where such evidence is not presented in time for the student to be offered further assessment on the advertised date, it will only be considered by the Unit of Study Coordinator where there is sufficient reason why it has not been presented by that date.

14. Credit transfer

14.1 Graduates or students in other faculties or other degrees within the Faculty or of other institutions who are admitted to candidature for the degree of Bachelor may be granted credit for units of study required for the degree, as the Dean on behalf of the Faculty may determine, up to a maximum value of 96 credit points.

14.2 The Dean may approve credit for a maximum of 36 unspecified credit points for units of study successfully completed elsewhere, but not comparable to units listed in Resolution 2, as part of the 96 credit point maximum credit transfer permitted.

15. Professional experience and Faculty excursions

15.1 Students are required to undertake professional experience in University vacations as an integral and essential part of their overall training in the degree of Bachelor of Animal and Veterinary Bioscience.

15.2 The aims of professional experience are to:

15.2.1 familiarise students with the major animal or agricultural industries;

15.2.2 provide the opportunity to experience animal and agricultural production across a range of environments and managerial systems;

15.2.3 provide experience with business organisations involved in service, finance, marketing, research and development in an agricultural, laboratory, para-veterinary or wildlife context;

15.2.4 train students to collect, collate, analyse and report.

15.3 Candidates must complete 60 days of professional experience.

15.3.1 Each component of the experience must be approved on behalf of the Dean before credit is granted.

15.3.2 A minimum of 20 days professional experience must be completed as on-farm experience covering the major animal industries and candidates must visit a minimum of three different commercial animal production enterprises.

15.3.3 A maximum visit of 20 days may be completed with any single organisation (farm or non-farm).

15.3.4 A maximum of 15 days may be credited on a property which is owned by the candidate's parents or by the University, however, this time is in addition to and exclusive of the minimum 20 days on-farm requirement.

15.3.5 A significant proportion of this 20-day on-farm component should be completed before non-farm professional experience is undertaken.

15.4 The farms concerned must be commercial farms not hobby farms.

15.4.1 Commercial farms are defined as those where the enterprise is the main source of income for the proprietor.

15.5 A separate report must be submitted following each placement to a farm or organisation.

15.5.1 Credit is subject to a satisfactory and timely report.

15.5.2 Late reports normally are not credited.

15.5.3 Time penalties are applied to resubmitted and incomplete reports.

15.5.4 Candidates must submit:

- 15.5.4.1 two long farm reports;
- 15.5.4.2 one short farm report;
- 15.5.4.3 one business (non-farm) report;
- 15.5.4.4 one scientific or short term volunteer report;
- 15.5.4.5 additional reports as required to fulfil the 60-day requirement.
- 15.6 Students are required to attend one of the North Western, Central or South Western NSW excursions arranged by the Faculty of Agriculture, Food and Natural Resources and may attend each one.
- 15.6.1 A maximum of 15 days professional experience may be gained by attending Faculty excursions provided a satisfactory report is submitted for each additional excursion.
- 15.6.2 The Dean may approve special activities which will be credited within the 15-day week.
- 15.6.3 Excursion time is exclusive of the 20-day on-farm requirement.
- 15.7 Final year students wishing to graduate must complete all practical work requirements by 12 January of the year of graduation.

Reports from graduands submitted after 12 January will not be marked until the July semester.

Bachelor of Science (Veterinary), BSc(Vet)

[Section 1]

1. Admission

- 1.1 Candidates for the degree of Bachelor of Veterinary Science who have completed not less than three years of candidature for the degree of Bachelor of Veterinary Science, and are considered to be suitable candidates for advanced work, may be permitted by the Faculty to interrupt their candidature for the degree of Bachelor of Veterinary Science for not more than one academic year to undertake an approved course of advanced study and research as a candidate for the degree of Bachelor of Science (Veterinary).
- 1.2 In response to an application for candidature, the Sub-Dean for BSc(Vet) will, in consultation with the candidate, and the proposed supervisor, ensure that the Faculty's requirements are satisfied in respect of:
 - 1.2.1 eligibility of the candidate;
 - 1.2.2 the proposed field of study;
 - 1.2.3 prerequisite training;
 - 1.2.4 appropriate supervision;
 - 1.2.5 the adequacy of other resources; and
 - 1.2.6 the proposed date of examination.

2. Units of study

- 2.1 A candidate for the degree of Bachelor of Science (Veterinary) shall successfully complete the units of study as prescribed by the Faculty in chapter 3 of this Handbook.

3. Requirements for the pass degree

- 3.1 To qualify for the pass degree candidates must:
 - 3.1.1 complete successfully the units of study prescribed by the Faculty for a total of 48 credit points;
 - 3.1.2 satisfy the requirements of all other relevant By-Laws, Rules and Resolutions of the University.

4. Requirements for honour degrees

- 4.1 Completion of the pass level requirements at an honours grade level qualifies a candidate for award of the degree with honours.
- 4.2 The grades for the award of honours in the BSc (Vet) course comply with Academic Policy 218.
- 4.3 The grades are:

Class	Mark
First Class	80–100
Second Class, Division 1	75–79
Second Class, Division 2	70–74
Third Class	65–69
Honours not awarded	<65

[Section 2]

5. Details of units of study

- 5.1 Course content, mode of delivery, assessment, assumed knowledge, corequisites and prerequisites for all units of study are published annually in the Veterinary Science Handbook, chapter 3 Units of study.

6. Enrolment in more/less than minimum load

- 6.1 A normal full-time load is defined as enrolment in a program of approved units of study to a total value of 24 credit point in any one semester.

7. Cross-institutional study

- 7.1 Candidates working outside the Faculty, in departments with guidelines and requirements for science Honours or BSc(Med) students, should follow where possible such departmental requirements, except where these conflict with the regulations for the BSc(Vet) degree.

8. Restrictions on enrolment

- 8.1 The course of advanced study and research shall be in a field of scientific investigation for which adequate prerequisite training has been obtained and for which appropriate supervision and facilities are available.
- 8.2 Applications for admission to candidature for the degree of Bachelor of Science (Veterinary) may be approved by the Dean.

9. Discontinuation of enrolment

- 9.1 Students contemplating discontinuing should consult the Sub-Dean for students or a student counsellor before committing to a decision.
- 9.2 Students enrolled in a course for a degree in the Faculty of Veterinary Science and, without permission of the Faculty, discontinue a year or a full-year unit of study after the last day of the first week of July semester, or discontinue a one-semester unit after the last day of the seventh week of teaching, will be deemed to have failed such year or unit.
- 9.3 The university's regulations governing 'Discontinuation, Exclusion and Suspension of Candidature' are available at: http://www.usyd.edu.au/senate/policies/Cwk_Rule.pdf

10. Re-enrolment after an absence

- 10.1.1 Students who were previously enrolled (even if they discontinued all units of study during the past year and were given 'repeat' status) and are eligible to re-enrol in the same degree or diploma course, are required to lodge an Application for Re-enrolment by the specified date in the preceding year at the Student Centre.
- 10.1.2 An Application for Re-enrolment form is available from the Student Centre or Faculty Office.
- 10.2 Should the application be approved, the student must complete the enrolment in accordance with the instructions included in the letter of approval to enrol.
- 10.3 Students who have enrolled in the course for the degree of Bachelor of Science (Veterinary) but have not re-enrolled for a period of one year or more, must complete the requirements for the degree under such conditions as the Faculty may determine.

11. Satisfactory progress

- 11.1 A candidature may be terminated at any time by the Dean if, in the opinion of the supervisor and the Associate Dean, Research acting on advice from the Sub-Dean for BSc(Vet), the candidate's work is unsatisfactory.

12. Assessment

- 12.1 Assessment and examination for the award of the degree shall be by dissertation, oral examination and presentation of seminars.
- 12.2 The assessment and examination procedures are defined as follows:
 - 12.2.1 Each candidate, in the presence of one or more members of the Postgraduate Education and Research Training Committee, shall give an introductory seminar which outlines the proposed program of study and research.
 - 12.2.2 Each candidate, in the presence of one or more members of the Postgraduate Education and Research Training Committee, shall give an open seminar at the end of the program of study to present the results of the research.
 - 12.2.3 An assessment of the seminar would normally be given by the members of the Committee who attend.
 - 12.2.4 A dissertation of appropriate style containing an account of the results and conclusions of the program of study should normally be lodged in the year in which the work for the degree is undertaken by a date in late October or November,

- nominated by the Sub-Dean for BSc(Vet) and approved by the Associate Dean, Research.
- 12.2.5 Late submission will normally disqualify a candidate from consideration for Honours First Class for the BSc(Vet) degree.
- 12.2.6 The dissertation must be in a form approved by Faculty and must be no longer than 100 A4 pages overall.
- 12.2.7 The thesis is to include an executive summary of 5 pages maximum.
- 12.2.8 The summary is to be sufficiently informative to reflect the research planning, procedures and outcomes of the research conducted by the candidate.
- 12.2.9 The dissertation shall be examined by two examiners, neither of whom should normally be a supervisor of the candidate.
- 12.2.10 The executive summary shall be examined by the Associate Dean, Research, Sub-Dean BSc(Vet), and other members of the Postgraduate Education and Research Training Committee.
- 12.2.11 Each examiner will make an independent assessment and a combined mark from all examiners will constitute the mark for this written component of the degree.
- 12.2.12 Each candidate shall be examined on the topic of the dissertation at a viva voce examination conducted by a panel including the Associate Dean Research, Sub-Dean for BSc(Vet), the principal supervisor of the candidate and 1 member of the Postgraduate Education and Research Training Committee.
- 12.2.13 The panel will examine the candidate on research skills acquired during the degree rather than technical content.
- 12.2.14 The panel will also have access to referees reports from the 2 thesis examiners.
- 12.2.15 The supervisor will be permitted to clarify technical issues and procedural issues relevant to the work conducted by the candidate.
- 12.2.16 The supervisor will also contribute to the assessment of viva voce examination.
- 12.2.17 The thesis examiners shall separately write reports giving their assessment of the dissertation including a report no less than 1 page, detailing strengths and weaknesses of the thesis, and an assessment mark.
- 12.2.18 The examiners shall make separate recommendations to the Sub-Dean for BSc(Vet).
- 12.2.19 The dissertation is to represent 50 per cent, the viva voce examination 30 per cent, the mark for executive summary 10 per cent, and the assessment of the final seminar 10 per cent of the total assessment for the award of the degree.
- 12.2.20 The recommendations of the examiners will normally be considered by the Board of Examiners at the December meeting of the year in which the candidate is enrolled.
- 12.2.21 If a grade is less than 50 per cent, the degree will not be awarded.
- 3.1.2 satisfy the requirements of all other relevant By-Laws, Rules and Resolutions of the University.
- 3.2 *Progression requirements*
- 3.2.1 Under normal circumstances students will satisfy the degree requirements in five years.
- 3.2.2.1 Students who fail a unit of study are required to repeat enrolment in that unit.
- 3.2.2.2 Students repeating units of study may, with permission of the Faculty, enrol in one or more units of study in the following year of the course.
- 3.2.3 The Faculty will normally grant permission for students to enrol in a unit of study in the following year when:
- 3.2.3.1 the timetable arrangements are such that students can attend all classes;
- 3.2.3.2 all prerequisites for enrolment in the unit of study have been satisfied.
- 3.2.4 **Prerequisites** are units of study that must be passed before enrolment in the next unit.
- 3.2.5 **Corequisites** are units of study that must be studied concurrently.
- 3.2.6 **Year 4.** A candidate for the degree may enrol in the units of study prescribed for the fourth year of candidature only after completion of Years 1-3.
- 3.2.7 **Year 5.** A candidate for the degree may enrol in the units of study prescribed for the final year of candidature only after completion of Years 1-4 and having demonstrated proficiency in the safe handling of animals, in such a manner as may from time to time be prescribed by the Faculty.

4. Requirements for honour degrees

- 4.1 Honours First Class and Honours Second Class may be awarded at graduation.
- 4.2 Honours will be awarded on the basis of an 'identifiable discipline-specific individual research, scholarly or creative component'.
- 4.3 The three separate honours streams in Veterinary Science are research, clinical research and independent learning project.
- 4.4 The Years 1-4 WAM required for entry into a Year 5 identifiable discipline-specific Honours stream will be 70 or greater.
- 4.5.1 Honours Class I and Honours Class II shall be awarded for all three streams of honours.
- 4.5.2 A normalisation formula will be applied to the marks generated from all three streams to standardise the degree of difficulty in obtaining Honours between the streams.
- 4.5.3 No student is to be advantaged or disadvantaged by selecting any particular honours stream.
- 4.6 The Years 1-4 WAM will benchmark the normalisation formula.
- 4.6.1 The Honours WAM will be calculated on the Years 1-4 WAM and the Year 5 normalised honours mark.
- 4.6.2 The weighting will be 50/50.
- 4.7.1 Honours students will submit a written thesis/clinical report/independent learning project report of not more than 10,000 words in length (4-5000 words in length for the clinical report).
- 4.7.2 The format of written reports will be supervised by the Associate Dean Research/Director Clinical Teaching/Coordinator Professional Practice program.
- 4.8.1 Honours students will present an oral defence of their thesis/clinical report/independent learning project to a Faculty panel of assessors.
- 4.8.2 The format of the oral defence will be supervised by the Associate Dean Research/Director Clinical Teaching/Coordinator Professional Practice program.
- 4.9.1 Honours Class I will be awarded for Honours WAMs of 75 or greater.
- 4.9.2 Honours Class II will be awarded for Honours WAMs of 70 to less than 75.
- 4.10 Honours shall not be awarded to a candidate who has taken longer to complete the course than the minimum period in which a candidate may complete a degree of Bachelor of Veterinary Science.
- 4.11 Notwithstanding the provisions of section 4.8, the Faculty, for special reasons, may permit the award of Honours to a candidate who has taken longer to complete the course than the period specified in that subsection.
- 4.12 If a candidate graduates with Honours First Class and the Faculty is of the opinion that the candidate's work is of sufficient merit, the candidate shall receive a bronze medal.

Bachelor of Veterinary Science, BVSc

[Section 1]

1. Admission

- 1.1 Admission for Year 12 applicants is based on performance in Higher School Certificate Examination with applicants ranked on the basis of their UAI.
- 1.2 Non recent school leavers are considered for selection on the basis of their:
- 1.2.1 Grade Point Average obtained in previous university degree level study;
- 1.2.2 the Special Tertiary Admissions Test (STAT); and
- 1.2.3 a 'Commitment Statement' outlining their commitment to Veterinary Science.

2. Units of study

- 2.1 A candidate for the degree of Bachelor of Veterinary Science shall successfully complete the units of study as prescribed by the Faculty in chapter 3 of this Handbook.

3. Requirements for the pass degree

- 3.1 To qualify for the pass degree candidates must:
- 3.1.1 complete successfully the units of study prescribed by the Faculty to a total of 240 credit points; and

- 4.13 BVSc with merit shall be awarded to students who achieve a Years 1-4 WAM of 70 but choose not to continue with an identifiable discipline specific honours stream in Year 5.

[Section 2]

5. **Details of units of study**

- 5.1 Course content, mode of delivery, assessment, assumed knowledge, corequisites and prerequisites for all units of study are published annually in the Veterinary Science Handbook chapter 3 Units of study.

6. **Enrolment in more/less than minimum load**

- 6.1 A normal full-time load is defined as enrolment in a program of approved units of study to a total value of 24 credit points in any one semester.
- 6.2 A candidate for the degree will normally enrol in 24 credit points per semester.
- 6.3 Notwithstanding, variations in credit point load may be approved in special circumstances.
- 6.3.1 Cadigal program candidates may enrol with reduced credit points per semester.

7. **Cross-institutional study**

- 7.1 Cross-institutional study is not normally available to students in the Bachelor of Veterinary Science.

8. **Restrictions on enrolment**

- 8.1. Units of study in academic Years 1 to 3 enrol candidates on the basis of assumed knowledge.
- 8.2.1 Notwithstanding, VETS3027 Veterinary Clinical Sciences 3 requires completion of Veterinary Science Years 1 and 2 as a prerequisite to enrolment.
- 8.2.2 Prerequisite to enrolment in all Year 4 units of study is completion of Veterinary Science Years 1 to 3.
- 8.3 Prerequisite to enrolment in any Rotation in Veterinary Science Year 5 is the satisfactory completion of VETS5331 Preparation for Veterinary Practice.
- 8.4.1 There are certain circumstances in which a student could be asked to show good cause why they should be permitted to repeat any previously attempted study.
- 8.4.2 Liability for exclusion from re-enrolment is determined by academic attainment during the immediate past one or two academic years (depending upon the faculty, college or board of studies concerned).
- 8.4.3 The resolutions of the Senate restricting re-enrolment may be found in the University's Calendar, Vol I *Statutes and Regulations*.
- 8.4.4 Students should acquaint themselves with the resolutions relating to the studies in which they are enrolled.
- 8.4.5 Students in any doubt about their liability for exclusion following academic failure, unsatisfactory progression or discontinuation of courses should seek advice from the Faculty Office.
- 8.5.1 It is not possible to define in advance all the reasons that constitute 'good cause' but serious ill-health, or misadventure properly attested, will be considered.
- 8.5.2 In addition a student's general record, for example in other courses, would be taken into account.
- 8.5.3 In particular where a student transfers from another faculty, record of performance in that faculty would be considered.
- 8.5.4 Not usually acceptable as good cause are such matters as demands of employers, pressure of employment, time devoted to non-university activities and so on, except as they may be relevant to any serious ill-health or misadventure.

9. **Discontinuation of enrolment**

- 9.1 Students contemplating discontinuing should consult the Sub-Dean for students or a student counsel or before committing to a decision.
- 9.2 Students enrolled in a course for a degree in the Faculty of Veterinary Science and, without permission of the Faculty, discontinue a year or a full-year unit of study after the last day of the first week of July semester, or discontinue a one-semester unit after the last day of the seventh week of teaching, will be deemed to have failed such year or unit.
- 9.3 The university's regulations governing 'Discontinuation, Exclusion and Suspension of Candidature' are available at http://www.usyd.edu.au/senate/policies/Cwk_Rule.pdf

10. **Re-enrolment after an absence**

- 10.1 A candidate who has been enrolled in the course for the degree of Bachelor of Veterinary Science but has not re-enrolled for

a period of one year or more shall complete the requirements for the degree under such conditions as the Faculty may determine.

11. **Satisfactory progress**

- 11.1 Under normal circumstances students will satisfy the degree requirements in five years.
- 11.2.1 Students who fail a unit of study are required to repeat enrolment in that unit.
- 11.2.2 Students repeating units of study, may, with permission of the Faculty, enrol in one or more units of study in the following year of the course.
- 11.3 The Faculty will normally grant permission for students to enrol in a unit of study in the following year when:
- 11.3.1 the timetable arrangements are such that students can attend all classes;
- 11.3.2 all prerequisites for enrolment in the unit of study have been satisfied.
- 11.4.1 **Prerequisites** are units of study that must be passed before enrolment in the next unit.
- 11.4.2 **Corequisites** are units of study that must be studied concurrently.
- 11.5 The handbook provides details of prerequisites and corequisites for all units of study.
- 11.6.1 The Faculty may waive prerequisite or corequisite requirements if a student demonstrates that such requirements are not appropriate.
- 11.6.2 Applications for such waivers should be submitted to the Associate Dean for Teaching and Learning.

12. **Time limit**

- 12.1 A student must complete all requirements for an award course within 10 calendar years or any lesser period if specified by Resolutions of the Senate or the Faculty.

13. **Assessment**

- 13.1 Assessment methods for units of study offered by the Faculty are published annually in the Veterinary Science Handbook, chapter 3 Units of study.
- 13.2 **Further assessment**
- 13.2.1 Students awarded an incomplete (M INC or INC) grade need to undertake further assessment in order to pass the unit of study.
- 13.2.2 Students in this category will be advised of the availability of a further test.
- 13.2.3 Further tests will be organised and scheduled by the unit of study coordinator concerned.
- 13.3 **Students with disabilities, medical conditions or injuries**
- 13.3.1 If appropriate, special arrangements can be made to meet particular requirements.

Students with a disability, including serious medical condition, or recent injury, which puts them at a disadvantage during examinations, should contact the Disability Services Office:

Level 7, Education Building

Manning Road

Phone + 61 2 9351 4554

fax + 61 2 9351 7055

14. **Illness and misadventure - 'Special Consideration' regarding examinations**

Please contact the Faculty Office on + 61 2 9351 8783 for full details of application procedure.

- 14.1 Your attention is drawn to the following resolutions of the Academic Board:
- 14.1.1 Applications for special consideration must be made on the form available from the Student Centre or the Faculty Office or the Faculty website and must comply with the University's requirements for supporting documentation.
- 14.1.2 For consideration due to serious illness a registered medical practitioner or councillor must complete the Professional Practitioners Certificate.
- 14.1.3.1 For consideration due to misadventure appropriate documentation must be attached.

- 14.1.3.2 This documentation must indicate the nature of the misadventure, the date and time where relevant, and the likely impact on the student's ability to perform.
- 14.1.4.1 The Professional Practitioners Certificate is available from the Student Centre, Faculty Office or Faculty website.
- 14.1.4.2 The certificate must be signed by the medical practitioner (who must not be a family member) and must have been obtained during the illness or immediately afterwards (as soon as it is practicable to visit the medical practitioner).

Note: This is a summary of the Faculty's and University's policy relating to special consideration. Please read the full policy which may be viewed on the Faculty and University websites.

- 14.2.1 It is the responsibility of the student to provide written evidence of illness or misadventure to the appropriate unit of study coordinator as soon as possible and practicable and in any case before the close of the relevant examination period.
- 14.2.2 Where such evidence is not presented in time for the student to be offered further assessment on the advertised date, it will only be considered by the unit of study coordinator where there is sufficient reason why it has not been presented by that date.
- 14.3.1 Please note that special consideration will not be granted in respect of any additional assessment.
- 14.3.2 Unsatisfactory performance in, or absence from, additional assessment will result in failure in that assessment.
- 15. **Additional assessment**
 - 15.1.1 If an application for special consideration is approved, the student will be offered additional assessment.
 - 15.1.2 This additional assessment will REPLACE any previous attempt - that is, if a student is offered additional assessment, THE ORIGINAL EXAMINATION PAPER WILL NOT BE MARKED.
 - 15.1.3 The only examination which will be considered is the additional assessment task.
 - 15.1.4 Oral examinations are certainly possible.

Please note that the format of the additional assessment is at the discretion of the coordinator and need not be similar to the original assessment.

16. Credit transfer

- 16.1 *Credit for courses completed*
 - 16.1.1 Students who have already completed university study may be eligible for credit standing in specific units of study.
 - 16.1.2 Credit standing may be granted under the following circumstances:
 - 16.1.2.1 The student's application substantiates that the content of unit(s) previously studied overlaps by a minimum of 75 per cent, the content of the unit for which credit standing is sought;
 - 16.1.2.2 Applications where previous study has not included vital components of the unit in which credit standing is sought, will be rejected, even if the vital component constitutes less than 25 per cent of the unit;
 - 16.1.2.3 Relevant previous study took place within five years preceding the year in which credit standing would apply;
 - 16.1.2.4 The previous study was in a relevant context to the unit for which credit standing is sought: this 'relevant context' to be determined by the unit of study coordinator;
 - 16.1.2.5 The grade achieved in the previous study (studies) was credit or above.
 - 16.1.2.6 Students must be enrolled in the undergraduate degree program before an application for credit standing will be accepted.
 - 16.1.2.7 An exception is made for Year 1 international students who, upon receipt of the confirmation of enrolment (COE) in the degree program, may apply for credit standing in any unit in which they are required to enrol in their first year of study.
 - 16.1.2.8 Students may submit their application from overseas and obtain a provisional judgement.
 - 16.1.2.9 The provisional judgement will be confirmed when all original relevant documents are viewed by the relevant academic staff of this University.

- 16.1.2.10 The application (Faculty form), together with all relevant supporting documentation must be submitted to the Faculty Office at least three weeks prior to the commencement of semester in which enrolment in the unit is required.
- 16.1.2.11 If students wish to lodge an early application, applications will be accepted up to 12 months in advance.
- 16.1.2.12 Relevant supporting documentation should include a detailed unit/subject/course outline (e.g. class topics on timetable), learning objectives, mode of assessment and original statement of academic result or academic record.
- 16.1.2.13 Students with credit standing will be granted the average mark attained by their peers (undertaking the unit in the year in which their enrolment would have been required) for the purpose of calculation of the Weighted Average Mean (WAM) in relation to their eligibility for an honours degree.

Postgraduate coursework

Award of postgraduate degrees and awards in Veterinary Clinical Studies

Graduate Diploma in Veterinary Clinical Studies

Please note: this award has been approved for deletion from 2008. New students will not be accepted in 2007.

[Section 1]

1. Eligibility for admission

- 1.1 Persons holding the degree of Bachelor of Veterinary Science from the University of Sydney (or equivalent), which is registrable by the Board of Veterinary Surgeons of NSW, may apply for admission to candidature for the Graduate Diploma in Veterinary Clinical Studies.

2. Units of study

- 2.1 A candidate for this diploma shall pursue, as a full-time student, such units of study as the Faculty, shall prescribe for not less than one year.
- 2.2 Assessment is by satisfactory completion of course, practical work and examinations, as prescribed by the Faculty.

Award of postgraduate degrees and awards in Veterinary Sciences

Graduate Diploma in Veterinary Sciences

Please note: new students will not be accepted in the GradDipVetSc in 2007.

- 1. The Diploma course will provide formal theoretical and practical instruction in veterinary medicine, veterinary surgery and veterinary public health concerned with companion and farm animals and veterinary aspects of animal production.

2. Eligibility for admission

- 2.1 Entry requires applicant to:
 - 2.1.1 be eligible to practise as a veterinarian in a country other than Australia and,
 - 2.1.2 have submitted evidence of general and professional qualifications and experience to satisfy the Faculty of Veterinary Science that the applicant possesses the educational preparation and capacity to pursue studies for the diploma, has the appropriate time available and meets any additional requirements for admission that may be prescribed by the Faculty of Veterinary Science.

3. Requirements for the Graduate Diploma in Veterinary Sciences

- 3.1 The prescribed practical experience will include up to 800 hours of clinical rotation in the Veterinary Teaching Hospital and the Rural Veterinary Centre.
- 3.2 Additional practical training of up to 14 weeks will also be required including private veterinary practices, NSW Agriculture, Commonwealth Department of Primary Industry and Energy and relevant industries selected according to the needs of the individual.

Award of postgraduate degrees and awards in Veterinary Public Health

Graduate Certificate in Veterinary Public Health

Graduate Diploma in Veterinary Public Health

Master of Veterinary Public Health

Master of Veterinary Public Health (Honours)

Students must successfully pass all credit points of their course to be awarded the qualification of Graduate Certificate, Graduate Diploma, Master of Veterinary Public Health, Master of Veterinary Public Health (Honours).

1. Eligibility for admission

- 1.1 The Dean of the Faculty of Veterinary Science may admit to candidature for:

1.1.1 Graduate Certificate in Veterinary Public Health

- 1.1.1.1 Persons holding a bachelor's degree in veterinary science, animal science or equivalent or persons with a minimum of 4 years work experience in a relevant discipline may apply for admission to candidature for the graduate certificate in Veterinary Public Health.

1.1.2 Graduate Diploma in Veterinary Public Health

- 1.1.2.1 Persons holding a bachelor's degree in veterinary science, animal science or equivalent, or persons with a graduate certificate in Veterinary Public Health may apply for admission to candidature for the degree of Graduate Diploma in Veterinary Public Health.

1.1.3 Master of Veterinary Public Health

- 1.1.3.1 Persons holding a bachelor's degree in veterinary science, animal science or equivalent, or persons with a Graduate Certificate in Management in Veterinary Public Health or a Graduate Diploma in Veterinary Public Health may apply for admission to candidature for the degree of Master of Veterinary Public Health.

1.1.4 Master of Veterinary Public Health (Honours)

- 1.1.4.1 Candidates of the Master of Veterinary Public Health who have achieved a minimum WAM of 75 in their first 24 credit points of candidature may apply for admission to the Master of Veterinary Public Health with Honours.

2. Units of study

- 2.1 Please refer to chapters 3 and 6 of the Faculty Handbook.
- 2.2 Students may also select elective units of study from the Master of Public Health or other postgraduate coursework programs at the University of Sydney in consultation with their academic supervisor.

3. Requirements for the Master of Veterinary Public Health

- 3.1 Students must complete such coursework and assessment as prescribed by the Faculty, including:
- 3.1.1 48 credit points of coursework including:

- 3.1.1.1 24 credit points of core units of study; 12 credit points of elective units of study; 12 credit points of research.

- 3.2 A candidate may progress to honours by completing an additional 12 credit points of research to a total of 60 credit points.

- 3.3.1 A candidate must obtain a WAM of 70 or above to proceed to the units of study for the Research Project.

- 3.3.2 A candidate who does not obtain a WAM of 70 or above will be required to transfer candidature to the GradDipVPH.

- 3.4.1 A candidate may select elective units of study offered within the MVPHMgt or the MVPH.

- 3.4.2 A candidate may select units of study from other areas with approval from the Sub-Dean for Postgraduate Coursework.

4. Requirements for the Graduate Diploma in Veterinary Public Health

- 4.1 Students must complete such coursework and assessment as prescribed by the Faculty, including:

- 4.1.1 36 credit points of coursework including:

- 4.1.1.1 24 credit points of core units of study; 12 credit points of elective units of study.

- 4.2.1 A candidate may select elective units of study offered within the MVPHMgt or the MVPH.

- 4.2.2 A candidate may select units of study from other areas with approval from the Sub-Dean for Postgraduate Coursework.

5. Requirements for the Graduate Certificate in Veterinary Public Health

- 5.1 Students must complete such coursework and assessment as prescribed by the Faculty, including:

- 5.1.1 24 credit points of coursework including:

- 5.1.1.1 24 credit points of core units of study.

6. Requirements for honours degrees

- 6.1 A student will qualify for the award of honours if they have obtained a minimum WAM of 75 in their first 24 credit points of candidature and by successfully completing 12 credit points of research in addition to the research required to complete the MVPH.

- 6.2 A candidate for honours will complete either:

- 6.2.1 two 12 credit point dissertations OR

- 6.2.2 one 24 credit point dissertation

7. Units of study

- 7.1 Please refer to Chapters 3 and 6 of this handbook.

8. Enrolment in more/less than minimum load

- 8.1 Students may enrol in as many or as few units of study that they may reasonably complete, within timetabling restrictions and within the designated time limits as outlined in these resolutions.

9. Cross-institutional study

- 9.1.1 Students from other tertiary institutions may be permitted to undertake cross-institutional studies.

- 9.1.2 Students need to be able to meet the same criteria/prerequisites as students enrolled at the University of Sydney (or have done equivalent units of study at your home institution) to be able to enrol in a particular unit of study.

- 9.2 The following items need to be attached to an application for cross-institutional study:

- 9.2.1 a letter of permission from your course authority at your home institution specifying the units of study you are permitted to undertake at the University of Sydney;

- 9.2.2 documentation showing your enrolment status at your home institution;

- 9.2.3 passport or birth certificate (or a certified copy of these documents);

- 9.2.4 an official academic transcript (or certified copy) from your home university.

- 9.3 Students enrolled in the MVPH, GradDipVPH or GradCertVPH will be permitted to enrol in units of study from Michigan State University Professional Master of Science in Food Safety and receive credit for elective units of study in the MVPH or GradDipVPH at the University of Sydney.

10. Restrictions on enrolment

- 10.1.1 There are certain circumstances in which a student could be asked to show good cause why they should be permitted to repeat any previously attempted study.

- 10.1.2 Liability for exclusion from re-enrolment is determined by academic attainment during the immediate past one or two academic years (depending upon the faculty, college or board of studies concerned).

- 10.1.3.1 The resolutions of the Senate restricting re-enrolment may be found in the University's Calendar, Vol I: Statutes and Regulations.
- 10.1.3.2 Students should acquaint themselves with the resolutions relating to the studies in which they are enrolled.
- 10.1.4 Students in any doubt about their liability for exclusion following academic failure, unsatisfactory progression or discontinuation of courses should seek advice from the Faculty Office.
- 10.2.1.1 It is not possible to define in advance all the reasons that constitute 'good cause' but serious ill-health, or misadventure properly attested, will be considered.
- 10.2.1.2 In addition a student's general record, for example in other courses, would be taken into account.
- 10.2.2 In particular where a student transfers from another faculty, record of performance in that faculty would be considered.
- 10.3 Not usually acceptable as good cause are such matters as demands of employers, pressure of employment, time devoted to non-university activities and so on, except as they may be relevant to any serious ill-health or misadventure.
- 11. Discontinuation of enrolment**
- 11.1 Students contemplating discontinuing should consult the Learner Support Coordinator or Sub-Dean for Postgraduate Coursework or a student counsellor before committing to a decision.
- 11.2.1 Students enrolled in a course for a degree in the Faculty of Veterinary Science and, without permission of the Faculty, discontinue a year or a full-year unit of study after the last day of the first week of July semester, or discontinue a one-semester unit after the last day of the seventh week of teaching, will be deemed to have failed such year or unit.
- 11.2.2 The University's regulations governing 'Discontinuation, Exclusion and Suspension of Candidature' are available at <http://www.usyd.edu.au/policy/policy-index.stm>
- 12. Suspension of candidature**
- 12.1 A student who wishes to suspend candidature must inform the Faculty in writing, giving reasons and indicate their intended re-enrolment date.
- 13. Re-enrolment after an absence**
- 13.1 A student must apply to re-enrol after an absence, which must be within six semesters of discontinuing or suspension of candidature.
- 14. Satisfactory progress**
- 14.1 Students who fail a unit of study are required to repeat enrolment in that unit.
- 14.2 The Faculty may:
- 14.2.1 call upon any candidate to show cause why that candidature should not be terminated by reason of unsatisfactory progress towards completion of the course; and
- 14.2.2 where the candidate does not show good cause, terminate the candidature.
- 15. Time limit**
- 15.1 A candidate may proceed on a part-time basis.
- 15.2 A part-time candidate for the Graduate Certificate in Veterinary Public Health shall complete the requirements for the award in a minimum of two semesters and a maximum of four semesters, except with permission of the Dean.
- 15.3 A part-time candidate for the Graduate Diploma in Veterinary Public Health shall complete the requirements for the award in a minimum of three semesters and a maximum of six semesters, except with permission of the Dean.
- 15.4 A part-time candidate for the Master of Veterinary Public Health shall complete the requirements for the award in a minimum of four semesters and a maximum of eight semesters, except with permission of the Dean.
- 16. Assessment**
- 16.1 A published assessment policy will be distributed to students annually.
- 17. Credit transfer**
- 17.1 A candidate who, before admission to candidature, has spent time in graduate study and, within the previous three years, has completed coursework considered by the Dean to be equivalent to units of study available for the course, may receive credit towards their award.
- 17.2 Credit for previous study may be granted up to:
- 17.2.1 6 credit points of the requirements of the Graduate Certificate in Veterinary Public Health;
- 17.2.2 12 credit points of the requirements of the Graduate Diploma in Veterinary Public Health;

- 17.2.3 12 credit points of the requirements of the Master of Veterinary Public Health.

Award of postgraduate degrees and awards in Veterinary Public Health Management

Graduate Certificate in Veterinary Public Health Management

Graduate Diploma in Veterinary Public Health Management

Master of Veterinary Public Health Management

Master of Veterinary Public Health Management (Honours)

Students must successfully pass all credit points of their course to be awarded the qualification of Graduate Certificate, Graduate Diploma, Master of Public Health Management, Master of Veterinary Public Health Management (Honours).

1. Eligibility for admission

- 1.1 The Dean of the Faculty of Veterinary Science may admit to candidature for:

1.1.1 *Graduate Certificate in Veterinary Public Health Management*

- 1.1.1.1 an applicant who is the holder of the degree of bachelor's degree in veterinary science, animal science or equivalent, or
- 1.1.1.2 an applicant who has a minimum of 4 years work experience in a relevant discipline.

1.1.2 *Graduate Diploma in Veterinary Public Health Management*

- 1.1.2.1 an applicant who is the holder of the degree of bachelor's degree in veterinary science, animal science or equivalent, or
- 1.1.2.2 an applicant who has completed the Graduate Certificate in Veterinary Public Health Management.

1.1.3 *Master of Veterinary Public Health Management*

- 1.1.3.1 an applicant who is the holder of the degree of bachelor's degree in veterinary science, animal science or equivalent or
- 1.1.3.2 an applicant who has completed the Graduate Certificate in Veterinary Public Health Management, or
- 1.1.3.3 an applicant who has completed the Graduate Diploma in Veterinary Public Health Management.

1.1.4 **Master of Veterinary Public Health Management (Honours)**

- 1.1.4.1.1 Candidates of the Master of Veterinary Public Health Management who have achieved a WAM of 75 or more in their first 24 credit points of candidature may apply for admission to the Master of Veterinary Public Health Management (Honours).
- 1.1.4.1.2 Graduates of the Master of Veterinary Public Health Management may who have achieved a WAM of 75 or more in their first 24 credit points of candidature may apply for admission to the Master of Veterinary Public Health Management (Honours) within six years of graduation.
- 1.1.4.2 Admission will also be contingent on Distinction or better results obtained in units of study relevant to the applicant's proposed research project or equivalent evidence of competence in relevant areas.

2. Availability

- 2.1 Admission to candidature may be limited by a quota. In determining the quota, the University will take into account:

- 2.1.1 availability of resources including space, laboratory and computing facilities; and
- 2.1.2 availability of adequate and appropriate teaching staff.
- 2.2 In considering an application for admission to candidature the Dean shall take account of the quota and will select, in preference, applicants who are most meritorious in terms of section 1 above.
- 3. Method of progression**
- 3.1 A candidate for the course shall proceed by completing units of study as prescribed by the Faculty.
- 3.1.1 A unit of study shall consist of such on campus seminars, online learning activities, assignments, group exercises, practical work, or project work as may be prescribed.
- 3.1.2 In these resolutions, 'to complete a unit of study' or any derivative expression means:
- 3.1.2.1 to participate in all residential and online class activities, if any;
- 3.1.2.2 to complete satisfactorily the on campus seminars, online learning activities, assignments, group exercises, practical work, and project work, if any; and
- 3.1.2.3 to pass any other examination of the unit of study that may apply.
- 3.2.1 A candidate for the MVPHMGt must obtain a WAM of 70 or above to proceed to the units of study for the Research Project.
- 3.2.2 A candidate for the MVPHMGt(Hons) must obtain a WAM of 75 or above to proceed to the units of study for the Honours Research Project.
- 4. Time limits**
- 4.1 A candidate may proceed on either a full-time or a part-time basis.
- 4.2.1 A full-time candidate for the Graduate Certificate in Veterinary Public Health Management shall complete the requirements for the award in a minimum of one semester and a maximum of two semesters, except with permission of the Dean within three semesters of admission to candidature.
- 4.2.2 A full-time candidate for the Graduate Diploma in Veterinary Public Health Management shall complete the requirements for the award in a minimum of two semesters and a maximum of three semesters, except with permission of the Dean within four semesters of admission to candidature.
- 4.2.3 A full-time candidate for the Master of Veterinary Public Health Management shall complete the requirements for the award in a minimum of two semesters and a maximum of four semesters, except with permission of the Dean within five semesters of admission to candidature.
- 4.2.4 A full-time candidate for the Master of Veterinary Public Health Management (Honours) shall complete the requirements for the award in a minimum of three semesters and a maximum of five semesters, except with permission of the Dean.
- 4.3.1 A part-time candidate for the Graduate Certificate in Veterinary Public Health Management shall complete the requirements for the award in a minimum of two semesters and a maximum of four semesters, except with permission of the Dean within five semesters of admission to candidature.
- 4.3.2 A part-time candidate for the Graduate Diploma in Veterinary Public Health Management shall complete the requirements for the award in a minimum of three semesters and a maximum of six semesters, except with permission of the Dean.
- 4.3.3 A part-time candidate for the Master of Veterinary Public Health Management shall complete the requirements for the award in a minimum of four semesters and a maximum of eight semesters, except with permission of the Dean.
- 4.3.4 A part-time candidate for the Master of Veterinary Public Health Management (Honours) shall complete the requirements for the award in a minimum of five semesters and a maximum of ten semesters, except with permission of the Dean.
- 5. Requirements for the course**
- 5.1 Candidates for the Graduate Certificate of Veterinary Public Health Management are required to complete satisfactorily units of study granting a minimum of 24 credit points selected from units of study approved from time to time by the Faculty.
- 5.2 Candidates for the Graduate Diploma of Veterinary Public Health Management are required to complete satisfactorily units of study granting a minimum of 36 credit points selected from units of study approved from time to time by the Faculty.
- 5.3 Candidates for the Master of Veterinary Public Health Management are required to complete satisfactorily units of study granting a minimum of 48 credit points selected from units of study approved from time to time by the Faculty.
- 5.4 Requirements for the award of the Master of Veterinary Public Health Management (Honours) include:
- 5.4.1 60 credit points, including:
- 5.4.1.1 24 credit points of core units of study, and
- 5.4.1.2 3-9 credit points of elective units of study, and
- 5.4.1.3 18-24 credit points of research.
- 5.4.2 Students must attain a minimum WAM of 75 in their first 24 credit points of candidature and a Distinction or better in units of study deemed by the Faculty to be essential to their research project.
- 5.4.3 Successful completion requires students to submit all pieces of assessment required for the units of study VETS7028 and VETS7029 Research Paper C and D and obtain a pass grade for the unit of study.
- 6. Examination**
- 6.1 On completion of the requirements for the course, the Faculty shall determine the results of the candidature.
- 7. Progress**
- 7.1 The Faculty may:
- 7.1.1.1 call upon any candidate to show cause why that candidature should not be terminated by reason of unsatisfactory progress towards completion of the course; and
- 7.1.1.2 where the candidate does not show good cause, terminate the candidature;
- 7.1.2 Require a candidate of the MVPHMGt to transfer candidature to GradDipVPHMGt if the candidate has not attained a WAM of 70 or more in their first 24 credit point of candidature.
- 8. Requirements for honours degrees**
- 8.1 The Master of Veterinary Public Health Management (Honours) will be awarded following the successful completion of the requirements of the units of study VETS7028 and VETS7029 Research Paper C and D.
- 8.2 Grades of Honours will not be awarded. However, students will receive a grade for all assessment in Research Paper units of study that will be recorded on their transcript.
- 9. Credit**
- 9.1 A candidate who, before admission to candidature, has spent time in graduate study and, within the previous three years, has completed coursework considered by the dean to be equivalent to units of study prescribed for the course, may receive credit of up to:
- 9.1.1 6 credit points of the requirements of the Graduate Certificate in Veterinary Public Health Management;
- 9.1.2 9 credit points of the requirements of the Graduate Diploma in Veterinary Public Health Management;
- 9.1.3 12 credit points of the requirements of the Master of Veterinary Public Health Management from within the articulated Veterinary Public Health Management program.
- 10. Restrictions on enrolment**
- 10.1.1 There are certain circumstances in which a student could be asked to show good cause why they should be permitted to repeat any previously attempted study.
- 10.1.2 Liability for exclusion from re-enrolment is determined by academic attainment during the immediate past one or two academic years (depending upon the faculty, college or board of studies concerned).
- 10.1.3.1 The resolutions of the Senate restricting re-enrolment may be found in the University's Calendar, Vol I: Statutes and Regulations.
- 10.1.3.2 Students are advised to acquaint themselves with the resolutions relating to the studies in which they are enrolled.
- 10.1.4 Students in any doubt about their liability for exclusion following academic failure, unsatisfactory progression or discontinuation of courses should seek advice from the Faculty Office.
- 10.2.1 It is not possible to define in advance all the reasons that constitute 'good cause' but serious ill-health, or misadventure properly attested, will be considered.
- 10.2.2 In addition a student's general record, for example in other courses, would be taken into account.

- 10.2.3 In particular where a student transfers from another faculty, record of performance in that faculty would be considered.
- 10.2.4 Not usually acceptable as good cause are such matters as demands of employers, pressure of employment, time devoted to non-university activities and so on, except as they may be relevant to any serious ill-health or misadventure.
- 11. Discontinuation of enrolment**
- 11.1 Students contemplating discontinuing should consult the Learner Support Coordinator or Sub-Dean for Postgraduate Coursework or a student counsellor before committing to a decision.
- 11.2 Students enrolled in a course for a degree in the Faculty of Veterinary Science and who, without permission of the Faculty, discontinue a year or a full-year unit of study after the last day of the first week of July semester, or discontinue a one-semester unit after the last day of the seventh week of teaching, will be deemed to have failed such year or unit.
- 11.3 The University's regulations governing "Discontinuation, Exclusion and Suspension of Candidature" are available at <http://www.usyd.edu.au/policy/policy-index.stm>
- 12. Suspension of candidature**
- 12.1 A student who wishes to suspend candidature must inform the Faculty in writing, giving reasons and indicate their intended re-enrolment date.
- 13. Re-enrolment after an absence**
- 13.1 A student must apply to re-enrol after an absence, which must be within six semesters of discontinuing or suspension of candidature.
- 14. Satisfactory progress**
- 14.1 Students who fail a core unit of study are required to repeat enrolment in that unit.
- 14.2 The Faculty may:
- 14.2.1 call upon any candidate to show cause why that candidature should not be terminated by reason of unsatisfactory progress towards completion of the course; and
- 14.2.2 where the candidate does not show good cause, terminate the candidature.

Award of postgraduate degrees and awards in Animal Science

Graduate Certificate in Animal Science (GradCertAnimSc)

Graduate Diploma in Animal Science (GradDipAnimSc)

Master of Animal Science (MAnimSc)

Students must successfully pass all credit points of their course to be awarded the qualification of Graduate Certificate, Graduate Diploma, Master of Animal Science.

- 1. Eligibility for admission**
- 1.1 Admission to the Graduate Certificate, Graduate Diploma or Master of Animal Science requires an undergraduate degree in a related field of study (Agriculture, Animal Science, Veterinary Science), or equivalent with permission from the Dean.
- 1.2 Admission to the Master of Animal Science (Honours) requires a candidate of the Graduate Certificate, Graduate Diploma or Master of Animal Science to have achieved a WAM of at least 70 in their first 24 credit points of candidature.
- 2. Units of study**
- 2.1 Refer to chapter 6 of the Faculty Handbook.
- 3. Requirements for the award of the Graduate Certificate in Animal Science**
- 3.1 24 credit points:
- 3.1.1 12 credit points of core units of study in major area (Genetics, Nutrition, Reproduction, Animal Breeding Management) and 12 elective credit points, which may include a research project.

- 3.1.2 Elective units of study may be selected from all postgraduate coursework offered in the Faculty of Veterinary Science, and from other Faculties with permission from the Dean.
- 4. Requirements for the award of the Graduate Diploma in Animal Science**
- 4.1 36 credit points:
- 4.1.1 12 credit points of core units of study in major area (Genetics, Nutrition, Reproduction, Animal Breeding Management) and 24 elective credit points, which may include a research project.
- 4.1.2 Elective units of study may be selected from all postgraduate coursework offered in the Faculty of Veterinary Science, and from other Faculties with permission from the Dean.
- 5. Requirements for the award of the Master of Animal Science**
- 5.1 48 credit points:
- 5.1.1 12 credit points of core units of study in major area (Genetics, Nutrition, Reproduction, Animal Breeding Management), 6 credit point research project and 24 elective credit points, which may include up to 18 further credit points towards a research project.
- 5.2 Elective units of study may be selected from all postgraduate coursework offered in the Faculty of Veterinary Science, and from other Faculties with permission from the Dean.
- 6. Enrolment in more/less than minimum load**
- 6.1 A full-time student shall be enrolled in a minimum of 48 credit points per year, or 24 credit points per semester in the case of students enrolled in the Graduate Certificate in Animal Science or the Graduate Diploma in Animal Science.
- 6.2 A part-time student may be enrolled in as few credit points as they wish, but their candidature in the degree must not exceed the maximum as outlined in the Resolutions of the Senate.
- 7. Cross-institutional study**
- 7.1 The Dean may permit a student to complete a unit or units of study at another university or institution and have that unit or those units of study credited to the student's award course.
- 8. Restrictions on enrolment**
- 8.1.1 Admission to candidature may be limited by a quota.
- 8.1.2 In determining the quota, the University will take into account:
- 8.1.2.1 availability of resources including space, laboratory and computing facilities; and
- 8.1.2.2 availability of adequate and appropriate teaching staff.
- 8.2 In considering an application for admission to candidature the Dean shall take account of the quota and will select, in preference, applicants who are most meritorious in terms of section 1 above.
- 8.3 Enrolment in some units of study may be restricted to students who are registered veterinarians or who hold a permit from the Board of Veterinary Surgeons of NSW to perform acts of veterinary science under supervision.
- 9. Discontinuation of enrolment**
- 9.1 A candidate may indicate their wish to discontinue their candidature in writing to the Faculty Office.
- 9.2 A student who has discontinued more than once or in their first year may be asked to show cause why she or he should be allowed to continue their candidature in the degree program.
- 9.3 Re-enrolment is at the discretion of the Dean on advice from the Academic Supervisor of the Postgraduate Program in Animal Science.
- 9.4 A candidate must discontinue before the census date of the relevant semester, except in exceptional circumstances with permission from the Dean.
- 10. Suspension of candidature**
- 10.1 A student who has suspended their candidature must re-enrol within a period of two years of their suspension.
- 10.2 A student who wishes to re-enrol after this period must follow application procedures for new students.
- 11. Re-enrolment after an absence**
- 11.1 As for suspension of candidature.
- 12. Satisfactory progress**
- 12.1 A candidate is deemed to be progressing satisfactorily if they pass each unit of study according to published assessment criteria.
- 12.2 A candidate who fails two or more units of study may be asked to show cause why she or he should be allowed to continue their candidature in the degree program.
- 13. Time limit**
- 13.1 A full-time candidate for the Graduate Certificate in Animal Science shall complete the requirements for the award in a minimum of one semester and a maximum of two semesters,

- except with permission of the Dean within three semesters of admission to candidature.
- 13.2 A full-time candidate for the Graduate Diploma in Animal Science shall complete the requirements for the award in a minimum of two semesters and a maximum of three semesters, except with permission of the Dean within four semesters of admission to candidature.
- 13.3 A full-time candidate for the Master of Animal Science shall complete the requirements for the award in a minimum of two semesters and a maximum of four semesters, except with permission of the Dean within five semesters of admission to candidature.
- 13.4 A part-time candidate for the Graduate Certificate in Animal Science shall complete the requirements for the award in a minimum of two semesters and a maximum of four semesters, except with permission of the Dean within five semesters of admission to candidature.
- 13.5 A part-time candidate for the Graduate Diploma in Animal Science shall complete the requirements for the award in a minimum of three semesters and a maximum of six semesters, except with permission of the Dean within seven semesters of admission to candidature.
- 13.6 A part-time candidate for the Master of Animal Science shall complete the requirements for the award in a minimum of four semesters and a maximum of seven semesters, except with permission of the Dean within eight semesters of admission to candidature.
- 14. Assessment**
- 14.1 In addition to the responsibilities of Faculty and Academic Staff outlined in Assessment and Examination of Coursework, as amended by the Academic Board on 14 November 2001, the Graduate Certificate in Animal Science, the Graduate Diploma in Animal Science and the Master of Animal Science will:
- 14.1.1 ensure that student workload is appropriate for 6 credit points in each unit of study, i.e. approximately 150 student learning hours;
- 14.1.2 ensure that in units of study taught across different degree courses, appropriate assessment is arranged for postgraduate students in animal science, with specific assessment criteria;
- 14.1.3 ensure that assessment criteria specific to postgraduate students is clearly communicated.
- 15. Credit transfer**
- 15.1 A candidate who has completed the Graduate Certificate in Animal Science at the University of Sydney may be granted 24 credit points from that completed course as credit towards the Graduate Diploma or Master of Animal Science, within four years of graduation of the Graduate Certificate in Animal Science.
- 15.2 A candidate who has completed the Graduate Diploma in Animal Science at the University of Sydney may be granted 36 of credit points from that completed course as credit towards the Master of Animal Science, within four years of graduation Graduate Diploma in Animal Science.

Award of postgraduate degrees and awards in Veterinary Studies

Graduate Certificate in Veterinary Studies

Graduate Diploma in Veterinary Studies

Master of Veterinary Studies

Students must successfully pass all credit points of their course to be awarded the qualification of Graduate Certificate, Graduate Diploma, Master of Veterinary Studies.

1. Eligibility for admission

- 1.1.1 Applicants to the GradCertVetStud, GradDipVetStud and the MVetStud must possess a bachelor degree in veterinary science, animal science or equivalent.

- 1.1.2 Applicants to the GradCertVetStud may be granted admission on the basis of prior relevant work experience with permission of the Dean.
- 1.1.3 Some units of study may require a veterinary qualification, registrable in New South Wales.
- 1.1.4 Admission may be dependent on the availability of supervisors for an applicant's intended study plan.
- 1.1.5 Applicants will need to consult with academic supervisors and/or staff to ensure their prior knowledge and career plans align to their study plans.
- 1.1.6 Admission to majors based in the University Veterinary Centre will normally be dependent on employment in the relevant centre.

2. Units of study

- 2.1 Units of study will be published annually in the Faculty Handbook.
- 2.2 Students may select from the following units of study, and other units of study offered in the Faculty of Veterinary Science, mindful of prerequisites and the need to arrange supervision.
- 2.3 Students wishing to complete a major, must complete the core and elective units from their area of specialisation, unless otherwise authorised by their Academic Supervisor and with permission of the Dean.

3. Requirements for postgraduate coursework in Veterinary Studies

3.1 *Award of Graduate Certificate in Veterinary Studies:*

- 3.1.1 24 credit points.
- 3.1.1.1 Units of study may be selected from all postgraduate coursework offered in the Faculty of Veterinary Science in consultation with an Academic Supervisor, and from other Faculties with permission from the Dean.
- 3.1.1.2 Students wishing to major in one of the specialised areas offered by the Faculty and have this major reflected on their testamur must complete core units of study in their selected major, on advice from their Academic Supervisor.

3.2 *Award of the Graduate Diploma in Veterinary Studies:*

- 3.2.1 36 credit points.
- 3.2.1.1 Units of study may be selected from all postgraduate coursework offered in the Faculty of Veterinary Science in consultation with an Academic Supervisor, and from other Faculties with permission from the Dean.
- 3.2.1.2 Students wishing to major in one of the specialised areas offered by the Faculty and have this major reflected on their testamur must complete core or elective units of study in their selected major, on advice from their Academic Supervisor.

3.3 *Award of the Master of Veterinary Studies:*

- 3.3.1 48 credit points:
- 3.3.1.1 36-42 credit points of coursework; 6-12 credit points of either case report(s) or a research project.
- 3.3.1.2.1 Units of study may be selected from all postgraduate coursework offered in the Faculty of Veterinary Science, and from other Faculties with permission from the Dean.
- 3.3.1.2.2 Students wishing to major in one of the specialised areas offered by the Faculty and have this major reflected on their testamur must complete core and/or elective units of study in their selected major, on advice from their Academic Supervisor and case report(s) and/or a research project in a related area.

4. Combined degrees and specially designated streams

- 4.1 Students whose study plan indicates primarily clinical training must consult with an academic supervisor about whether a veterinary qualification registrable in New South Wales is a requirement of admission.
- 4.2 Students may complete the Graduate Certificate, Graduate Diploma or Master of Veterinary Studies with or without a disciplinary major.
- 4.3 Majors will be offered in the following areas and, if a major is completed, recorded on a student's testamur:
- 4.3.1 From 2007, the following majors will be available: Veterinary Diagnostic Pathology; Small Animal Clinical Studies; Equine Medicine and Surgery; Ruminant Medicine and Surgery; Animal Production.

4.3.2 In addition to the above, from 2008 the following majors will also be available: Wildlife Medicine; Avian Health and Production.

5. Enrolment in more/less than minimum load

5.1 A normal full-time load is defined as enrolment in a program of approved units of study to a total value of 24 credit points in any one semester.

5.2.1 A normal part-time load is defined as enrolment in a program of approved units of study to a total value of 12 credit points in any one semester.

5.2.2 Students may vary this load without permission, but must complete the requirements of their degree within the maximum period, except with permission of the Dean.

6. Cross-institutional study

6.1.1 Students from other tertiary institutions may be permitted to undertake cross-institutional studies.

6.1.2 Students need to be able to meet the same criteria/prerequisites as students enrolled at the University of Sydney (or have done equivalent units of study at their home institution) to be able to enrol in a particular unit of study.

6.2 The following items need to be attached to an application for cross-institutional study:

6.2.1 a letter of permission from your course authority at your home institution specifying the units of study you are permitted to undertake at the University of Sydney;

6.2.2 documentation showing your enrolment status at your home institution;

6.2.3 passport or birth certificate (or a certified copy of these documents);

6.2.4 an official academic transcript (or certified copy) from your home university.

6.3 Students enrolled in University of Sydney postgraduate coursework in Veterinary Studies may apply for approval for cross-institutional study elsewhere.

7. Restrictions on enrolment

7.1.1 Some units of study will require students to possess a veterinary qualification registrable in NSW.

7.1.2 Applicants who do not possess a veterinary qualification registrable in NSW should consult with staff about their study program.

7.2 Enrolment in units of study or pathways taught primarily by supervision will be subject to the availability of appropriate supervision for the period of the student's candidature.

7.3 There are certain circumstances in which a student could be asked to show good cause why they should be permitted to repeat any previously attempted study.

7.4 Liability for exclusion from re-enrolment is determined by academic attainment during the immediate past one or two academic years (depending upon the faculty, college or board of studies concerned).

7.5.1 The resolutions of the Senate restricting re-enrolment may be found in the University's Calendar, Vol I: Statutes and Regulations.

7.5.2 Students should acquaint themselves with the resolutions relating to the studies in which they are enrolled.

7.6 Students in any doubt about their liability for exclusion following academic failure, unsatisfactory progression or discontinuation of courses should seek advice from the Faculty Office.

7.7.1 It is not possible to define in advance all the reasons that constitute 'good cause' but serious ill-health, or misadventure properly attested, will be considered.

7.7.2 In addition a student's general record, for example in other courses, would be taken into account.

7.7.3 In particular where a student transfers from another faculty, record of performance in that faculty would be considered.

7.7.4 Not usually acceptable as good cause are such matters as demands of employers, pressure of employment, time devoted to non-university activities and so on, except as they may be relevant to any serious ill-health or misadventure.

8. Discontinuation of enrolment

8.1 Students contemplating discontinuing should consult the Academic Supervisor or Sub-Dean for Postgraduate

Coursework or a student counsellor before committing to a decision.

8.2 Students enrolled in a course for a degree in the Faculty of Veterinary Science and, without permission of the Faculty, discontinue a year or a full-year unit of study after the last day of the first week of July semester, or discontinue a one-semester unit after the last day of the seventh week of teaching, will be deemed to have failed such year or unit.

8.3 The University's regulations governing "Discontinuation, Exclusion and Suspension of Candidature" are available at www.usyd.edu.au/policy/policy-index.stm.

9. Suspension of candidature

9.1 A student who wishes to suspend candidature must inform the Faculty in writing and indicate their intended re-enrolment date.

10. Re-enrolment after an absence

10.1 A student must apply to re-enrol after an absence, which must be within six semesters of discontinuing or suspension of candidature.

11. Satisfactory progress

11.1 Students completing a major and who fail a core unit of study are required to repeat enrolment in that unit.

11.2 The Faculty may:

11.2.1 call upon any candidate to show cause why that candidature should not be terminated by reason of unsatisfactory progress towards completion of the course; and

11.2.2 where the candidate does not show good cause, terminate the candidature.

12. Time limit

12.1 A candidate may proceed on a full-time or part-time basis.

12.2.1 A full-time candidate for the Graduate Certificate in Veterinary Studies shall complete the requirements for the award in a minimum of one semester and a maximum of two semesters, except with permission of the Dean.

12.2.2 A full-time candidate for the Graduate Diploma in Veterinary Studies shall complete the requirements for the award in a minimum of two semesters and a maximum of three semesters, except with permission of the Dean.

12.2.3 A full-time candidate for the Master of Veterinary Studies shall complete the requirements for the award in a minimum of two semesters and a maximum of four semesters, except with permission of the Dean.

12.3.1 A part-time candidate for the Graduate Certificate in Veterinary Studies shall complete the requirements for the award in a minimum of two semesters and a maximum of four semesters, except with permission of the Dean.

12.3.2 A part-time candidate for the Graduate Diploma in Veterinary Studies shall complete the requirements for the award in a minimum of three semesters and a maximum of six semesters, except with permission of the Dean.

12.3.3 A part-time candidate for the Master of Veterinary Studies shall complete the requirements for the award in a minimum of four semesters and a maximum of eight semesters, except with permission of the Dean.

13. Assessment

13.1 A published assessment policy will be distributed to students annually.

14. Credit transfer

14.1 A candidate who, before admission to candidature, has spent time in graduate study and within the previous three years, has completed coursework considered by the Dean to be equivalent to units of study available for the course, may receive credit towards their award.

14.2 A candidate who has completed study with the Post Graduate Foundation in Veterinary Science may apply for credit on the basis of study completed.

14.3 Credit for previous study may be granted up to:

14.3.1 6 credit points of the requirements of the Graduate Certificate in Veterinary Studies;

14.3.2 12 credit points of the requirements of the Graduate Diploma in Veterinary Studies;

14.3.3 12 credit points of the requirements of the Master of Veterinary Studies.

6. Postgraduate information

Postgraduate Research awards in the Faculty of Veterinary Science

Master of Science in Veterinary Science (MScVetSc)

Master of Veterinary Science (MVSc)

Master of Veterinary Clinical Studies (MVetClinStud)

Doctor of Philosophy (PhD)

Doctor of Veterinary Science (DVSc)

Postgraduate Coursework awards in the Faculty of Veterinary Science

Master of Veterinary Studies (MVetStud)

Master of Veterinary Public Health Management (MVPHMgt)

Master of Veterinary Public Health Management (Honours) (MVPHMgt(Hons))

Master of Animal Science (MAnimSc)

Master of Veterinary Public Health (Honours) (MVPH(Hons))

Master of Veterinary Public Health (MVPH)

Graduate Diploma in Veterinary Clinical Studies (GradDipVetClinStud)

Graduate Diploma in Veterinary Science (GradDipVetSc)

Graduate Diploma in Veterinary Public Health Management (GradDipVPHMgt)

Graduate Diploma in Animal Science (GradDipAnimSc)

Graduate Diploma in Veterinary Public Health (GradDipVPH)

Graduate Diploma in Veterinary Studies (GradDipVetStud)

Graduate Certificate in Veterinary Public Health Management (GradCertVPHMgt)

Graduate Certificate in Animal Science (GradCertAnimSc)

Graduate Certificate in Veterinary Public Health (GradCertVPH)

Graduate Certificate in Veterinary Studies (GradCertVetStud)

Postgraduate Research in the Faculty of Veterinary Science

Master of Science in Veterinary Science

Persons holding a bachelor's degree with honours first or second class may apply for admission to candidature for the degree of Master of Science in Veterinary Science. Applicants holding the degree of Bachelor of the University of Sydney without honours but who have completed work equivalent to a degree of bachelor with honours or who have passed a preliminary examination or examinations as prescribed by the Faculty may be accepted as candidates.

A candidate for this degree shall complete such units of study as are prescribed the Postgraduate Education and Research Training Committee and carry out research under the guidance of a supervisor for not less than one year. A thesis must be submitted, embodying the results of this research.

Master of Veterinary Science

Persons holding the degree of Bachelor of Veterinary Science may apply for admission to candidature for the degree of Master of Veterinary Science. Graduates in veterinary science from other universities may also, with the approval of the Faculty and the Academic Board, be admitted as candidates.

A candidate for this degree shall pursue a course of advanced study and research under the guidance of an adviser or supervisor for not less than one year and submit a thesis embodying the results of his or her investigation.

Master of Veterinary Clinical Studies

Persons holding the degree of Bachelor of Veterinary Science may apply for admission to candidature for the degree of Master of Veterinary Clinical Studies. Graduates in veterinary science from other universities may also, with the approval of the Faculty and the Academic Board, be admitted as candidates. Candidates shall be registrable by the Board of Veterinary Surgeons of New South Wales, unless exempted by the Faculty.

A candidate for this degree shall, for at least two years, engage in full-time supervised advanced veterinary clinical study and research and submit a thesis embodying the results of an original investigation.

Doctor of Philosophy

Graduates who hold the degree of Master of Veterinary Science, Master of Veterinary Clinical Studies, Master of Science in Veterinary Science or Bachelor of Veterinary Science with Honours may apply for admission as candidates for the degree of Doctor of Philosophy in the Faculty of Veterinary Science.

Applicants not having an honours degree may be accepted as candidates after passing a qualifying examination. Graduates of other universities may also be admitted as candidates provided that their qualifications satisfy the Academic Board of the University of Sydney. The degree may be taken on either a full-time or part-time basis.

In the case of full-time candidates, the minimum period of candidature is two years for candidates holding a master's degree or equivalent, or three years in the case of those holding a bachelor's degree with first class or second class honours. The maximum period of candidature is normally five years.

Part-time candidature may be approved for applicants who can demonstrate that they are engaged in an occupation or other activity which leaves them substantially free to pursue their candidature for the degree. Normally the minimum period of candidature will be determined on the recommendation of the Faculty but in any case will not be less than three years; the maximum period of candidature is normally seven years.

Doctor of Veterinary Science

The degree of Doctor of Veterinary Science is not conferred until the candidate is a graduate of eight years' standing from the degree that qualified him or her for candidature.

The degree is awarded for published work that is recognised by scholars as a distinguished contribution to knowledge.

Postgraduate Coursework in the Faculty of Veterinary Science

Postgraduate Coursework in Veterinary Studies

Persons with a Bachelor degree in veterinary science, animal science or a related discipline may apply for candidature in the Master, Graduate Diploma or Graduate Certificate in Veterinary Studies. This flexible course will allow students to select a major or an alternative program of study that best suits their career goals.

Students may select from all postgraduate units of study offered in the Faculty of Veterinary Science, subject to the availability of supervisors in some areas. Students completing a major must select core and elective units of study from their designated major, in consultation with their Academic Supervisor.

Intending applicants are encouraged to contact the Faculty and discuss study options. Students may choose to study in a clear pathway – such as small animal medicine and surgery or veterinary pathology. Other students may choose to select a wider variety of units of study.

The course is offered on-campus or may be taken by distance, with interactive online classrooms. Some units of study are offered face to face – in classroom/tutorial/laboratory format. Some units of study are supervised, practical units. Students must arrange supervision for these units before enrolling in them. Some units of study are offered online and may be taken by distance.

Intending applicants should consider the list of the units of study available and identify the mode of study that will best suit them. Students may be able to study on campus or by distance or a combination of both. International students who are based in Australia on a student visa are only permitted to take 12 credit points of online study in their master's program. International offshore students should select online units of study or units requiring a short residential session in Sydney.

A major may be taken in the following areas, subject to the availability of appropriate supervisors.

From 2007, the following majors will be available: Veterinary Diagnostic Pathology; Small Animal Clinical Studies; Equine Medicine and Surgery; Ruminant Medicine and Surgery; Animal Production.

In addition to the above, from 2008 the following majors will also be available: Wildlife Medicine and Husbandry; Avian Health and Production.

Students who complete the requirements for a major will have that major printed on their testamur. Students are not required to select a major and may complete a generic degree by completing whichever units of study best suit their learning goals.

Students who complete the Master of Veterinary Studies will be required to complete either case report(s) or research to the value of 6–12 credit points. Students who elect to complete 6 credit points of research must complete a further 6 credit points of elective units of study.

Graduate Certificate in Veterinary Studies

A candidate for this award shall satisfactorily complete units of study granting a minimum of 24 credit points of approved coursework.

Graduate Diploma in Veterinary Studies

A candidate for this award shall satisfactorily complete units of study granting a minimum of 36 credit points of approved coursework.

Master of Veterinary Studies

CRICOS Code: 001167B

A candidate for this award shall satisfactorily complete units of study granting a minimum of 48 credit points of approved coursework, including research or case reports.

Major in Veterinary Diagnostic Pathology

A candidate for the GradCertVetStud in Veterinary Diagnostic Pathology will complete:

VETS9050 Diagnostic Laboratory Techniques
VETS9051 Haematological and Biochemical Analysis
VETS9052 Necropsy and Surgical Pathology
VETS9053 Microbiological, Cytological and Parasitological Analysis

In addition, a candidate for the GradDipVetStud in Veterinary Diagnostic Pathology will select 2 of the following or equivalent in consultation with their supervisor(s):

VETS9054 Advanced Diagnostic Instrumentation
VETS9055 Advanced Clinical Pathology Interpretation
VETS9056 Advanced Necropsy and Surgical Pathology
VETS9057 Advanced Cytological Analysis
VETS9003 Special Topics in Veterinary Studies

In addition, a candidate for the MVetStud in Veterinary Diagnostic Pathology will complete:

VETS9001 MVetStud Research Project 1
VETS9002 MVetStud Research Project 2

Major in Small Animal Clinical Studies

A candidate for the GradCertVetStud in Small Animal Clinical Studies will complete:

VETS9005 Veterinary Internal Medicine 1
VETS9006 Veterinary Internal Medicine 2
VETS9007 Veterinary Surgery
VETS9008 Veterinary Anaesthesia
VETS9009 Veterinary Diagnostic Imaging

In addition, a candidate for the GradDipVetStud in Small Animal Clinical Studies will select 2 of the following or equivalent in consultation with their supervisor(s):

VETS9004 Case Report in Veterinary Studies

And select one of the following:

VETS9003 Special Topics in Veterinary Studies
VETS9111 Veterinary Clinical Teaching (available from 2008)

In addition, a candidate for the MVetStud in Small Animal Clinical Studies will complete:

VETS9001 MVetStud Research Project 1
VETS9002 MVetStud Research Project 2

Major in Equine Medicine & Surgery

A candidate for the GradCertVetStud in Equine Medicine & Surgery will complete:

VETS9021 Equine Surgery and Anaesthesia 1
VETS9023 Equine Lameness
VETS9024 Equine Medicine 1
VETS9026 Equine Diagnostic Imaging

In addition, a candidate for the GradDipVetStud in Equine Medicine & Surgery will select 2 of the following or equivalent in consultation with their supervisor(s):

VETS9022 Equine Surgery and Anaesthesia 2
VETS9025 Equine Medicine 2

In addition, a candidate for the MVetStud in Equine Medicine & Surgery will complete:

VETS9001 MVetStud Research Project 1
VETS9002 MVetStud Research Project 2

Major in Ruminant Medicine & Surgery

A candidate for the GradCertVetStud in Ruminant Medicine & Surgery will complete:

VETS9031 Ruminant Medicine
VETS9032 Ruminant Nutrition
VETS9033 Ruminant Surgery
6 Credit Points Electives* (selected from relevant units of study in consultation with their supervisors).

In addition, a candidate for the GradDipVetStud in Ruminant Medicine & Surgery will select 2 of the following or equivalent in consultation with their supervisor(s):

VETS9034 Production Medicine
VETS9035 Records Analysis

In addition, a candidate for the MVetStud in Ruminant Medicine & Surgery will complete:

VETS9001 MVetStud Research Project 1
VETS9002 MVetStud Research Project 2

Major in Production Animals

A candidate for the GradCertVetStud in Production Animals will complete:

VETS8501 Applied Reproduction in Cattle
VETS9032 Ruminant Nutrition
VETS8503 Applied Mastitis Prevention
VETS8504 Lameness in Cattle

In addition, a candidate for the GradDipVetStud in Production Animals will select 2 of the following or equivalent in consultation with their supervisor(s):

VETS8505 Heifer Replacement Management
VETS8506 Facility Design

Postgraduate Coursework in Veterinary Public Health Management

Persons with a bachelor degree in veterinary science, animal science or equivalent may apply for candidature in the Master, Graduate Diploma or Graduate Certificate in Veterinary Public Health Management. Persons with a minimum of 4 years work experience in a relevant discipline may apply for admission to candidature for the Graduate Certificate in Veterinary Public Health Management.

Students will complete core and elective units of study in technical and leadership/management subjects. Honours – involving an additional 12 credit points of research – is also available. *This program is not available to international students studying in Australia with a student visa. The program is available to international offshore students studying in their home country.*

Graduate Certificate in Veterinary Public Health Management

A candidate for this award shall satisfactorily complete units of study granting a minimum of 24 credit points by a combination of online distance units and 2 short (2–5 day) residential sessions.

The candidate will complete:

VETS7025 Leadership, People & Organisations
VETS7008 Hazards to Human & Animal Health
VETS7004 Veterinary Epidemiology 1
VETS7027 Project Management
VETS7009 Animal Health Economics
VETS7010 Animal Health Policy Development

Graduate Diploma in Veterinary Public Health Management

A candidate for this degree shall satisfactorily complete units of study granting a minimum of 36 credit points by a combination of online distance units and 2 short (2–5 day) residential sessions.

In addition to the core units in the GradCertVPHMgt, the candidate will complete:

VETS7026 Leadership: Managing Change
And a further 9 credit points of electives, selected from:
VETS7013 Risk Analysis
VETS7015 Surveillance, Preparedness & Response
VETS7016 Animal Health Data Management
VETS7017 Food Safety
VETS7020 Diagnostic Tests

Electives may also be selected from units that are core to the MVPHMgt.

Master of Veterinary Public Health Management

Candidates of the Master, Graduate Diploma or Graduate Certificate in Veterinary Public Health Management will be eligible to complete the Master of Veterinary Public Health Management if they have achieved a minimum Weighted Average Mark (WAM) of 70 in the first 24 credit points of candidature.

A candidate for this degree shall complete satisfactorily units of study granting a minimum of 48 credit points by a combination of online distance units and 2 short (2–5 day) residential sessions and a dissertation worth 6 or 12 credit points).

The dissertation is the written output of a supervised research project conducted by the candidate. This project can relate closely to the work activities of the candidate.

In addition to outcomes of the GradCertVPHMgt, the candidate will complete:

VETS7026 Leadership: Managing Change
VETS7005 Veterinary Epidemiology 2
VETS7011 Data Analysis for Policy Making

And an additional 15 credit points of electives, which must include 6 or 12 credit points of research.

Master of Veterinary Public Health Management (Honours)

Candidates of the Master of Veterinary Public Health Management who have achieved a WAM of 75 or more in their first 24 credit points of candidature may apply for admission to the Master of Veterinary Public Health Management (Honours).

Graduates of the Master of Veterinary Public Health Management who have achieved a WAM of 75 or more in their first 24 credit points of candidature may apply for admission to the Master of Veterinary Public Health Management (Honours) within six years of graduation.

Admission will also be contingent on Distinction or better results obtained in units of study relevant to the applicant's proposed research project or equivalent evidence of competence in relevant areas. Successful completion requires students to submit all pieces of assessment their research project, which may or may not be combined with their research towards the MVPHMgt.

Postgraduate Coursework in Animal Science

Persons holding a bachelor's degree in a related field (animal science, veterinary science, agriculture) or equivalent may apply for admission to candidature in the Graduate Certificate, Graduate Diploma or Master of Animal Science.

The course is offered with a selection of four streams: Animal Genetics, Animal Reproduction, Animal Nutrition and Animal Breeding Management. Animal Genetics, Animal Reproduction and Animal Nutrition are offered on campus. Animal Breeding Management is offered online with 3–6 day residential sessions in Sydney or Armidale.

Graduate Certificate in Animal Science

A candidate for this award shall satisfactorily complete units of study granting a minimum of 24 credit points by coursework, including core and elective units of study, which may include a supervised research project.

Graduate Diploma in Animal Science

CRICOS Code: 055414A

Persons holding a bachelor's degree in a related field (animal science, veterinary science, agriculture) or equivalent with permission from the Dean, may apply for admission to candidature in the Graduate Diploma in Animal Science. Equivalence may comprise, for example, a Bachelor of Science with relevant work experience. A candidate for this award shall satisfactorily complete units of study granting a minimum of 36 credit points by coursework, including core and elective units of study, which may include a supervised research project.

Master of Animal Science

CRICOS Code: 055414A

Persons holding a bachelor's degree in a related field (animal science, veterinary science, agriculture) or equivalent with permission from the Dean, may apply for admission to candidature in the Graduate Master of Animal Science. Equivalence may comprise, for example, a Bachelor of Science with relevant work experience.

A candidate for this award shall satisfactorily complete units of study granting a minimum of 48 credit points by coursework, including core and elective units of study, and a supervised research project.

Animal Genetics Stream

A candidate for the GradCertAnimSc (Animal Genetics) will complete: VETS8004 Advanced Animal Genetics
VETS8005 Advanced Animal Biotechnology
And an additional 12 credit points of electives, which may include a research project.

In addition, a candidate for the GradDipAnimSc (Animal Genetics) will complete:
A further 12 credit points of electives, which may include a research project.

In addition, a candidate for the MAnimSc (Animal Genetics) will complete:
A further 12 credit points of research.

Animal Reproduction Stream

A candidate for the GradCertAnimSc (Animal Reproduction) will complete: VETS8008 Advanced Animal Reproduction
VETS8005 Advanced Animal Biotechnology
And an additional 12 credit points of electives, which may include a research project.

In addition, a candidate for the GradDipAnimSc (Animal Reproduction) will complete:
A further 12 credit points of electives, which may include a research project.

In addition, a candidate for the MAnimSc (Animal Reproduction) will complete:
A further 12 credit points of research.

Animal Nutrition Stream

A candidate for the GradCertAnimSc (Animal Nutrition) will complete: VETS8006 Advanced Animal Nutrition
VETS8007 Applied Animal Nutrition
And an additional 12 credit points of electives, which may include a research project.

In addition, a candidate for the GradDipAnimSc (Animal Reproduction) will complete:
A further 12 credit points of electives, which may include a research project.

In addition, a candidate for the MAnimSc (Animal Reproduction) will complete:
A further 12 credit points of research.

Animal Breeding Management

This stream is not available to international students studying in Australia with a student visa. The program is available to international offshore students studying in their home country.

A candidate for the GradCertAnimSc (Animal Genetics) will complete: VETS8004 Advanced Animal Genetics
VETS7025 Leadership, People & Organisations
VETS8002 Genetic Evaluation & Breeding Program Design
EITHER VETS7027 Project Management OR VETS7026 Leadership: Managing Change AND VETS7028 Leadership Skills

A candidate for the GradDipAnimSc (Animal Genetics) will complete: VETS8004 Advanced Animal Genetics
VETS7025 Leadership, People & Organisations
VETS8002 Genetic Evaluation & Breeding Program Design
VETS7026 Leadership: Managing Change
VETS7028 Leadership Skills

And an additional 12 credit points of elective units of study, selected from the following:

VETS8005 Advanced Animal Biotechnology
VETS8003 Advanced Applications of Animal Breeding
VETS7027 Project Management
Or other suitable electives with permission from the program Academic Supervisor.

Students may select one from the following units offered in Bioethics: BETH5201 Ethics and Biotechnology
BETH5202 Human and Animal Research Ethics
BETH5000 Core Concepts in Bioethics

A candidate for the MAnimSc (Animal Breeding Management) will complete VETS8021 Animal Research Project 1 and a further 6 credit points of electives, which may include another 6 credit points of research.

Postgraduate Coursework in Veterinary Public Health

The postgraduate program in veterinary public health offers award courses at master's, graduate diploma and graduate certificate levels and is taught by staff from the Faculty of Veterinary Science and the School of Public Health at the University of Sydney as well as by experts from Australia and around the world. Designed for students who are working full-time, the course provides interaction between animal health professionals working in many parts of the world on a range of relevant issues.

The course covers scientific disciplines relevant to the prevention of animal disease outbreaks and the management of animal health, including: veterinary epidemiology, biostatistics, hazards to human and animal health, animal health economics, animal health policy development, data management, data analysis.

Elective units of study may be taken in food safety, risk analysis, surveillance, diagnostic tests, aquatic animal epidemiology and wildlife epidemiology. Students may also take electives from the Master of Public Health offered in the Faculty of Medicine.

Students who achieve a Weighted Average Mark of 70 or more may complete research projects leading to the Master of Veterinary Public Health. Honours – involving an additional 12 credit points of research – is also available.

The program is taught fully by distance, using interactive online classrooms to ensure collaboration with peers in the field, support of student learning and weekly interaction with teachers.

This program is not available to international students studying in Australia with a student visa. The program is available to international offshore students studying in their home country.

Graduate Certificate in Veterinary Public Health

A candidate for this award shall satisfactorily complete units of study granting a minimum of 24 credit points of core coursework as follows:

VETS7008 Hazards to Human and Animal Health
 VETS7004 Veterinary Epidemiology 1
 PUBH5001 Introductory Biostatistics
 VETS7009 Animal Health Economics
 VETS7016 Animal Health Data Management
 VETS7011 Data Analysis for Policy Making
 VETS7005 Veterinary Epidemiology 2

Graduate Diploma in Veterinary Public Health

In addition to the above, a candidate for this award shall satisfactorily complete units of study granting a minimum of 36 credit points of core coursework as follows:

VETS7021 Advanced Animal Data Analysis

AND an additional 9 credit points of electives selected from approved units of study.

Master of Veterinary Public Health

A candidate for the Graduate Certificate, Graduate Diploma or Master of Veterinary Public Health who achieves a minimum WAM of 70 in their first 24 credit points of study may continue their candidature to complete the Master of Veterinary Public Health. In addition to the above, a candidate for this award shall satisfactorily complete units of study granting a minimum of 48 credit points of core coursework as follows:

VETS7018 Research Paper A
 VETS7019 Research Paper B

Master of Veterinary Public Health (Honours)

A candidate for the Graduate Certificate, Graduate Diploma or Master of Veterinary Public Health who achieves a minimum WAM of 75 in their first 24 credit points of study may apply to complete the Master of Veterinary Public Health with honours. In addition to the above, a candidate for this award shall satisfactorily complete units of study granting a minimum of 60 credit points of core coursework as follows:

VETS7038 Research Paper C
 VETS7039 Research Paper D

Postgraduate Coursework in Wildlife Health and Population Management**Graduate Certificate in Applied Science – Wildlife Health and Population Management**

Offered in conjunction with, and administered by, the Faculty of Science, phone +61 2 9351 5397

Entry requires a bachelor's degree in science or veterinary science. All prospective students must contact the program chairs:

Dr Chris Dickman, +61 2 9351 2318 and Associate Professor Tony English, +61 2 9351 1675 – directly for detailed instructions concerning applications and advice about eligibility.

Graduate Diploma in Applied Science – Wildlife Health and Population Management

CRICOS 038379G

Offered in conjunction with, and administered by, the Faculty of Science, phone +61 2 9351 5397

Entry requires a bachelor's degree in science or veterinary science. All prospective students must contact the program chairs (see above) directly for detailed instructions concerning applications and advice about eligibility.

Master of Applied Science – Wildlife Health and Population Management

CRICOS 038380C

Offered in conjunction with, and administered by, the Faculty of Science, phone +61 2 9351 5397

Entry requires a Graduate Certificate in Applied Science (Wildlife Health and Population Management) or a bachelors degree in science or vet science. All prospective students must contact the program chairs (see above) directly for detailed instructions concerning.

Graduate Diploma in Veterinary Clinical Studies

The GradDipVetClinStud is scheduled to be deleted in 2008. No new students will be admitted to this program in 2007.

Detail of units of study

Please see Chapter 3 of the Faculty Handbook for details of postgraduate units of study.

Note to unit of study descriptions

Students are advised to take note of the mode of instruction. In the Faculty of Veterinary Science, postgraduate coursework units of study are offered in four modes:

Supervised units of study

Typically on-campus units with very few students. Enrolment in these units is dependent on agreement from a suitable supervisor. Some supervised units of study, eg. research project units of study, may be taken by distance students with an approved internal or external supervisor.

Online units of study

Offered online and may be taken by distance and involve regular participation in an online classroom. These units of study are subject to class size limitations.

International students living in Australia on a student visa must ensure that no more than 25 per cent of their course load consists of online units of study. There are no restrictions on enrolment in online units by international offshore students.

Residential intensive units of study

Require attendance for short periods, usually 3–6 days. These units are usually combined with further instruction online.

On-campus units of study

Typically offered in conjunction with honours-level undergraduate students, but may consist of small postgraduate classes on campus.

Registration

Some units of study require a veterinary qualification registrable in NSW. The conduct of some units of study may require registration (e.g. conducting some research projects). If you are uncertain, seek advice from Faculty staff.

Postgraduate scholarships

Scholarship	Value \$	Closing date	Qualifications
1. Awards restricted to Veterinary Science postgraduates For further information regarding these awards contact the Faculty Office.			
Bovine Salmonella Research Scholarship	35,000	As advertised	This is a two-year to support a postgraduate veterinary student undertaking research training in Ruminant Health and Production.
Commonwealth Chief Veterinary Officer's Scholarship	equiv. to fees	As advertised	First year student enrolled in the Veterinary Public Health Management Program.
Lionel Lonsdale Clinical Fellowships		As advertised	For research at Sydney Veterinary Teaching Hospital and Clinic in diseases of domestic animals
FH Loxton Postgraduate Studentships	equiv. to APA	As advertised	Graduates of any university for research in veterinary science
Sara & Anne Payten Canine Cancer Research Fund		As advertised	Postgraduate study and research. (Value as recommended by the Associate Dean, Research.)
Jean Walker Trust Fellowships	equiv. to APA	As advertised	Postgraduate study and research
Jean Walker Trust Supplementary Fellowships	Max. 5,000	As advertised	Postgraduate study and research
James Ramage Wright Research	Max. 5,000	As advertised	Postgraduate Scholarships study and research into the problems of animal production
T.J. Nicholls Memorial Scholarship	equiv. to fees	As advertised	First year student enrolled in the Veterinary Public Health Management Program.
McGarvie Smith Roy Watts Memorial Scholarship	equiv. to fees	As advertised	First year student enrolled in the Veterinary Public Health Management Program.
2. Other awards open to Veterinary Science postgraduates			
<i>(a) Tenable at The University of Sydney (application through Research Office)</i>			
Australian Postgraduate Awards (APA)	\$19,231 (2006 rate)	October	Open to citizens and permanent residents of Australia for higher degree by research
University of Sydney Postgraduate Award (UPA)	equiv. to APA	October	Similar to APA
<i>(b) Traveling scholarships (application through Research Office)</i>			
Harriett Beard Scholarship	up to 15,500	March	Postgraduate study and research in physical sciences – engineering, veterinary science and dentistry
Boulton Postgraduate Scholarship	up to 15,500	March	Postgraduate study or research for graduates educated within the Australian public educational system
CG Heydon Travelling Fellowship	up to 15,500	March	Postgraduate study or research in biological sciences at overseas institutions
William and Catherine McIlrath Scholarship	25,000	March	Postgraduate study or Scholarship research overseas
JB Watt Traveling Scholarship	up to 15,500	March	Postgraduate study or research overseas
Eleanor Sophia Wood Postgraduate Scholarship	up to 15,500	March	Postgraduate study or research overseas
<i>(c) Grants-in-aid restricted to Veterinary Science postgraduates</i>			
Sir Ian Clunies Ross Scholarship	up to 500	As advertised	Postgraduate candidature related to research in the wool industry
NPH Graham Scholarship	up to 500	As advertised	Postgraduate candidature related to research in sheep medicine
Goldia and Susie Lesue Scholarship	up to 3,000	As advertised	Postgraduate candidature in the area of Veterinary Clinical Sciences
Neil and Allie Lesue Scholarship	up to 3,000	As advertised	Postgraduate candidature in the area of Veterinary Clinical Sciences
Eric Horatio Maclean Scholarships	up to 1,000	As advertised	Postgraduate candidature
Stock and Meat Industries Grant-in-Aid	up to 750	As advertised	Postgraduate candidature in research related to the Stock and Meat Industries
<i>(d) Other grants-in-aid open to Veterinary Science postgraduates (application through Research Office)</i>			
Royston George Booker Scholarships	up to 1,500	April	Postgraduate study or research overseas
Herbert Johnson Travel Grants	up to 1,500	April	Postgraduate study or research overseas
James Kentley Memorial Scholarship	up to 1,500	April	Postgraduate study or research overseas
James King of Irrawang Travelling Scholarship	up to 1,500	April	Postgraduate study or research overseas
GHS and IR Lightoller Scholarship	up to 1,000	April	Postgraduate study or research overseas

7. Other Faculty information

Important Faculty information

Animal Welfare Policy of the Faculty of Veterinary Science

The care and well-being of animals will be paramount in the teaching, research, consultation and clinical activities of the Faculty. The education of veterinary students will be focussed on animals and their welfare recognising the diversity of animal use. The goal of the Faculty is to develop veterinary professionals who will be scientific advocates for the welfare of animals in all contexts.

The Faculty is committed to promoting the principles of reduction in, refinement of, and replacement of the use of animals in teaching and research activities and will endeavour to provide leadership in these areas. It will promote research that will advance animal welfare.

The Faculty will uphold the codes of practice and legislation governing the use of animals. It will adopt best practice to ensure animal well-being.

The Faculty has a Policy on Conscientious Objection to the Use of Animals in Teaching and Assessment. This can be viewed on the Faculty website.

Attendance at lectures

Attendance at lectures and such other classes as are prescribed for individual courses is compulsory. If for good reason you are unable to attend classes you should apply for Leave of Absence or Special Consideration.

Students are required to attend 90 per cent of lectures and 100 per cent of practical classes. Failure to meet these requirements without excuse may result in unit of study failure.

Appeals against grades

Students who wish to appeal against a mark or grade in a unit of study should complete an Examination Grades Appeal Form, available at the Faculty Office.

Faculty policy on plagiarism

Plagiarism can be broadly defined as knowingly presenting another person's ideas, findings or written work as one's own by copying or reproducing them without due acknowledgment of the source. Plagiarism may involve copying the work of another student, or it may involve paraphrasing or copying a published author's text or argument without giving a reference. At its worst, plagiarism is theft.

If plagiarism is detected during assessments of submitted material, the student or group of students will fail the relevant assessment task. Plagiarism may result in failure of the unit of study or no award of the degree. All such decisions are subject to review by the Dean.

All students are required to submit a signed statement of compliance with all Work submitted to the University for assessment, presentation or publication. A statement of compliance must be in the form of:

- a University assignment cover sheet;
- a University electronic form; or
- a University written statement;

certifying that no part of the Work constitutes a breach of this Policy. Please read the University policy which may be viewed on the University website at www.usyd.edu.au/senate/policies/Plagiarism.pdf.

Progression after a failed unit of study

Under normal circumstances students will satisfy the degree requirements for the BVSc in five years. Students who fail a unit of study are required to repeat the unit. Students repeating units of study, may, with permission of the Faculty, enrol in one or more units of study in the following year of the course when:

1. the timetable arrangements are such that students are able to meet the attendance requirements of the Faculty
2. all prerequisites for enrolment in the unit of study have been satisfied

Year 4

A candidate for the degree may enrol in the units of study prescribed for the fourth year of candidature only after completion of Years 1–3.

Year 5

A candidate for the degree may enrol in the units of study prescribed for the final year of candidature only after completion of Years 1–4 and having demonstrated proficiency in the safe handling of animals, in such a manner as may from time to time be prescribed by the Faculty.

Please note that the BVSc is a highly structured program with limited opportunity to undertake units of study from adjacent years without significant timetable clashes. As a result of these limitations, students who fail a unit of study may not be able to enrol in enough credit points to qualify for full-time study. This will have implications for international students in relation to visa compliance and Local students who are scholarship holders or those who receive financial support from Centrelink.

Faculty Office

The Office of the Faculty of Veterinary Science is in the JD Stewart Building, in Room 218. All enquiries in relation to matters specific to the Faculty should be made at this office in the first instance, including:

- enrolments in the Faculty,
- special information about admission to the Faculty,
- applications for credit for previous studies,
- facilities available in the Faculty, and
- other Faculty matters.

Timetables

Copies of the Faculty lecture timetables and location of theatres are available from the office prior to the commencement of each academic year. Copies are also displayed on the Faculty noticeboard.

Mail collection

There are pigeon-hole facilities for mail collection in the JD Stewart Building, and you are advised to check them regularly for any messages.

Lockers and change room facilities

Lockers may be hired. Change room facilities including hot showers are also available.

Photocopying

There is a coin-operated photocopying machine for student and staff use in the JD Stewart Building.

Faculty staff

Members of the teaching staff may be consulted throughout the year about any problems regarding the course.

General information and advice

Orientation Week

In Orientation week, newly-enrolled first year students are introduced to the Faculty. There is a short ceremony in which the Dean, Sub-Dean Students, and the President of the Veterinary Student Association, welcome the students. This is followed by a tour of the Veterinary Science precinct and a barbecue.

Examinations

Timetables for examinations

Draft timetables are displayed on the University Intranet approximately three to four weeks before the commencement of examinations. Limited copies of the timetable will also be available in a hard copy format at the Student Centre. Enquiries about these may be made at the Student Centre.

Printed copies of the final timetables are available from the Student Centre and at the University farms.

Study vacation

A break after lectures at the end of each semester is set aside for examination study and preparation. The 2007 Semester 1 study break will extend between Monday 11 June and Friday 15 June.

The Semester 2 break will begin on Monday 29 October and continue through to Friday 2 November 2007.

Notification of examination results

The results of annual examinations are available through the University Intranet by accessing the MyUni system. Results are also posted through the mail service directly to you at the end of each semester. Results will no longer be posted on the notice boards outside the Student Centre.

Disclosure of examination marks

Final marks will appear on your annual result notice. Marks may also be obtained from your faculty for the minor components of assessment which make up the final marks. You are entitled to information about any details of the assessment procedures used to determine the final result.

Your examination scripts and any other assessment material may be retrieved within a reasonable time after the completion of assessment in each unit of study. This does not involve the repeated use of the same material in successive examinations.

The NSW Freedom of Information Act ensures that students may, upon request, obtain a copy of their examination scripts or any other written answers to examination questions. This is provided that

1. the request is made within six months of the release of the results of the examinations and
2. the examination involved was not a confidential examination paper.

If you miss an examination

You are not automatically entitled to any special consideration should you miss an examination. However, should that occur you should report immediately to the Examinations Office (at the Student Centre, Carlslaw Building) to see if any arrangements can be made.

The need to seek early advice

Many students in need of advice fail to make full use of the assistance available to them. If you believe that your performance during a unit of study, or your preparation for your examinations, has been adversely affected by medical, psychological or family circumstances, you should seek advice as early as possible. Members of the teaching staff, of the University Counseling Service, and of the University Health Service, are available for consultation and can give advice on appropriate action to take.

Special enrolment information

These are the special requirements for Veterinary Science students only:

First year science courses

Students in first year will be allotted to particular chemistry practical classes. The lists indicating these class sections will be displayed outside the relevant laboratories before the beginning of the semester.

Students re-enrolling after absence

If you were previously enrolled (even if you discontinued all units of study during the past year and were given "repeat" status) and are eligible to re-enrol in the same degree or diploma course, you are required to lodge an Application for Re-enrolment by the specified date in the preceding year at the Student Centre. An Application for Re-enrolment form is available from the Student Centre or Faculty Office. Should your application be approved, you must complete your enrolment in accordance with the instructions included in the letter of approval to enrol.

If you have been enrolled in the course for the degree of Bachelor of Veterinary Science but have not re-enrolled for a period of one year or more, you must complete the requirements for the degree under such conditions as the Faculty may determine.

Applicants with exclusion records

If you have already attended a tertiary institution and have been excluded, or are liable for exclusion, from a faculty or course, you should give a detailed statement of the reasons for your failure and why you consider you now have a chance of succeeding in the course of your choice. If your statement is based on medical grounds it must be supported by medical reports.

In addition to your UAC application, you must attach your statement to a Special Consideration for Admission form obtainable from the Student Centre, University of Sydney and return it no later than 31 October 2006 to the Admissions Office, University of Sydney, NSW 2006.

International students

Full fee paying overseas students can be admitted to the undergraduate course but must have achieved a similar standard to that expected of an Australian student seeking entry.

If you are an overseas student sitting an Australian Year 12 examination you should apply through UAC (see below). All other overseas applicants should apply to:

The International Office G12
University of Sydney
NSW 2006 Australia

Phone: +61 2 93514079
Fax: +61 2 93514013
Email: info@io.usyd.edu.au
Web: www.usyd.edu.au/io

The International Office was established to help all international students with application and enrolment procedures and any other problems they encounter. The International Student Services unit on the Camperdown Campus can help with any problems arising during an international student's stay.

Other Faculty information

Academic dress

Members of the University appear in their academic dress on public occasions convened for academic purposes.

Details on the ceremonial robes for all degrees of the University are given in a leaflet on academic dress available from the Student Centre. The particular requirements for the BVSc and BSc(Vet) degrees are as follows:

Bachelor of Veterinary Science – a gown similar to that worn by graduates holding the degree of Bachelor of Arts in the University of Oxford or of Cambridge, hood of black silk edged with amber and purple silk, black cloth trencher cap.

Bachelor of Science (Veterinary) – a gown similar to that worn by graduates holding the degree of Bachelor of Arts in the University of Oxford or of Cambridge, hood of black silk edged with purple and gold silk, black cloth trencher cap.

Bachelor of Animal and Veterinary Bioscience – a gown similar to that worn by graduates holding the degree of Bachelor of Arts in the University of Oxford or of Cambridge, hood of black silk edged with purple and green silk, black cloth trencher cap.

Learning Assistance Centre

The Learning Assistance Centre offers help to all students of the University who wish to develop their learning skills and their use of the English language to carry out their university studies.

Noticeboards

The main Faculty noticeboards are in the ground-floor corridor of the JD Stewart Building.

Current information about timetable changes, course announcements, tutorials, practical work, term tests, essays and recommended books is posted on faculty, college and departmental noticeboards. These noticeboards should be consulted regularly.

Publications

The University of Sydney Diary, the Map Guide, Faculty handbooks and other publications are available from the Student Centre.

Other sources

You may require advice of a different kind and in this case your first enquiries are often best made at the Student Centre.

Financial assistance

The University has a number of loan and bursary funds to assist students who experience financial difficulties. This assistance is not intended to provide ongoing income support but to help in emergencies and to supplement other income.

For information about student allowances provided by the Commonwealth Government go to www.centrelink.gov.au.

Financial Assistance Office Level 7,
Education Building A35
Phone: +61 2 9351 2416
Fax: +61 2 9351 7055
Email: fao@stuserv.usyd.edu.au

Hours of business are Monday to Thursday, 10am to 4pm.

Accommodation

If you are planning to reside at the University in the event of an offer of enrolment being made, you should contact the College(s) of your choice early – i.e. before offers are made.

Colleges

St Andrew's College (men and postgraduate women)
Carillon Ave, Newtown 2042 (non-denominational)
Phone +61 2 9565 7300

St John's College (men and women)
Missenden Rd, Camperdown 2050 (Catholic)
Phone +61 2 9394 5200

St Paul's College (men)
City Rd, Newtown 2042 (Anglican)
Phone +61 2 9550 7444

Sancta Sophia College (women and postgraduate men)
Missenden Rd, Camperdown 2050 (Catholic)
Phone +61 2 9577 2100

Wesley College (men and women)
University Grounds, Newtown 2042 (Uniting)
Phone +61 2 9565 3333

Women's College (women and postgraduate men)
Carillon Ave, Newtown 2042 (Non-denominational)
Phone +61 2 9517 5000

Mandelbaum House (men and women)
385 Abercrombie Street, Darlington NSW 2008 (Jewish)
Phone +61 2 9692 5200
Fax +61 2 9692 5280

Halls of residence

International House (men and women)
96 City Rd, Chippendale 2008 (Non-denominational)
Preference given to postgraduate and senior undergraduate students
Phone +61 2 9950 9800

WA Selle House (men and women)
4 Arundel St, Forest Lodge 2037 (Non-denominational)
Provides rooms with a community kitchen
Phone +61 2 9351 3322

STUCCO (men/women)
Phone +61 2 9550 4089

Darlington House (men/women)
Phone +61 2 9550 4727

University Terraces (men/women)
Phone +61 2 9351 3322

Hostels

Arundel House

Arundel St Forest Lodge 2037 (Anglican)
Phone +61 2 9660 4881

St Michael's College (men)

150 City Rd, Darlington 2008 (Catholic)
Phone +61 2 9692 0382 (principally for postgraduate students)

Sydney University Village

90 Carillon Avenue, Newtown 2042
Phone +61 2 9036 4000
<http://www.suv.com.au>

Foundations

Postgraduate Foundation in Veterinary Science

The purpose of the Foundation is to provide a comprehensive program of continuing veterinary education. The office is located on Level 2 of the Veterinary Science Conference Centre. The Foundation is funded through its activities and also accepts donations from the profession and the wider community in support of its activities. A full-time Director coordinates a program of continuing education which includes refresher courses, distance education, symposia, workshops, publications, commissioned reviews and time-out seminars for veterinarians who have been away from clinical practice. The affairs of the Foundation are controlled by a Council elected by the members of the Foundation and appointed by the Senate of the University.
Web: <http://www.pgf.edu.au>

Poultry and Dairy Research Foundations

The purpose of both Foundations is to provide an interface between the relevant industries in Australia and the University of Sydney. As such they undertake research relevant to these industries, assist in the training of scientific and technical personnel to service the private and public sectors of the industries and act in an industrial liaison capacity. Both Foundations are actively involved in the dissemination of technical information to the industries through the organisation of annual scientific symposia.

Veterinary Science Foundation

This Foundation was established in 1986 and has a proud record of achievement in raising funds for the Faculty of Veterinary Science. During the past 10 years it has raised nearly \$10 million which has funded the purchase of the McMaster Laboratory and the construction of the 250 seat Veterinary Science Conference Centre, which also houses the University of Sydney Post Graduate Foundation in Veterinary Science.

The VSF has as its mission the promotion and support of the vital role of animals in Australian life through an ongoing, creative partnership with the Faculty of Veterinary Science. It aims to increase the public recognition of the importance of farm and companion animals, as well as our native fauna, and the essential role played by veterinarians in all aspects of animal care.

The affairs of the Foundation are conducted by a Council which is chaired by the President. Further information about the Foundation can be obtained from the Veterinary Science Foundation Office on +61 2 9351 18026.

Facilities

The University of Sydney (Camden)

In 1954 the Australian Dairy Produce Board, the Australian Meat Board and the interdepartmental Committee on Wool Research gave The University of Sydney two farms, totaling 324 hectares, for the use of the Faculty of Veterinary Science. Since then, through additional bequests and by acquisition, the University now owns 1400 hectares of land in the Camden district. This, together with other property in the Moree and Marulan districts, comprises the University farms. All the farms are the responsibility of the Director of Properties and Investments.

The Camden farms are grouped into three centres, all of which are about 65km from the main Sydney site and within easy access of the academic centre at Werombi Road. The farms are at Badgerly's Creek, Bringelly and Cobbitty.

Academic developments at Camden

Most development is at the Corstorphine Centre. Land from the original gift of the industries boards has been set aside for use by the Faculty of Veterinary Science and the Department of Agronomy of the Faculty of Agriculture. The Faculty of Veterinary Science is based in the JL Shute Building on Werombi Road. There are several major teaching and research units on nearby areas of the Corstorphine Centre. The Faculty has developed laboratories and other facilities for research in dairy cattle, poultry, sheep and meat. The University Veterinary Centre, Camden, is a major component of the Faculty of Veterinary Sciences. It is a mixed veterinary practice, providing services to the district. The Faculty has also established and maintains separate pig and deer units. The Equine Performance Laboratory is also based at Camden.

In 1981 the University acquired a farm at Cobbitty. Here the Faculty of Veterinary Science has a horse breeding unit, and the animal reproduction unit is also located at the same site. Postgraduate training is a strong feature of the work of academic departments at Camden. Graduate students from Australia and overseas are engaged in research projects mostly concerned with primary industry disease and production problems. Some of their work entails the use of livestock on the University farms. The University farms as a whole carry more than 400 milking cows and, with beef cattle and replacement stock, a total of more than 1200 cattle. A new dairy is being constructed at Corstorphine in the near future. The farms also carry about 2000 sheep, 30 horses, 30 deer, 2000 hens, 20 goats and 60 pigs. Almost all this stock is used in one way or another for teaching or research purposes, but in addition it produces a commercial income that defrays the basic costs associated with holding the farms and provides some funds for farm development, research and teaching.

The University farms at Camden are under the control of a director, who is responsible to the Vice-Chancellor. A Farms Advisory Committee advises the Vice-Chancellor on the role of the farms in teaching and research in the Faculties of Agriculture and Veterinary Science.

The Corstorphine Centre provides a base for a student accommodation unit, Nepean Hall. This gives students easy access to lectures and practical classes conducted at Camden. Corstorphine is also the site of Faculty of Veterinary Sciences and Agronomy, which occupy the University Veterinary Centre, Camden, the Shute Building, the Poultry Research Centre, the MC Franklin Research Centre and the Dairy Research unit. Further large animal research and teaching facilities are provided on May Farm, which is only 3 kilometres south of Corstorphine.

The Bringelly Farms Centre, 10 kilometres north of Corstorphine, provides extensive sheep, beef and dairy cattle facilities for the Faculty of Veterinary Sciences. Its irrigation resources are being further developed and it is becoming increasingly important as a research-teaching resource for other University departments.

As well as providing basic land, water and animal resources for a wide range of teaching and research areas, the farms serve the plant and animal industries by frequently acting as commercial testing sites for new plants, new fertilisers, new vaccines and antibiotics and new whole-farm management systems.

The University Veterinary Centre, Camden in addition to offering a veterinary service for the district, provides clinical training for senior students.

Student usage of the farms takes two forms. In the first year, students take day excursions to the farms where they receive lectures and are given practice in animal handling and management and the fourth year students will spend the second semester at Camden.

In 1979 an additional livestock holding north of Marulan known as Arthursleigh came to the University as part of the Eric Holt bequest. It now consists of about 7900 hectares and is being developed as a large-scale sheep-beef property.

Corstorphine

Corstorphine is also used for teaching and research in veterinary conservation biology. To reach Corstorphine from Sydney, take Camden Valley Way (not the freeway) to the Cobbitty turn-off, which is to the right, 20 kilometres from the Liverpool Post Office. Follow the road through Cobbitty to the Nepean River, cross the bridge, turn left and travel another 800 metres. The phone numbers are:

The University of Sydney, Faculty of Veterinary Science (Camden)
+61 2 9351 1611

University Veterinary Centre Camden
+61 2 9351 1777

Students

+61 2 9351 1678, +61 2 9351 1681, +61 2 9351 1682,
+61 2 9351 1683, +61 2 9351 1684

Addresses

The University of Sydney Faculty of Veterinary Science (Camden)
425 Werombi Road (Private Mail Bag 3) Camden 2570
Phone +61 2 9351 1611
Fax +61 2 9351 1618

University Veterinary Centre (Camden)
410 Werombi Road, Camden 2570
Phone +61 2 9351 1777
Fax +61 2 4655 1212

Nepean Hall
345 Werombi Road, Camden 2570
Phone +61 2 9351 1662
Fax +61 2 4655 1111

Camden Library
Werombi Road, Camden 2570
Phone +61 2 9351 1627
Fax +61 2 4655 6719

Horse Unit
65 Cobbitty Road, Cobbitty 2570
Phone +61 2 4651 2568

Lansdowne Farm
74 Cobbitty Road, Camden 2570
Phone +61 2 4651 2328

May Farm

May Farm Road, Mt Hunter, Camden 2570
Phone +61 2 4654 5239

Plant Breeding Institute

107 Cobbitty Road, Cobbitty 2570
Phone +61 2 9351 8800
Fax +61 2 9351 8875

Wolverton Dairy Farm

Greendale Road, Bringelly 2171
Phone +61 2 4774 8013

University of Sydney Libraries

A large network of 24 Libraries supports staff and students of the University of Sydney. The specialist libraries for research in Veterinary Science are Badham Library and Camden Library.

Fisher Library holds resources of interest to first year students.

Badham Library

Ground Floor, Badham Building A16
Science Road, Camperdown Campus
University of Sydney, NSW 2006

Phone: +61 2 9351 2728
Fax: +61 2 9351 3852
Email: badham@library.usyd.edu.au

Open Monday–Friday 8.30am–7.30pm and Saturdays 10am–5pm during semester time; 9am–5pm out of semester. Check the Web for information on the current opening hours.

Camden Library

University of Sydney Farms C15
Werombi Road, Camden NSW 2570

Phone: +61 2 9351 1627
Fax: +61 2 4655 6719
Email: camden@library.usyd.edu.au

Open Monday 10am–6pm, Tuesday 11am–9pm, Wednesday, Thursday 9am–5pm and Friday 8.30am–4.30pm during semester time and Monday to Friday 8.30am–4.30pm out of semester time. Check the Web for information on the current opening hours.

The Fisher Library

Web site provides access to services including the Library catalogue and databases that index journal articles. Key databases for Veterinary Science are Medline, CAB Abstracts, Biological Abstracts and Zoological Record. Passwords to access these databases from outside campus are available to staff and students of the University. Please contact the Library for more information.

Museum

Raymond Bullock Museum of Veterinary Anatomy

Established in honour of Ray Bullock a Professional Officer in the Department of Veterinary Anatomy, this museum holds an extensive collection of anatomical specimens.

Located in rooms 311 and 316 of the JD Stewart Building, the museum is open 8.30am–4.45pm, Monday to Friday. Closed weekends and public holidays.

Clubs and societies

The Veterinary Alumni Association

The Veterinary Alumni Association was launched in August 1986. The aims of the association are to establish a link between the Faculty and its graduates throughout Australia and overseas and to provide opportunities for graduates to renew acquaintances, participate in educational events and to promote the interests of both the Faculty and veterinary science generally.

Sydney University Veterinary Society

The Sydney University Veterinary Society, which was formed in 1914, seeks to foster good fellowship among graduates and undergraduates in the Faculty of Veterinary Science and to assist the development in its undergraduate element of a broad and comprehensive approach to matters of professional and public interest. The society conducts an annual ball, trivia night and many beginning and end of semester social gatherings, as well as providing surgical equipment and its own t-shirts, jumpers, baseball caps and much more. The journal of the society, *Centaur*, is published annually (see below).

Sydney University Veterinary Postgraduate Society

The Sydney University Veterinary Postgraduate Society is an association made up of all students enrolled in a postgraduate degree course within the Faculty of Veterinary Science. The postgraduates come from a wide range of undergraduate courses, including Veterinary Science, Agriculture, Science, Medical and even Engineering disciplines. The SUVPS aims to foster a postgraduate community, and to encourage academic and social interaction between postgraduates and staff members from different areas within the Faculty. The Society carries out these goals by organising speakers and social gatherings throughout the year, as well as providing peer support for its members.

Publications

Centaur is an annual, illustrated journal of contributions from students edited by a student elected to the task. It covers the highlights of the year and is eagerly awaited by both students and staff. Costs of producing the latest edition were met by advertisers. Contributions are actively sought throughout the year.

History of the Faculty

Veterinary education in New South Wales began in the 1880s when the Sydney Technical College established the two-year course of instruction, Elementary Veterinary Science. In 1909 the University of Sydney, with the support of the New South Wales Government, established a veterinary school and appointed James Douglas Stewart, MRCVS, the Director and Professor. The School officially opened in 1910 when 16 students enrolled in the first year of a five-year course leading to the degree of Bachelor of Veterinary Science. Initially the students were accommodated in the basement of the then Fisher Library in the southwest corner of the Quadrangle, but towards the end of 1913 they were moved completely into the present main building (JD Stewart Building).

The First World War delayed the development of the School with many graduates and undergraduates volunteering for active service. Even after the war, recovery of the School was slow and it took the full resources of Professor JD Stewart to justify the continuing existence of the Veterinary School. Gradually the numbers of enrolled students increased, while the graduates of the School enhanced its reputation.

By 1928 there were 25 undergraduates, which increased to over 100 in 1935. In 1930 the Veterinary School of the University of Melbourne ceased its undergraduate training and the Sydney School became solely responsible for veterinary training in Australia until the Queensland Veterinary School opened in 1936 and the Melbourne Veterinary School reopened in the 1960s.

In 1936 the University, in association with the McGarvie Smith Institute, purchased and developed a 160 hectare property at Badgery's Creek, to be used for the training of veterinary students in animal husbandry. The purchase coincided with the reintroduction, in 1937, of a five-year course of studies and training for the BVSc degree (the course had been reduced to four years in 1914). In 1939 Professor Stewart retired. From the opening of the School he had been the Director, which he remained until 1920 when the Veterinary School was given full status as a faculty and he became Dean of Veterinary Science. It was his energy that had brought about the regulation of the practice of veterinary science in New South Wales with the passing of the Veterinary Surgeons Act in 1923. It was his drive that led to the growth of the Faculty until the Second World War.

With the temporary closure of the Queensland Veterinary School during the Second World War, Sydney once again became solely responsible for veterinary education in Australia. In 1939 extensions to the main buildings were added and in 1946 the temporary building for the Department of Veterinary Pathology and Bacteriology was constructed. In 1949 some temporary buildings were erected to provide further accommodation for the Veterinary Teaching Hospital. In 1954 additional farm facilities were acquired at Camden. The Camden farms provide final year students with animal units for the teaching of husbandry and disease control, and with a veterinary clinic and hospital, lecture theatres and teaching laboratories, and a hall of residence (Nepean Hall).

Although the development of the Veterinary School is far from complete, extensive hospital and clinic buildings (Evelyn Williams Building), an Animal Science building (RMC Gunn Building) and the Veterinary Science Conference Centre (opened 1998) have been erected at the Camperdown Campus (Sydney).

In 1997 the Departments of Veterinary Anatomy and Veterinary Pathology amalgamated to form the Department of Veterinary Anatomy and Pathology. In the same year Pathology staff and equipment were relocated into the adjacent building, previously known as the (CSIRO) McMaster Building, enabling the 1946 temporary building (mentioned above) to be demolished.

Also in 1997 the Department of Animal Health amalgamated with the Department of Veterinary Clinical Sciences and the combined department is known as the Department of Veterinary Clinical Sciences.

In 1998 the names of the Faculty's two veterinary hospitals were changed. The Veterinary Teaching Hospital on the Camperdown Campus (Sydney) was named the University Veterinary Centre, Sydney, and the Rural Veterinary Centre at Camden was named the University Veterinary Centre, Camden.

In 2005, the Faculty offered a new undergraduate degree, the Bachelor of Animal and Veterinary Bioscience. This 4-year degree involves studies in the structure and function of animals, their management and welfare in an agricultural, para-veterinary, laboratory or wildlife context. Apart from the growth in undergraduate teaching, there are a number of postgraduate diplomas as well as courses leading to the degrees of Master of Animal Science, Master of Science in Veterinary Science, Master of Veterinary Science, Master of Veterinary Studies, Master of Veterinary Clinical Studies and Doctor of Philosophy available to graduates.

Future progress is assured.

Undergraduate scholarships and prizes

The table below is a summary only. For further information contact the Faculty Office on +61 2 9351 2441.

Scholarships/Prize	Value \$	Criteria for award
Albert Victor Steers Harris Bequest	1,000.00 x 2	Awarded to the top graduating male and female students in the BVSc receiving the highest marks.
Association of Pet Dog Trainers (APDT-Australia) Prize for Canine Welfare Science	300.00	Awarded to the student enrolled in VETS3018 or ANSC3106 Animal Behaviour and Animal Welfare Science Behaviour for the greatest understanding in the Animal Welfare Essay of issues relating to behaviour and welfare of the domestic dog.
Australian College of Veterinary Scientists, Surgical Chapter Prize for Veterinary Surgery	Text Book	Awarded for proficiency in Veterinary Surgery in 3rd Year.
Australian Equine Veterinary Association Prize in Horse Medicine and Surgery	First-year graduate' subscription to AEVA + Set of Bain-Fallon Memorial Lectures	Awarded for proficience in horse medicine and surgery in 4th Year.
Australian Small Animal Veterinary Association and Masterfoods Australia New Zealand Prize in Medicine and Surgery	\$300 + 2yrs membership to ASAVA	Awarded for proficiency in small animal medicine and surgery.
Australian Society for Parasitology Prize in Veterinary Parasitology	400.00	Awarded for proficiency in Parasitology 3 (may be shared).
Australian Veterinarians in Public Health Students Prize	150 + Cert	Awarded for Excellence in Veterinary Public Health Studies.
Auxiliary to the AVA (NSW Division) Prize for 3rd Year	100.00	Awarded for the greatest improvement in 3rd year after having passed 2nd year with more than 60%.
Auxiliary to the AVA (NSW Division) Prize for Cell Biology and Veterinary Anatomy & Physiology I and II	100.00	Awarded for proficiency in Cell Biology & Veterinary Anatomy & Physiology in 1st and 2nd Years.
Auxiliary to the AVA (NSW Division) Prize in Animal Genetics	100.00	Awarded for proficiency in Animal Genetics.
Auxiliary to the AVA (NSW Division) Prize in Veterinary Medicine & Clinical Pathology	100.00	Awarded for proficiency in 4th year Veterinary Medicine & Clinical Pathology.
AVA Prize for Undergraduates in Veterinary Pathology	200 + 1yr subscription to AVA	Awarded for proficiency in Veterinary Pathology.
AVA Student Award	Certificate + 2yrs subscription	Awarded to a student who through their academic work and participation in student affairs, are considered to be an asset to the student body and potentially an asset to the veterinary profession and the AVA.
Baker and Ridley Memorial Prize for Animal Husbandry	150.00	Awarded for proficiency in 4th year Animal Husbandry Practical Report.
CW Emmens Prize in Veterinary Physiology	100.00	Awarded for the highest aggregate marks in 1st and 2nd year Veterinary Anatomy & Physiology in sequential years.
Cat Protection Society Prize for Feline Welfare Science	150.00	Awarded to the student enrolled in VETS3018 or ANSC3106 Animal Behaviour and Animal Welfare Science Behaviour who demonstrates the greatest understanding in the Animal Welfare Essay of issues relating to domestic feline behaviour and welfare.
Chapter of Veterinary Pharmacology of the Australian College of Veterinary Scientists Prize in Veterinary Pharmacology & Toxicology	Medal & Testamur	Awarded for proficiency in 3rd year Veterinary Pharmacology and Toxicology.
Dairy Research Foundation	\$400	Proficiency in Fourth Year Animal Production.
Elsevier Prize for Exotic Animal Welfare Science	Book Voucher to the value of \$200	Awarded to the student enrolled in VETS3018 or ANSC3106 Animal Behaviour and Animal Welfare Science Behaviour who demonstrates the greatest understanding in the Animal Welfare Essay of issues relating to exotic animal behaviour and welfare.
Epidemiology Chapter of of the Australian College of Veterinary Scientists Prize in Epidemiology	Medallion + \$100	Awarded for proficiency in VETS5338 Rural Public Practice Rotation and knowledge of Epidemiology, based on written reports submitted.
FH Loxton Scholarship in BSc(Vet)	Equiv. To HECS fee Band 4	BSc(Vet) Students - by application only.
Farr Memorial Prize in Animal Husbandry	50.00	Awarded for proficiency in 1st year horse husbandry.
Grahame Edgar Scholarship	2,000.00	BSc(Vet) Students - by application only.
HG Belschner Prize in Sheep and Wool	100.00	Awarded for proficiency in 1st year sheep and wool.
HR Carne Prize and Medal for Excellence in the Bachelor of Science (Vet) Degree	Medal + 250	Awarded for proficiency in the examinations for BSc(Vet) degree.
JD Stewart Essay Prize in Veterinary Science	60.00	NEW CRITERIA FOR 2005
John Gurner and Frederick Ebsworth Scholarship in Cell Biology 1A	650.00	Awarded for proficiency in Cell Biology 1A in 1st year.
John Gurner and Frederick Ebsworth Scholarship in Cell Biology 1B	650.00	Awarded for proficiency in Cell Biology 1B in 1st year.
John Gurner and Frederick Ebsworth Scholarship in Chemistry	650.00	Awarded for proficiency in Chemistry in 1st year.
KG Johnston Prize in Veterinary Clinical Pathology	150.00	Awarded for proficiency in Veterinary Medicine & Clinical Pathology
Lonsdale Prize (A) in Clinical Studies	400.00	Awarded for proficiency in Clinical Studies in 4th year.
Lonsdale Prize (B) in Clinical Studies	200.00	Awarded for proficiency in Clinical Studies in 4th year.

7. Other Faculty information

Scholarships/Prize	Value \$	Criteria for award
MLA Beef Cattle Welfare Science Prize	400.00	Awarded annually to the student enrolled in VETS3018 or ANSC3016 Animal Behaviour and Animal Welfare Science who demonstrates the greatest proficiency in the Animal Welfare Science essay with a mark of 85% or more and a focus on beef cattle.
MLA Sheep Welfare Science Prize	400.00	Awarded annually to the student enrolled in VETS3018 or ANSC3106 Animal Behaviour and Animal Welfare Science who demonstrates the greatest proficiency in the Animal Welfare Science essay with a mark of 85% or more and a focus on sheep.
NPH Graham Prize in Sheep Medicine	200.00	Awarded for proficiency in the sheep component of Veterinary Ruminant Health & Production
Post Graduate Foundation Veterinary Prize	Certificate for \$1000 towards further education with PGF.	Awarded for clinical competency to a graduating veterinarian
Poultry Research Foundation	700.00	Proficiency in Fourth Year animal Production.
Powerhouse Logistics Prize for Veterinary Conservation Biology	500.00	Awarded for proficiency in VETS2015 Veterinary Conservation Biology
Rex Butterfield Prize in Veterinary Anatomy	50.00	Awarded for proficiency in Veterinary Anatomy in 2nd year
Richard Norman Sanders Prize	600.00	Awarded for proficiency in practical clinical work in both the 4th and 5th years of study
Ridley AgriProducts Prize in Animal Nutrition	250.00	Proficiency in Animal Nutrition 3.
Robert Reeves Hodgekiss Prize	250.00	Awarded for proficiency in the Horse Medicine & Surgery in Year 4
RSPCA/Una Clare Spark Animal Welfare Scholarship	Equiv. To HECS fee Band 3	Awarded to a Bachelor of Science (Veterinary) student based on the appropriateness of the proposed program of study.
RSPCA (Australia) Pig Welfare Science Prize	175.00	Awarded annually to the student enrolled in VETS3018 or ANSC3106 Animal Behaviour and Animal Welfare Science who demonstrates the greatest proficiency in the Animal Welfare Science Essay to do with Pig Welfare Science.
RSPCA (Australia) Poultry Welfare Science Prize	175.00	Awarded annually to the student enrolled in VETS3018 or ANSC3106 Animal Behaviour and Animal Welfare Science who demonstrates the greatest proficiency in the Animal Welfare Science Essay to do with Poultry Welfare Science.
STD Symons Prize for Clinical Studies	600.00	Awarded for proficiency in clinical subjects, based on the Year 5 supervisor rotation reports and the best result calculated by the greatest number of overall outstanding grades.
Stewart Prize in Veterinary Medicine	180.00	Awarded for proficiency in Veterinary Medicine in 4th year
The Australian Centre for International Agricultural Research (ACIAR) Prize in Nutrition	400.00 x 2	Awarded for proficiency in 2nd year animal nutrition.
Friends of the Brush-Tailed Rock Wallaby Scholarship (NB: The Scholarship will not be awarded in 2007)	2,000.00	Awarded to a student enrolled in the Masters of Applied Science (Wildlife Health and Population Management) program, for research that will enhance knowledge of the Brush-tailed Rock Wallaby and/or its habitat.
The Jean and Ray Blencowe Scholarship	1,000.00	Awarded each year to the student in NSW who achieves the highest aggregate score in the Higher School Certificate and who is admitted to a full-time University course in NSW in Veterinary Science the following year.
The Raymond Bullock Prize for proficiency in Veterinary Anatomy in Year 1	100.00	Awarded to recognise outstanding performance in the area of veterinary anatomy in year 1 of the BVSc degree.
<i>The Veterinarian</i> Magazine Prize for Written Communication	One Year Subscription to <i>The Veterinarian</i> Magazine	Awarded annually to students enrolled in VETS3018 or ANSC3106 Animal Behaviour and Animal Welfare Science who achieve a high distinction (85% and above) in the Animal Welfare Science Essay.
Veterinary Imaging Associates Prize in Veterinary Radiology	Book prize to the value of \$200.00	Awarded for proficiency in Veterinary Radiology in 4th year
Vet's Best Products Reward	300.00	Awarded for proficiency in VETS3018 or ANSC3106 Animal Behaviour and Animal Welfare Science for the greatest understanding relating to animal training in the Animal Welfare Science Essay
VETSOC Final Year Scholarships	250.00 x 2	Awarded to students enrolled in the final year of the BVSc. By application only.
Virginia Osborne Prize for Anatomy of the Horse	250.00	Awarded for proficiency in anatomy of the horse in 2nd year.
WR Sidman Memorial Prize awarded by AVA (NSW Div) for Clinical Studies in 4th Year	2 yrs membership to AVA	Awarded for proficiency in Veterinary Clinical Studies in 4th year.
Wally McGreevy Prize in Animal Welfare Science	150.00	Awarded for proficiency in VETS3018 or ANSC3106 Animal Behaviour and Animal Welfare Science.
William James McHugh Prize in Equine Medicine or Surgery	300.00	Awarded to a 4th or 5th year student who prepares the best case report in equine medicine or surgery provided the entry is of sufficient merit.
WIRES Wildlife Prize	250.00	Awarded for proficiency in the 'Written Project' component of Veterinary Conservation Biology in Year 2 relating to Australian native wildlife.

The Sydney Summer and Winter Schools

2007	Dates
Summer School	December 2006–February 2007
Winter School	July 2007

The Summer School

The Summer School is a full fee-paying, intensive program offering high quality undergraduate and postgraduate units of study from most faculties. These units of study are the same as those offered in Semesters One and Two, but are taught as an intensive program over summer. Some classes commence in December, others commence in January and continue into February (including the exam week). Some units of study run for seven weeks others are shorter. Students can take a maximum of two units of study.

The Winter School

The Winter School is held every July during the academic year. The Winter School is a smaller, more intensive three week program.

Advantages

Attending classes at Sydney University during summer offers many advantages. You can

- use this time to accelerate your academic career and to finish your degree sooner
- devote your full attention to a single area of study
- take courses that might be outside your normal degree
- reduce your workload throughout the rest of the year
- repeat units of study in which you may have been unsuccessful
- combine study with a field trip in Australia or a tour overseas.

For high school graduates, you can

- sample a university program
- get a head start on your degree.

How to apply

Applications will only be accepted online. Our website is www.summer.usyd.edu.au

Some units have limited places and fill very quickly. All places are filled strictly on a first in first served basis so it is recommended that you apply early.

Applications open on 27 September 2006.

Applications close on 15 December 2006.

Census dates – Summer School 2007

Students can withdraw from their unit of study without academic penalty and receive a full refund until the census date. However, a late withdrawal fee may apply. As classes start throughout December to February there are three census dates for the Summer School. These are based on when the class commences.

ID	Session name	Classes begin	Census date
42*	Summer Dec	11 December	2 January
43	Summer Main	4 January	12 January
44**	Summer Late	12 January	6 February

*42 Summer Dec: Allows for a unit to run for 3–9 weeks, provided that the 20 per cent criterion is met.

**44 Summer Late: Last exam must be held by 1 March.

Withdrawal and Refund policy

- For classes commencing in **December 2006**, students withdrawing from a Summer School unit of study from 28 November 2006 to 2 January 2007, will receive a refund of tuition fees but will be liable for a \$500 late withdrawal fee.
- For classes commencing after **4 January 2007**, students withdrawing from a Summer School unit of study from 16 December 2006 to 12 January 2007, will receive a refund of tuition fees but will be liable for a \$500 late withdrawal fee.
- For classes commencing after **12 January 2007**, students withdrawing from a Summer School unit of study from 16 December 2006 to 6 February 2007, will receive a refund of tuition fees but will be liable for a \$500 late withdrawal fee.
- Students may withdraw from their Summer School unit(s) of study up until 4pm on the last day of the Teaching Period for that particular unit of study. However, there may be an academic penalty (please refer to our website). The Teaching Period for purposes of this policy is defined in hours of published classes from the first day through to the last day of classes, excluding any final examination or assessment.
- Students withdrawing from a Summer School unit of study after 4pm on the relevant census date will receive no refund of their tuition fee.

Transferring between Summer School units

There will be no penalty if a student changes between units of study in the Summer School before the commencement of class. However NO transfers will be allowed after the commencement of the class.

Summer School scholarships

Merit scholarships

Only four merit scholarships are available and are automatically awarded to the top four students who achieve the highest results in their Summer School unit of study.

Educational/Financial Disadvantage scholarships

Partial or full Summer School scholarships are available to local undergraduate students for the Summer School with a good academic record. To be eligible for consideration you will need to provide evidence of long-term and serious educational disadvantage based on two or more criteria, one of which must be financial hardship. Please check our website for further details. Applications close on 27 October 2006.

For more information

Web: www.summer.usyd.edu.au
 Email: info@summer.usyd.edu.au
 Phone: +61 2 9351 5542
 Fax: +61 2 9351 5888

University of Sydney (Coursework) Rule 2000 (as amended)

Approved by: Senate on 4 December 2000

Date of effect: 1 January 2001

Latest amendment approved by: Senate on 3 December 2001

Date of effect: 1 January 2002

[Section 1]

University Coursework Rule

Preliminary

Rules relating to Coursework Award Courses

Division 1 Award course requirements, credit points and assessment

Division 2 Enrolment

Division 3 Credit, cross-institutional study and their upper limits

Division 4 Progression

Division 5 Discontinuation of enrolment and suspension of candidature

Division 6 Unsatisfactory progress and exclusion

Division 7 Exceptional circumstances

Division 8 Award of degrees, diplomas and certificates

Division 9 Transitional provisions

Preliminary

1. Commencement and purpose of Rule

1.1 This Rule is made by the Senate pursuant to section 37(1) of the *University of Sydney Act 1989* for the purposes of the *University of Sydney By-Law 1999*.

1.2 This Rule comes into force on 1 January 2001.

1.3 This Rule governs all coursework award courses in the University. It is to be read in conjunction with the *University of Sydney (Amendment Act) Rule 1999* and the Resolutions of the Senate and the faculty resolutions relating to each award course in that faculty.

Rules relating to coursework award courses

1. Definitions In this Rule:

1.1 **award course** means a formally approved program of study which can lead to an academic award granted by the University.

1.2 **coursework** means an award course not designated as a research award course. While the program of study in a coursework award course may include a component of original, supervised research, other forms of instruction and learning normally will be dominant. All undergraduate award courses are coursework award courses.

1.3 **credit** means advanced standing based on previous attainment in another award course at the University or at another institution. The advanced standing is expressed as credit points granted towards the award course. Credit may be granted as specific credit or non-specific credit.

1.3.1 **specific credit** means the recognition of previously completed studies as directly equivalent to units of study;

1.3.2 **non-specific credit** means a 'block credit' for a specified number of credit points at a particular level. These credit points may be in a particular subject area but are not linked to a specific unit of study; and

1.3.3 **credit points** means a measure of value indicating the contribution each unit of study provides towards meeting award course completion requirements stated as a total credit point value.

1.4 **dean** means the dean of a faculty or the director or principal of an academic college or the chairperson of a board of studies.

1.5 **degree** means a degree at the level of bachelor or master for the purpose of this Rule.

1.6 **embedded courses/programs** means award courses in the graduate certificate/graduate diploma/master's degree by coursework sequence which allow unit of study credit points to count in more than one of the awards.

1.7 **faculty** means a faculty, college board, a board of studies or the Australian Graduate School of Management Limited as established in each case by its constitution and in these Rules refers to the faculty or faculties responsible for the award course concerned.

1.8 **major** means a defined program of study, generally comprising specified units of study from later stages of the award course.

1.9 **minor** means a defined program of study, generally comprising units of study from later stages of the award course and requiring a smaller number of credit points than a major.

1.10 **postgraduate award course** means an award course leading to the award of a graduate certificate, graduate diploma, degree of master or a doctorate. Normally, a postgraduate award course requires the prior completion of a relevant undergraduate degree or diploma.

1.11 **research award course** means an award course in which students undertake and report systematic, creative work in order to increase the stock of knowledge. The research award courses offered by the University are: higher doctorate, Doctor of Philosophy, doctorates by research and advanced coursework, and certain degrees of master designated as research degrees. The systematic, creative component of a research award course must comprise at least 66 per cent of the overall award course requirements.

1.12 **stream** means a defined program of study within an award course, which requires the completion of a program of study specified by the award course rules for the particular stream, in addition to the core program specified by award course rules for the award course.

1.13 **student** means a person enrolled as a candidate for a course.

1.14 **testamur** means a certificate of award provided to a graduate, usually at a graduation ceremony.

1.15 **transcript** or **academic transcript** means a printed statement setting out a student's academic record at the University.

1.16 **unit of study** means the smallest stand-alone component of a student's award course that is recordable on a student's transcript. Units of study have an integer credit point value, normally in the range 3–24.

1.17 **undergraduate award course** means an award course leading to the award of an associate diploma, diploma, advanced diploma or degree of bachelor.

2. Authorities and responsibilities

2.1 Authorities and responsibilities for the functions set out in this Rule are also defined in the document *Academic Delegations of Authority*. The latter document sets out the mechanisms by which a person who has delegated authority may appoint an agent to perform a particular function.

2.1 The procedures for consideration of, and deadlines for submission of, proposals for new and amended award courses will be determined by the Academic Board.

Division 1: Award course requirements, credit points and assessment

3. Award course requirements

3.1 To qualify for the award of a degree, diploma or certificate, a student must:

3.1.1 complete the award course requirements specified by the Senate for the award of the degree, diploma or certificate concerned;

- 3.1.2 complete any other award course requirements specified by the Academic Board on the recommendation of the faculty and published in the faculty resolutions relating to the award course;
- 3.1.3 complete any other award course requirements specified by the faculty in accordance with its delegated authority and published in the faculty resolutions relating to the award course; and
- 3.1.4 satisfy the requirements of all other relevant by-laws, rules and resolutions of the University.

4. Units of study and credit points

- 4.1.1 A unit of study comprises the forms of teaching and learning approved by a faculty. Where the unit of study is being provided specifically for an award course which is the responsibility of another faculty, that faculty must also provide approval.
- 4.1.2 Any faculty considering the inclusion of a unit of study in the tables of units available for an award course for which it is responsible may review the forms of teaching and learning of that unit, may consult with the approving faculty about aspects of that unit and may specify additional conditions with respect to inclusion of that unit of study.
- 4.2 A student completes a unit of study if the student:
 - 4.2.1 participates in the learning experiences provided for the unit of study;
 - 4.2.2 meets the standards required by the University for academic honesty;
 - 4.2.3 meets all examination, assessment and attendance requirements for the unit of study; and
 - 4.2.4 passes the required assessments for the unit of study.
- 4.3 Each unit of study is assigned a specified number of credit points by the faculty responsible for the unit of study.
- 4.4 The total number of credit points required for completion of an award course will be as specified in the Senate resolutions relating to the award course.
- 4.5 The total number of credit points required for completion of award courses in an approved combined award course will be specified in the Senate or faculty resolutions relating to the award course.
- 4.6 A student may, under special circumstances, and in accordance with faculty resolutions, be permitted by the relevant dean to undertake a unit or units of study other than those specified in the faculty resolutions relating to the award course and have that unit or those units of study counted towards fulfilling the requirements of the award course in which the student is enrolled.

5. Unit of study assessment

- 5.1 A student who completes a unit of study will normally be awarded grades of high distinction, distinction, credit or pass, in accordance with policies established by the Academic Board. The grades high distinction, distinction and credit indicate work of a standard higher than that required for a pass.
- 5.2 A student who completes a unit of study for which only a pass/fail result is available will be recorded as having satisfied requirements.
- 5.3 In determining the results of a student in any unit of study, the whole of the student's work in the unit of study may be taken into account.
- 5.4 Examination and assessment in the University are conducted in accordance with the policies and directions of the Academic Board.

6. Attendance

- 6.1 A faculty has authority to specify the attendance requirements for courses or units of study in that faculty. A faculty must take into account any University policies concerning modes of attendance, equity and disabled access.
- 6.2 A faculty has authority to specify the circumstances under which a student who does not satisfy attendance requirements may be deemed not to have completed a unit of study or an award course.

Division 2: Enrolment

7. Enrolment restrictions

- 7.1 A student who has completed a unit of study towards the requirements of an award course may not re-enrol in that unit of study, except as permitted by faculty resolution or with the written permission of the dean. A student permitted to re-enrol

may receive a higher or lower grade, but not additional credit points.

- 7.2 Except as provided in section 7.1, a student may not enrol in any unit of study which overlaps substantially in content with a unit that has already been completed or for which credit or exemption has been granted towards the award course requirements.
- 7.3 A student may not enrol in units of study additional to award course requirements without first obtaining permission from the relevant dean.
- 7.4 Except as prescribed in faculty resolutions or with the permission of the relevant dean:
 - 7.4.1 a student enrolled in an undergraduate course may not enrol in units of study with a total value of more than 32 credit points in any one semester, or 16 credit points in the summer session; and
 - 7.4.2 a student enrolled in a postgraduate award course may not enrol in units of study with a total value of more than 24 credit points in any one semester, or 12 credit points in the summer session.

Division 3: Credit, cross-institutional study and their upper limits

8. Credit for previous studies

- 8.1 Students may be granted credit on the basis of previous studies.
- 8.2 Notwithstanding any credit granted on the basis of work completed or prior learning in another award course at the University of Sydney or in another institution, in order to qualify for an award a student must:
 - 8.2.1 for undergraduate award courses, complete a minimum of the equivalent of two full-time semesters of the award course at the University; and
 - 8.2.2 for postgraduate award courses, complete at least 50 per cent of the requirements prescribed for the award course at the University.

These requirements may be varied where the work was completed as part of an embedded program at the University or as part of an award course approved by the University in an approved conjoint venture with another institution.

- 8.3 The credit granted on the basis of work completed at an institution other than a university normally should not exceed one third of the overall award course requirements.
 - 8.4 A faculty has authority to establish embedded academic sequences in closely related graduate certificate, graduate diploma and master's degree award courses. In such embedded sequences, a student may be granted credit for all or some of the units of study completed in one award of the sequence towards any other award in the sequence, irrespective of whether or not the award has been conferred.
 - 8.5 In an award course offered as part of an approved conjoint venture the provisions for the granting of credit are prescribed in the Resolutions of the Senate and the faculty resolutions relating to that award course.
- #### 9. Cross-institutional study
- 9.1 The relevant dean may permit a student to complete a unit or units of study at another university or institution and have that unit or those units of study credited to the student's award course.
 - 9.2 The relevant dean has authority to determine any conditions applying to cross-institutional study.

Division 4: Progression

10. Repeating a unit of study

- 10.1 A student who repeats a unit of study shall, unless granted exemption by the relevant dean:
 - 10.1.1 participate in the learning experiences provided for the unit of study; and
 - 10.1.2 meet all examination, assessment and attendance requirements for the unit of study.
- 10.2 A student who presents for re-assessment in any unit of study is not eligible for any prize or scholarship awarded in connection with that unit of study without the permission of the relevant dean.

11. Time limits

- 11.1 A student must complete all the requirements for an award course within ten calendar years or any lesser period if specified by resolution of the Senate or the faculty.

Division 5: Discontinuation of enrolment and suspension of candidature

12. Discontinuation of enrolment

- 12.1 A student who wishes to discontinue enrolment in an award course or a unit of study must apply to the relevant dean and will be presumed to have discontinued enrolment from the date of that application, unless evidence is produced showing:
- 12.1.1 that the discontinuation occurred at an earlier date; and
- 12.1.2 that there was good reason why the application could not be made at the earlier time.
- 12.2 A student who discontinues enrolment during the first year of enrolment in an award course may not re-enrol in that award course unless:
- 12.2.1 the relevant dean has granted prior permission to re-enrol; or
- 12.2.2 the student is reselected for admission to candidature for that course.
- 12.3 No student may discontinue enrolment in an award course or unit of study after the end of classes in that award course or unit of study, unless he or she produces evidence that:
- 12.3.1 the discontinuation occurred at an earlier date; and
- 12.3.2 there was good reason why the application could not be made at the earlier time.
- 12.4 A discontinuation of enrolment may be recorded as 'Withdrawn (W)' or 'Discontinued – not to count as failure (DNF)' where that discontinuation occurs within the time-frames specified by the University and published by the faculty, or where the student meets other conditions as specified by the relevant faculty.

13. Suspension of candidature

- 13.1 A student must be enrolled in each semester in which he or she is actively completing the requirements for the award course. A student who wishes to suspend candidature must first obtain approval from the relevant dean.
- 13.2 The candidature of a student who has not re-enrolled and who has not obtained approval from the dean for suspension will be deemed to have lapsed.
- 13.3 A student whose candidature has lapsed must apply for re-admission in accordance with procedures determined by the relevant faculty.
- 13.4 A student who enrolls after suspending candidature shall complete the requirements for the award course under such conditions as determined by the dean.

Division 6: Unsatisfactory progress and exclusion

14. Satisfactory progress

- 14.1 A faculty has authority to determine what constitutes satisfactory progress for all students enrolled in award courses in that faculty, in accordance with the policies and directions of the Academic Board.

15. Requirement to show good cause

- 15.1 For the purposes of this Rule, 'good cause' means circumstances beyond the reasonable control of a student, which may include serious ill health or misadventure, but does not include demands of employers, pressure of employment or time devoted to non-University activities, unless these are relevant to serious ill health or misadventure. In all cases the onus is on the student to provide the University with satisfactory evidence to establish good cause. The University may take into account relevant aspects of a student's record in other courses or units of study within the University and relevant aspects of academic studies at other institutions provided that the student presents this information to the University.
- 15.2 The relevant dean may require a student who has not made satisfactory progress to show good cause why he or she should be allowed to re-enrol.
- 15.3 The dean will permit a student who has shown good cause to re-enrol.

16. Exclusion for failure to show good cause

The dean may, where good cause has not been established:

- 16.1 exclude the student from the relevant course; or
- 16.2 permit the student to re-enrol in the relevant award course subject to restrictions on units of study, which may include, but are not restricted to:
- 16.2.1 completion of a unit or units of study within a specified time;

- 16.2.2 exclusion from a unit or units of study, provided that the dean must first consult the head of the department responsible for the unit or units of study; and
- 16.2.3 specification of the earliest date upon which a student may re-enrol in a unit or units of study.

17. Applying for re-admission after exclusion

- 17.1 A student who has been excluded from an award course or from a unit or units of study may apply to the relevant dean for re-admission to the award course or re-enrolment in the unit or units of study concerned after at least four semesters, and that dean may readmit the student to the award course or permit the student to re-enrol in the unit or units of study concerned.
- 17.2 With the written approval of the relevant dean, a student who has been excluded may be given credit for any work completed elsewhere in the University or in another university during a period of exclusion.

18. Appeals against exclusion

- 18.1 In this Rule a reference to the Appeals Committee is a reference to the Senate Student Appeals Committee (Exclusions and Re-admissions).
- 18.2.1.1 A student who has been excluded in accordance with this Rule may appeal to the Appeals Committee.
- 18.2.1.2 A student who has applied for re-admission to an award course or re-enrolment in a unit of study after a period of exclusion, and who is refused re-admission or re-enrolment may also apply to the Appeals Committee.
- 18.2.2 The Appeals Committee shall comprise:
- 18.2.2.1 three *ex officio* members (the Chancellor, the Deputy Chancellor and the Vice-Chancellor and Principal);
- 18.2.2.2 the Chair and Deputy Chairs of the Academic Board;
- 18.2.2.3 two student Fellows; and
- 18.2.2.4 up to four other Fellows.
- 18.2.3 The Appeals Committee may meet as one or more subcommittees providing that each subcommittee shall include at least one member of each of the categories of:
- 18.2.3.1 *ex officio* member;
- 18.2.3.2 Chair or Deputy Chair of the Academic Board;
- 18.2.3.3 student Fellow; and
- 18.2.3.4 other Fellows.
- 18.2.4 Three members shall constitute a quorum for a meeting of the Appeals Committee or a subcommittee.
- 18.2.5 The Appeals Committee and its subcommittees have authority to hear and determine all such appeals and must report its decision to the Senate annually.
- 18.2.6 The Appeals Committee or a subcommittee may uphold or disallow any appeal and, at its discretion, may determine the earliest date within a maximum of four semesters at which a student who has been excluded shall be permitted to apply to re-enrol.
- 18.2.7 No appeal shall be determined without granting the student the opportunity to appear in person before the Appeals Committee or subcommittee considering the appeal. A student so appearing may be accompanied by a friend or adviser.
- 18.2.8 The Appeals Committee or subcommittee may hear the relevant dean but that dean may only be present at those stages at which the student is permitted to be present. Similarly, the dean is entitled to be present when the Committee or subcommittee hears the student.
- 18.2.9 If, due notice having been given, a student fails to attend a meeting of the Appeals Committee or subcommittee scheduled to consider that student's appeal, the Appeals Committee or subcommittee, at its discretion, may defer consideration of the appeal or may proceed to determine the appeal.
- 18.2.10 A student who has been excluded in accordance with these resolutions and has lodged a timely appeal against that exclusion may re-enrol pending determination of that appeal if it has not been determined by the commencement of classes in the next appropriate semester.

Division 7: Exceptional circumstances

19. Variation of award course requirements in exceptional circumstances

- 19.1 The relevant dean may vary any requirement for a particular student enrolled in an award course in that faculty where, in the opinion of the dean, exceptional circumstances exist.

Division 8: Award of degrees, diplomas and certificates

20. Classes of award

- 20.1 Undergraduate diplomas may be awarded in five grades – pass, pass with merit, pass with distinction, pass with high distinction or honours.
- 20.2 Degrees of bachelor may be awarded in two grades – pass or honours.
- 20.3 Graduate diplomas and graduate certificates may be awarded in one grade only – pass.
- 20.4 Degrees of master by coursework may be awarded three grades – pass, pass with merit or honours.

21. Award of the degree of bachelor with honours

- 21.1 The award of honours is reserved to indicate special proficiency. The basis on which a student may qualify for the award of honours in a particular award course is specified in the faculty resolutions relating to the course.
- 21.2 Each faculty shall publish the grading systems and criteria for the award of honours in that faculty.
- 21.3 Classes which may be used for the award of honours are:
 - 21.3.1 First Class
 - 21.3.2 Second Class/Division 1
 - 21.3.3 Second Class/Division 2
 - 21.3.4 Third Class
- 21.4 With respect to award courses which include an additional honours year:
 - 21.4.1 a student may not graduate with the pass degree while enrolled in the honours year;
 - 21.4.2 on the recommendation of the head of the department concerned, a dean may permit a student who has been awarded the pass degree at a recognised tertiary institution to enrol in the honours year in that faculty;
 - 21.4.3 faculties may prescribe the conditions under which a student may enrol part-time in the honours year;
 - 21.4.4 a student who fails or discontinues the honours year may not re-enrol in it, except with the approval of the dean.

22. University Medal

- 22.1 An honours bachelor's degree student with an outstanding academic record throughout the award course may be eligible for the award of a University Medal, in accordance with Academic Board policy and the requirements of the faculty resolutions relating to the award course concerned.

23. Award of the degree of master with honours or merit

- 23.1 The award of honours or pass with merit is reserved to indicate special proficiency or particular pathways to completion. The basis on which a student may qualify for the award of honours or the award with merit in a particular degree is specified in the Faculty Resolutions relating to that degree.

24. Transcripts and testamurs

- 24.1 A student who has completed an award course or a unit of study at the University will receive an academic transcript upon application and payment of any charges required.
- 24.2 Testamurs may indicate streams or majors or both as specified in the relevant faculty resolutions.

Division 9: Transitional provisions

25. Application of this Rule during transition

- 25.1 This Rule applies to all candidates for degrees, diplomas and certificates who commence candidature after 1 January 2001.
- 25.2 Candidates who commenced candidature prior to this date may choose to proceed in accordance with the resolutions of the Senate in force at the time they enrolled, except that the faculty may determine specific conditions for any student who has re-enrolled in an award course after a period of suspension.

University of Sydney (Doctor of Philosophy (PhD)) Rule 2004

University of Sydney (Doctor of Philosophy (PhD)) Rule 2004

Please also see the *University of Sydney (Authority Within Academic Units) Rule 2003 (as amended)*

Part 1 – Preliminary

Part 2 – Admission to candidature

Part 3 – Supervision

Part 4 – Candidature

Part 5 – Submission of thesis

Part 1 – Preliminary

1. Citation and commencement

1.1 Citation

1.1.1 This Rule is made by the Senate of the University of Sydney pursuant to section 37(1) of the University of Sydney Act 1989 for the purposes of the University of Sydney By-law 1999.

1.2 Commencement

1.2.1 This Rule commences on the day after it is made in accordance with Chapter 2 of the University of Sydney By-law 1999.

2. Purpose

2.1 This Rule:

- 2.1.1 repeals and replaces Part 10, Division 4 of the University of Sydney (Amendment Act) Rule 1999 in its entirety; and
- 2.1.2 deals with matters relating to the degree of Doctor of Philosophy.

Part 2 – Admission to candidature

3. Heads of department

3.1 A head of department may delegate to a specified member of the academic staff his or her responsibilities under these Rules by countersigning a specific recommendation in respect of a particular candidature or by making, and forwarding to the Registrar, a written statement of delegation of those powers.

4. Admission to candidature

4.1 An applicant for admission as a candidate for the degree shall, except as provided in 4.2 and 4.3 below, hold or have fulfilled all the requirements for:

- 4.1.1 the degree of master, or
- 4.1.2 the degree of bachelor with first or second class honours.

4.2 A faculty may admit as a candidate for the degree an applicant holding the degree of bachelor without first or second class honours after the applicant has passed a qualifying examination at a standard equivalent to the bachelor's degree with first or second class honours, provided that a faculty may exempt an applicant from the qualifying examination if the applicant has obtained a high distinction or distinction in the highest course available in the subject or subjects relevant to the proposed course of advanced study and research.

4.3 The Academic Board has endorsed an interpretation of the qualifying examination as including completion of a period of relevant full-time or part-time advanced study and research towards a master's degree in the University of Sydney, at such a standard as would demonstrate to the satisfaction of the faculty that the candidate is suitably prepared in the particular field of study to undertake candidature for the degree of Doctor of Philosophy.

4.4 The Academic Board may, in accordance with this Rule, admit as a candidate for the degree an applicant holding qualifications which, in the opinion of the faculty concerned and of the Academic Board, are equivalent to those prescribed in 4.1 or

4.2 above and such candidate shall proceed to the degree under such conditions as the Academic Board may prescribe.

4.5 An applicant for admission to candidature shall submit to the faculty concerned:

4.5.1 a proposed course of advanced study and research, approved by the head of the department in which the work is to be carried out, to be undertaken by the applicant in a department of the University, and

4.5.2 satisfactory evidence of adequate training and ability to pursue the proposed course.

4.6 The faculty may require a candidate, as part of the evidence of the candidate's training and ability to pursue the proposed course, to pass a special examination.

4.7 A reference in this section to one or more departments, one or more schools, an interdepartmental committee and an interschool committee.

5. Probationary acceptance

5.1 A candidate may be accepted by a faculty on a probationary basis for a period not exceeding one year and upon completion of this probationary period, the faculty shall review the candidate's work and shall either confirm the candidate's status or terminate the candidature.

5.2 In the case of a candidate accepted on a probationary period under 5.1 above, the candidature shall be deemed to have commenced from the date of such acceptance.

6. Control of candidature

6.1 Each candidate shall pursue his or her course of advanced study and research wholly under the control of the University.

6.2 Where a candidate is employed by an institution other than the University, the faculty or college board may require a statement by that employer acknowledging that the candidature will be under the control of the University.

7. Other studies during the candidature

7.1 A candidate may be required by the head of department or the supervisor to attend lectures, seminar courses or practical work courses or to undertake courses and, if required, the assessment for such courses, subject to the approval of any other head of department concerned.

8. Credit for previous studies

8.1 A candidate who, at the date of admission to candidature, has completed not less than six months as a candidate for the degree of master in any faculty or board of studies of the University of Sydney, may be permitted by the faculty concerned to be credited for the whole or any part of the period of candidature completed for the degree of master as a period of candidature completed for the degree of Doctor of Philosophy, provided that the period of candidature for the degree of master for which credit is sought shall have been a course of full-time or part-time advanced study and research under a supervisor appointed by the faculty or board of studies concerned and directly related to the candidate's proposed course of advanced study and research for the degree of Doctor of Philosophy.

8.2 A candidate who, at the date of admission has completed not less than six months as a candidate for a higher degree in another university or institution may be permitted by the Academic Board, on the recommendation of the faculty concerned, to be credited for the whole or any part of the period of candidature completed as a period completed for the degree of Doctor of Philosophy of the University of Sydney, provided that:

8.2.1 at the date of admission to candidature for the higher degree of the other university or institution concerned the candidate shall have fulfilled the requirements of admission to candidature set out in section 3 above;

8.2.2 the period of candidature for the higher degree of the other university or institution concerned for which credit is sought shall have been a course of full-time or part-time advanced study and research under a supervisor appointed by the

- other university or institution concerned and directly related to the candidate's proposed course of advanced study and research in the University of Sydney;
- 8.2.3 the candidate shall have abandoned candidature for the higher degree of the other university or institution concerned for which credit is sought;
- 8.2.4 the amount of credit which may be so granted shall not exceed one year; and
- 8.2.5 no candidate who has been granted credit shall present a thesis for examination for the degree earlier than the end of the second year after acceptance.
- 8.3 The Faculty of Medicine may grant credit not exceeding one year to a candidate for the degree of Doctor of Philosophy in that Faculty who has submitted documented evidence of having previously completed supervised study towards the degree of Doctor of Medicine of the University of Sydney.

Part 3 – Supervision

9. Appointment and qualifications of supervisors and associate supervisors

- 9.1 The faculty or college board, on the recommendation of the head of department concerned, shall appoint a suitably qualified supervisor and associate supervisors for each candidate to take primary responsibility for the conduct of the candidature and to be responsible for the progress of the candidature to the head of department and the faculty or college board concerned in accordance with policy established by the Academic Board.

Part 4 – Candidature

10. Location

- 10.1.1 Subject to the annual approval of the supervisor, head of department and faculty or college board, the candidate shall pursue the course of advanced study and research either:
- 10.1.1.1 within the University including its research stations and teaching hospitals;
- 10.1.1.2 on fieldwork either in the field or in libraries, museums or other repositories;
- 10.1.1.3 within industrial laboratories or research institutions or other institutions considered by the faculty or college board concerned to provide adequate facilities for that candidature; or
- 10.1.1.4 within a professional working environment;
- 10.1.2 and shall attend at the University for such consultation with the supervisor and shall participate in such departmental and faculty or college seminars as shall annually be specified.
- 10.2.1 A candidate pursuing candidature outside Australia must also complete a minimum of two semesters of candidature within the University [but not necessarily immediately before submission, not necessarily as a continuous two-semester period] before submission of the thesis.
- 10.2.2 The corresponding period for candidates for whom the minimum length of candidature is four semesters is a minimum of one semester.
- 10.3 When recommending the detailed annual conditions for each candidate's particular course of advanced study and research the supervisor and head of department must indicate whether they are satisfied that the proposed supervision arrangements will be satisfactory.

11. Progress

- 11.1 At the end of each year each candidate shall provide evidence of progress and attend a progress review interview to the satisfaction of the supervisor and head of department concerned and any Departmental or Faculty Postgraduate Review Committee.
- 11.2 On the basis of evidence provided and the interview, the head of department shall recommend the conditions of candidature to apply for the following year and may require the candidate to provide further evidence of progress at the end of one semester or such other period as the head of department considers appropriate.
- 11.3 If a candidate fails to submit evidence of progress or if the head of department concerned considers that the evidence submitted does not indicate satisfactory progress, the faculty or college board may, on the head's recommendation, call upon that candidate to show cause why that candidature should not be terminated by reason of unsatisfactory progress towards

completion of the degree and where, in the opinion of the faculty or college board, the candidate does not show good cause the faculty or college board may terminate that candidature or may impose conditions on the continuation of that candidature.

Part 5 – Submission of thesis

12. The thesis

- 12.1.1 On completing the course of advanced study and research, a candidate shall present a thesis embodying the results of the work undertaken, which shall be a substantially original contribution to the subject concerned.
- 12.1.2 The candidate shall state, generally in the preface and specifically in notes, the sources from which the information is derived, the animal and human ethical approvals obtained, the extent to which the work of others has been made use of, and the portion of the work the candidate claims as original.
- 12.2 A candidate may also submit in support of the candidature any publication of which the candidate is the sole or joint author. In such a case the candidate must produce evidence to identify satisfactorily the sections of the work for which the candidate is responsible.
- 12.3 Except where the candidature has been governed by an approved cotutelle agreement, a candidate may not present as the thesis any work which has been presented for a degree or diploma at this or another university, but the candidate will not be precluded from incorporating such in the thesis, provided that, in presenting the thesis, the candidate indicates the part of the work which has been so incorporated.
- 12.4 Theses shall be written in English, except that:
- 12.4.1 in the case of a candidature governed by an approved cotutelle agreement, the thesis may be written in English or in another language; and
- 12.4.2.1 in the Faculty of Arts, in the case of language departments, theses may be written either in English or in their target language as determined by the department, unless a department has specified by means of a Faculty resolution that it will consider applications to submit the thesis in a language other than:
- 12.4.2.1.1 English; or
- 12.4.2.1.2 a target language of the department.
- 12.4.2.2 Such applications should be made in writing; and approved by the head of department concerned and the Dean of the Faculty, before the commencement of candidature.
- 12.4.2.3 In considering applications a head of department shall take into account arrangements for supervision and examination.
- 12.5 A candidate shall submit to the Registrar four copies of the thesis in a form prescribed by resolution of the Academic Board and four copies of a summary of about 300 words in length.
- 12.6 The thesis shall be accompanied by a certificate from the supervisor stating whether, in the supervisor's opinion, the form of presentation of the thesis is satisfactory.
13. Earliest date for submission
- 13.1 Except as provided below, a candidate may not submit a thesis for examination earlier than the end of the sixth semester of candidature.
- 13.2 A faculty or college board may permit a candidate holding any of the following qualifications of the University of Sydney or from such other institution as the faculty or college board may approve, to submit a thesis for examination not earlier than the end of the fourth semester of candidature:
- 13.2.1 a degree of master completed primarily by research;
- 13.2.2 both the degrees of Bachelor of Dental Surgery with honours and Bachelor of Science (Dental) with honours;
- 13.2.3 both the degrees of Bachelor of Medicine with honours and Bachelor of Science (Medical) with honours; or
- 13.2.4 both the degrees of Bachelor of Veterinary Science with honours and Bachelor of Science (Veterinary) with honours.
- 13.3 Notwithstanding 13.1 and 13.2 above, a faculty may, on the recommendation of the head of department and supervisor concerned, permit a candidate to submit a thesis for examination up to one semester earlier than prescribed if, in the opinion of the faculty, evidence has been produced that the candidate has made exceptional progress in his or her candidature.
- 13.4.1 Notwithstanding 13.1, 13.2 and 13.3 above, the Chair of the Academic Board may, on the recommendation of the dean

of the faculty in which the candidate is enrolled, permit a candidate to submit a thesis for examination earlier than prescribed if, in the opinion of the Chair of the Academic Board, evidence has been produced that the candidate has made exceptional progress in his or her candidature.

- 13.4.2 The Chair of the Academic Board may take advice from the Chair of the Graduate Studies Committee and shall report any applications under this provision and the action taken to the next meeting of the Academic Board.

14. Latest date for submission

- 14.1 Except as provided in 14.1 to 14.3 below, a candidate shall submit the thesis for examination not later than the end of the eighth semester of candidature.
- 14.2 A candidate whose candidature has been part-time throughout shall submit the thesis for examination not later than the end of the 16th semester of candidature.
- 14.3 The time limits set out in 14.1 to 14.2 above, apply to candidates who commence candidature after 31 December 2000. Candidates who commenced candidature prior to this date may choose to proceed in accordance with the Rules in force at the time when they commenced candidature.
- 14.4 The relevant dean may permit a candidate to submit the thesis for examination after a period of time greater than the maximum periods specified.

15. Examination

- 15.1 The procedures for examination shall be prescribed by the Academic Board.

General University information

For further information or advice, please feel free to call our Helpline on **1300 362 006**.

Accommodation Service
 Admissions Office
 Applying for a course
 Assessment
 Careers Centre
 Casual Employment Service
 Centre for Continuing Education
 Centre for English Teaching
 Child Care
 Client Services, Information and Communications Technology (ICT)
 The Co-op Bookshop
 Counselling Service
 Disability Services
 Email
 Enrolment
 Environmental Policy
 Examinations
 Fees
 Financial Assistance Office
 Freedom of Information
 Graduations Office
 (Grievances) Appeals
 HECS and Fees Office
 HELP
 Information and Communications Technology
 International Office
 International Student Support Unit
 Koori Centre and Yooroang Garang
 Learning Centre
 Library
 Mathematics Learning Centre
 Multimedia and Educational Technologies in Arts (META) Resource Centre
 MyUni Student Portal
 Part-time, full-time
 Policy online
 Privacy
 Scholarships for undergraduates
 Services for Students
 Student Centre
 Student Identity Cards
 Student Services
 The Sydney Summer School
 The University of Sydney Foundation Program
 Timetabling Unit
 University Health Service

Accommodation Service

The Accommodation Service helps students find off-campus accommodation. The service maintains extensive databases of share accommodation, rental properties, and full board accommodation. Currently enrolled students can access the database online through the MyUni student portal, or the accommodation website via your MyUni student portal or the Services for Students website.

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 NSW 2006 Australia

Phone: +61 29351 3312
 Fax: +61 2 9351 8262
 Email: accomm@stuserv.usyd.edu.au
 Web: <http://www.usyd.edu.au/accomm>

Admissions Office

The Admissions Office, located in the Student Centre, is responsible for overseeing the distribution of offers to undergraduate applicants through the Universities Admission Centre (UAC). They can advise prospective local undergraduate students on admission requirements. Postgraduate students should contact the appropriate faculty. If you are an Australian citizen or a permanent resident but have qualifications from a non-Australian institution phone +61 2 9351 4118 for more information. For enquiries regarding special admissions (including mature-age entry) phone +61 2 9351 3615. Applicants without Australian citizenship or permanent residency should contact the International Office.

Student Centre
 Ground Floor, Carslaw Building F07
 University of Sydney
 NSW 2006 Australia

Phone: +61 2 9351 4117 or +61 2 9351 4118
 Fax: +61 2 9351 4869
 Email: admissions@records.usyd.edu.au
 Web: <http://www.usyd.edu.au/studentcentre>

Applying for a course

Domestic applicants for undergraduate courses and programs of study

For the purpose of admission and enrolment 'domestic applicant' refers to citizens and permanent residents of Australia and citizens of New Zealand. If you are in this group and wish to apply for admission into an undergraduate course, you would generally apply through the Universities Admissions Centre (UAC). The deadline for application is the last working day of September in the year before enrolment. Go to the UAC website for more information.

Note that some faculties, such as Pharmacy, the Sydney Conservatorium of Music and Sydney College of the Arts, have additional application procedures.

Domestic applicants for postgraduate courses and programs of study

For the purpose of admission and enrolment 'domestic applicant' refers to citizens and permanent residents of Australia and citizens of New Zealand. Application is direct to the faculty which offers the course that you are interested in. Application forms for postgraduate coursework, postgraduate research and the master's qualifying or preliminary program and for non-award postgraduate study can be found at <http://www.usyd.edu.au/studentcentre>.

Please note that some faculties use their own specially tailored application forms for admission into their courses. Please contact the relevant faculty.

International applicants for all course types (undergraduate and postgraduate)

'International applicants' refers to all applicants other than Australian citizens, Australian permanent residents and citizens of New Zealand. In the majority of cases international applicants apply for admission

through the University's International Office (IO). All the information international applicants need, including application forms, is available from the IO website.

Assessment

For assessment matters refer to the relevant department or school.

Careers Centre

The Careers Centre will help you with careers preparation and graduate recruitment.

Careers Centre
Ground Floor, Mackie Building K01
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 3481
Fax: +61 2 9351 5134
Email: info@careers.usyd.edu.au
Web: <http://www.careers.usyd.edu.au>

Casual Employment Service

The Casual Employment Service helps students find casual and part-time work during their studies and during University vacations. The service maintains a database of casual employment vacancies. Currently enrolled students can access the database online through the MyUni student portal, or the casual employment website via your MyUni student portal, or the Services for Students website.

Level 7, Education Building A35
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 8714
Fax: +61 2 9351 8717
Email: ces@stuserv.usyd.edu.au
Web: http://www.usyd.edu.au/cas_emp

Centre for Continuing Education

The Centre for Continuing Education offers a wide range of short courses for special interest, university preparation and professional development.

Centre for Continuing Education
160 Missenden Rd
Newtown NSW 2042

Postal address:
Locked Bag 2020
Glebe NSW 2037

Ph: +61 2 9036 4789
Fax: +61 2 9036 4799
Email: info@cce.usyd.edu.au
Web: <http://www.cce.usyd.edu.au>

Subject areas include: history and culture, creative arts, social sciences, languages, IT, business and overseas study tours. Courses are open to everyone.

Centre for English Teaching (CET)

The Centre for English Teaching (CET) offers English language and academic study skills programs to students from overseas and Australian residents from non-English speaking backgrounds who need to develop their English language skills to meet academic entry requirements.

Camperdown Campus G01
University Of Sydney
NSW 2006 Australia

Phone: +61 2 9351 0760
Fax: +61 2 9351 0710
Email: info@cet.usyd.edu.au
Web: <http://www.usyd.edu.au/cet>

Child care

Contact the Child Care Information Officer for information about child care for students and staff of the University who are parents. For details of centres, vacation and occasional care see the child care website via your MyUni student portal or the Services for Students Website

Child Care Information Officer
Level 7, Education Building A35
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 5667
Fax: +61 2 9351 7055
Email: childc@stuserv.usyd.edu.au
Web: <http://www.usyd.edu.au/childcare>

Client Services, Information and Communications Technology (ICT)

Client Services are responsible for the delivery of many of the computing services provided to students. Students can contact Client Services by phoning the ICT Helpdesk on 9351 6000, through the IT Assist website (<http://www.itassist.usyd.edu.au>) or by visiting the staff at one of the University Access Labs. The access labs on the Camperdown and Darlington campuses are located in:

- Fisher Library (Level 2);
- Carslaw Building (Room 201);
- Education Building (Room 232);
- Christopher Brennan Building (Room 232);
- Engineering Link Building (Room 222); and
- Pharmacy and Bank Building (Room 510).

Other labs are available at the Law, Westmead Hospital and Cumberland campuses.

The labs provide students free access to computers including office productivity and desktop publishing software.

Services are available on a fee for service basis which include Internet access, printing facilities and the opportunity to host their own non-commercial website.

Each student is supplied with an account, called a 'Unikey' account, which allows access to a number of services including:

- free email (<http://www-mail.usyd.edu.au>);
- access to the Internet from home or residential colleges (<http://www.itassist.usyd.edu.au/services.html>);
- student facilities via the MyUni student portal (<http://myuni.usyd.edu.au>), including exam results, enrolment variations and timetabling; and
- free courses in basic computing (such as MS Office; basic html and excel) that are run by Access Lab staff in the week following orientation week. To register contact the Access Lab Supervisor on +61 2 9351 6870.

Client Services, Helpdesk
University Computer Centre, H08
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 6000
Fax: +61 2 9351 6004
Email: support@usyd.edu.au
Web: <http://www.itassist.usyd.edu.au>

The Co-op Bookshop

The Co-op Bookshop is a one-stop bookshop for:

- textbooks
- general books
- reference books
- DVDs
- flash drives; and
- software at academic prices.

Lifetime membership costs \$20.00 and gives great discounts on purchases (conditions apply).

Sports and Aquatic Centre Building G09

Phone: +61 2 9351 3705

Fax: +61 2 9660 5256

Email: sydu@coop-bookshop.com.au

Web: <http://www.coop-bookshop.com.au>

Counselling Service

The Counselling Service aims to help students fulfil their academic, individual and social goals through professional counselling. The Service provides short-term, problem-focused counselling to promote psychological wellbeing and to help students develop effective and realistic coping strategies. International students can access counselling assistance through the International Students Support Unit (ISSU). Each semester the Counselling Service runs a program of workshops designed to assist students master essential study and life management skills. Workshops are available to all local and international students. For details of workshops, activities and online resources provided by the service see the Counselling Service website via your MyUni student portal or the Services for Students website. Phone to make an appointment. Daily walk-in appointments are also available between 11am and 3pm.

Camperdown and Darlington campuses

Level 7, Education Building A35
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 2228

Fax: +61 2 9351 7055

Email: counsell@mail.usyd.edu.au

Web: <http://www.usyd.edu.au/counsel>

Cumberland Campus

Ground Floor, A Block, Cumberland Campus C42
University of Sydney
East Street
Lidcombe
NSW 2141 Australia

Phone: +61 2 9351 9638

Fax: +61 2 9351 9635

Email: CS_Cumberland@fhs.usyd.edu.au

Web: <http://www.usyd.edu.au/counsel>

Disability Services

Disability Services is the principal point of contact for advice on assistance available for students with disabilities. Students with a disability need to register with Disability Services to receive support and assistance. Disability Services works closely with academic and administrative staff to ensure that students receive reasonable accommodations in their areas of study. Assistance available includes the provision of note taking, interpreters and negotiation with academic staff regarding assessment and course requirement modifications where appropriate. For details on registering with the Service including documentation required and online resources see the Disability Services website via your MyUni student portal or <http://www.usyd.edu.au/disability>.

Camperdown and Darlington campuses

Level 7, Education Building A35
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 7040

Fax: +61 2 9351 3320

TTY: +61 2 9351 3412

Email: disserv@stuserv.usyd.edu.au

Web: <http://www.usyd.edu.au/disability>

Cumberland Campus

Ground Floor, A Block, Cumberland Campus C42
University of Sydney
East Street
Lidcombe
NSW 2141 Australia

Phone: +61 2 9351 9638

Fax: +61 2 9351 9635

Email: DS_Cumberland@fhs.usyd.edu.au

Web: <http://www.usyd.edu.au/disability>

Equity Support Services

Equity Support Services, located within Student Services, brings together a number of student support services that produce practical assistance and information to support students in meeting their academic and personal goals while at University. Services include Accommodation Service, Casual Employment Service, Childcare Information Officer, Disability Services and the Financial Assistance Officer. For details of these services and online resources provided see their individual entry in this Handbook or go to the MyUni student portal or the Services for Students website.

Email

See Client Services, Information and Communications Technology

Enrolment

Students entering first year

Details of enrolment procedures will be sent to you with your UAC offer of enrolment. Enrolment takes place at a specific time and date, usually during the last week of January.

All other students

A pre-enrolment package is sent to all enrolled students in late September and contains instructions on the procedure for web-based pre-enrolment.

Environmental Policy

The University of Sydney's Environmental Policy promotes sustainable resource and product use; and encourages the practice of environmental stewardship by staff and students. The policy is supported by the University wide Sustainable Campus Program.

Enquiries can be directed to the Manager, Environmental Strategies

Phone: +61 2 93512063

Email: sustainable@usyd.edu.au

or go to <http://www.usyd.edu.au/sustainable> where you can find out what the University is doing and how you can get involved, make suggestions or receive the Sustainable Campus Newsletter.

Examinations

The Examinations and Exclusions Office looks after the majority of examination arrangements and student progression. Some faculties, such as the Sydney Conservatorium of Music, make all examination arrangements for the units of study that they offer.

Examinations and Exclusions Office
Student Centre
Level 1, Carlaw Building F07
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 4005 or +61 2 9351 4006
Fax: +61 2 9351 7330
Email: exams.office@exams.usyd.edu.au

Fees

The Fees Office provides information on how to pay fees, where to pay fees and if payments have been received. The office also has information on obtaining a refund for fee payments.

Fees Office
Margaret Telfer Building K07
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 5222
Fax: +61 2 9351 4202
Email: feespay@usyd.edu.au

Financial Assistance Office

The University of Sydney has a number of loan and bursary funds to assist students experiencing financial difficulties. Loan assistance is available for undergraduate and postgraduate students enrolled in degree and diploma courses at the University. The assistance is not intended to provide the principle means of support but to help enrolled students in financial need with expenses such as housing bonds and rent; phone and electricity bills; medical expenses; buying textbooks and course equipment. Loans are interest free and are repayable usually within one year. Bursaries may be awarded depending on financial need and academic merit and are usually only available to local full-time undergraduate students. Advertised bursaries, including First Year Bursaries, are advertised through the MyUni student portal in January each year. For details of types of assistance and online resources provided by the service see the Financial Assistance website via your MyUni student portal or the Services for Students website

Level 7, Education Building A35
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 2416
Fax: +61 2 9351 7055
Email: fao@stuserv.usyd.edu.au
Web: http://www.usyd.edu.au/fin_assist

Freedom of Information

The University of Sydney falls within the jurisdiction of the *NSW Freedom of Information Act, 1989*. The act:

- requires information concerning documents held by the University to be made available to the public;
- enables a member of the public to obtain access to documents held by the University; and
- enables a member of the public to ensure that records held by the University concerning his or her personal affairs are not incomplete, incorrect, out of date or misleading.

(Note that a 'member of the public' includes staff and students of the University.)

It is a requirement of the act that applications be processed and a determination made within a specified time period, generally 21 days. Determinations are made by the University's Registrar.

While application may be made to access University documents, some may not be released in accordance with particular exemptions provided

While application may be made to access University documents, some may not be released in accordance with particular exemptions provided by the act. There are review and appeal mechanisms which apply when access has been refused.

The University is required to report to the public on its freedom of information (FOI) activities on a regular basis and to produce two documents: a *Statement of Affairs* (annually) and a *Summary of Affairs* (every six months). The *Statement of Affairs* contains information about the University, its structure, function and the kinds of documents held. The *Summary of Affairs* identifies the University's policy documents and provides information on how to make an application for access to University documents.

Further information and copies of the current Statement and Summary may be found at <http://www.usyd.edu.au/arms/foi>

The University is required to report to the public on its freedom of information (FOI) activities on a regular basis and to produce two documents: a *Statement of Affairs* (annually) and a *Summary of Affairs* (every six months). The *Statement of Affairs* contains information about the University, its structure, function and the kinds of documents held. The *Summary of Affairs* identifies the University's policy documents and provides information on how to make an application for access to University documents.

Further information and copies of the current Statement and Summary may be found at <http://www.usyd.edu.au/arms/foi>

Graduations Office

The Graduations Office is responsible for organising graduation ceremonies and informing students of their graduation arrangements.

Student Centre
Carlaw Building F07
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 3199, +61 2 9351 4009
Protocol: +61 2 9351 4612
Fax: +61 2 9351 5072

(Grievances) Appeals

You may consider that a decision affecting your candidature for a degree or other activities at the University has not taken into account all relevant matters.

In some cases the by-laws or resolutions of the Senate (see the University Calendar) provide for a right of appeal against particular decisions; for example, there is provision for appeal against academic decisions, disciplinary decisions and exclusion after failure.

A document outlining the current procedures for appeals against academic decisions is available at the Student Centre, at the SRC, and on the University's policy online website (click on 'Study at the University', then click on 'Appeals' – see the Academic Board and Senate resolutions).

For assistance or advice regarding an appeal contact:
Students' Representative Council
Level 1, Wentworth Building G01
University of Sydney
NSW 2006 Australia

Phone: +61 2 9660 5222

HECS and Fees Office

Student Centre
Ground Floor, Carlaw Building F07
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 5659, +61 2 9351 5062, +61 2 9351 2086
 Fax: +61 2 9036 6111

HELP

See HECS and Fees Office

Information and Communications Technology

See Client Services, Information and Communications Technology

International Office

The International Office provides assistance with application, admission and enrolment procedures for international students. The International Office also includes units responsible for international marketing, government relations, international scholarships, including AusAID scholarships, and compliance with government regulations related to international students. The Study Abroad and Exchange unit assists both domestic and international students who wish to enrol for study abroad or exchange programs.

International Office

Services Building G12
 University of Sydney
 NSW 2006 Australia

Phone: +61 2 9351 4079
 Fax: +61 2 9351 4013
 Email: info@io.usyd.edu.au

Web: <http://www.usyd.edu.au/internationaloffice>

Study Abroad

Phone: +61 2 9351 3699
 Fax: +61 2 9351 2795
 Email: studyabroad@io.usyd.edu.au
 Web: <http://www.usyd.edu.au/studyabroad>

Student Exchange

Phone: +61 2 9351 3699
 Fax: +61 2 9351 2795
 Email: exchange@io.usyd.edu.au
 Web: <http://www.usyd.edu.au/studentexchange>

International Student Support Unit

The International Student Support Unit assists international students through the provision of orientation, counselling and welfare services to both students and their families. ISSU aims to help international students cope successfully with the challenges of living and studying in a unfamiliar culture, to achieve success in their studies and to make the experience of being an international student rewarding and enjoyable. For details of orientation activities, counselling and welfare services provided to both students and their families and online resources, see the MyUni student portal or the Services for Students website <http://www.usyd.edu.au/stuserv>. International students also have access to all University student support services.

Camperdown and Darlington campuses

Ground Floor, Services Building G12
 University of Sydney
 NSW 2006 Australia

Phone: +61 2 9351 4749
 Fax: +61 2 9351 6818
 Email: info@issu.usyd.edu.au
 Web: <http://www.usyd.edu.au/issu>

Cumberland Campus

Ground Floor, A Block, Cumberland Campus C42
 University of Sydney
 East Street, Lidcombe
 NSW 2141 Australia

Phone: +61 2 9351 9638
 Fax: +61 2 9351 9635
 Email: ISSU_Cumberland@fhs.usyd.edu.au
 Web: <http://www.usyd.edu.au/issu>

Koori Centre and Yooroang Garang

Islander people in all aspects of tertiary education at the University of Sydney. The Cadigal Special Entry Program assists Indigenous Australians to enter undergraduate study across all areas of the University.

As well as delivering block-mode courses for Indigenous Australian students, the Koori Centre teaches Indigenous Australian Studies in various mainstream courses. In addition the Centre provides tutorial assistance, and student facilities such as: computer lab, Indigenous research library and study rooms for Indigenous Australian students across the University.

In particular the Koori Centre aims to increase the successful participation of Indigenous Australians in undergraduate and postgraduate degrees, develop the teaching of Aboriginal Studies, conduct research in the field of Aboriginal education, and establish working ties with schools and communities.

The Koori Centre works in close collaboration with Yooroang Garang: School of Indigenous Health Studies in the Faculty of Health Sciences at the University's Cumberland Campus. Yooroang Garang provides advice, assistance and academic support for Indigenous students in the faculty, as well as preparatory undergraduate and postgraduate courses.

Koori Centre

Ground Floor, Old Teachers College A22
 University of Sydney
 NSW 2006 Australia

Phone: +61 2 9351 2046 (general enquiries)
 Toll Free: 1800 622 742
 Community Liaison Officer: +61 2 9351 7003
 Fax: +61 2 9351 6923
 Email: koori@koori.usyd.edu.au
 Web: <http://www.koori.usyd.edu.au>

Yooroang Garang

T Block, Level 4, Cumberland Campus C42
 University of Sydney
 NSW 2006 Australia

Phone: +61 2 9351 9393
 Toll Free: 1800 000 418
 Fax: +61 2 9351 9400
 Email: yginfo@fhs.usyd.edu.au
 Web: <http://www.yg.fhs.usyd.edu.au>

Learning Centre

The Learning Centre helps students develop the generic learning and communication skills that are necessary for university study and beyond. The centre is committed to helping students achieve their academic potential throughout their undergraduate and postgraduate studies. The centre's program includes a wide range of workshops on study skills, academic reading and writing, oral communication skills and postgraduate writing and research skills. Other services include an individual learning program, faculty-based workshops, computer-based learning resources, publications of learning resources and library facilities. For details of programs, activities and online resources provided by the centre see the website via your MyUni student portal or the Services for Students website.

Camperdown and Darlington campuses

Level 7, Education Building A35
 University of Sydney
 NSW 2006 Australia

Phone: +61 2 9351 3853
Fax: +61 2 9351 4865
Email: lc@stuserv.usyd.edu.au
Web: <http://www.usyd.edu.au/lc>

Cumberland Campus

Ground Floor, A Block, Cumberland Campus C42
University of Sydney
East Street
Lidcombe
NSW 2141 Australia

Phone: +61 2 9351 9638
Fax: +61 2 9351 9635
Email: LC_Cumberland@fhs.usyd.edu.au
Web: <http://www.usyd.edu.au/lc>

Library

The University of Sydney Library, the largest academic library in the Southern Hemisphere, is a network of 17 libraries located on nine campuses. The Library website provides access to services and resources, anywhere at anytime. The locations, opening hours and subject specialities of the libraries are listed on the website.

Over five million items are available via the Library catalogue, including more than 68,000 electronic journals and 281,000 electronic books. Past exam papers are also available online. Enrolled students are entitled to borrow from any of the University Libraries. More information is available at <http://www.library.usyd.edu.au/borrowing>.

Reading list items are available via the reserve service. Increasingly, reading list material is becoming available in electronic form. For details see the reserve service website.

Library staff are always available to support students in their studies. 'Ask a Librarian' in person, by email, or by using an online chat service.

A specialist librarian is available for all discipline areas and will provide training in finding high quality information. Courses cover a range of skills including research methodology, database searching, effective use of the Internet and the use of reference management software. See the subject contact page.

Library facilities include individual and group study spaces, computers, printers, multimedia equipment, photocopiers and adaptive technologies. Check the 'Libraries' link on the home page to find out about services and facilities in specific libraries.

The *Client Service Charter* describes the Library's commitment to supporting students' learning, including those with special needs. See the *Client Service Charter* online.

Your comments and suggestions are always welcome.

University of Sydney Library F03
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 2993 (general enquiries)
Fax: +61 2 9351 2890 (administration)
+61 2 9351 7278 (renewals)
Email: loanenq@library.usyd.edu.au (loan enquiries),
udd@library.usyd.edu.au (document delivery enquiries)
Web: <http://www.library.usyd.edu.au>

Mathematics Learning Centre

The Mathematics Learning Centre assists undergraduate students to develop the mathematical knowledge, skills and confidence that are needed for studying first level mathematics or statistics units at university. The Centre runs bridging courses in mathematics at the beginning of the academic year (fees apply). The centre also provides on-going support to eligible students during the year through individual assistance and small group tutorials. For details of activities and online

resources provided by the centre see the website via your MyUni student portal or the Services for Students website.

Level 4, Carslaw Building F07
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 4061
Fax: +61 2 9351 5797
Email: mlc@stuserv.usyd.edu.au
Web: <http://www.usyd.edu.au/mlc>

Multimedia and Educational Technologies in Arts (META) Resource Centre (Languages and E-Learning)

The centre provides access to recorded lectures, classwork and interactive self-paced learning materials for students of languages other than English (LOTE) and English as a second language (ESL). The self study room provides interactive computer assisted learning and access to live multilingual satellite television broadcasts. Computer access labs provide Internet, email and word processing access. The centre also provides teaching rooms with state-of-the-art multimedia equipment, language laboratories and video conferencing facilities for Faculty of Arts courses.

Level 2, Brennan Building (opposite Manning House)
University of Sydney
NSW 2006 Australia

Phone: Library enquiries +61 2 9351 2683
For all other enquiries +61 2 9351 6781
Fax: +61 2 9351 3626
Email: For Library enquiries meta.library@arts.usyd.edu.au
For all other enquiries meta@arts.usyd.edu
Web: <http://www.arts.usyd.edu.au/centres/meta>

MyUni Student Portal

The MyUni student portal is the starting point and 'one-stop' environment for students to access all their web-based University information and services. MyUni automatically tailors what a student sees based on their login-in and offers students the option of further personalising content. Most importantly, MyUni allows students to complete tasks online that would previously have required attendance in person. The following are examples of MyUni services and information:

- support services for students in health, counselling, child care, accommodation, employment and wellbeing;
- student administration systems for obtaining exam results, enrolment and variations, timetabling, email services and links to courses and units of study information;
- links to the University's e-learning systems;
- library services;
- important messages and student alerts;
- information technology and support services;
- information for local, indigenous and international students; and
- campus maps, with descriptions of cultural, sporting and campus facilities.

Website: <http://myuni.usyd.edu.au>

Part-time, full-time

Undergraduate students

Undergraduate students are usually considered full-time if they have a student load of at least 0.375 each semester. Anything under this amount is considered a part-time study load.

Note that some faculties have minimum study load requirements for satisfactory progress.

Postgraduate students (Coursework)

For postgraduate coursework students part-time or full-time status is determined by credit-point load. Enrolment in units of study which total at least 18 credit points in a semester is classed as full-time. Anything under this amount is a part-time study load.

Please note that classes for some coursework programs are held in the evenings (usually 6–9pm).

Postgraduate students (Research)

Full-time candidates for research degrees do not keep to the normal semester schedule, instead they work continuously throughout the year with a period of four weeks recreation leave. There is no strict definition of what constitutes full-time candidature but if you have employment or other commitments that would prevent you from devoting at least the equivalent of a 35-hour working week to your candidature (including attendance at the University for lectures, seminars, practical work and consultation with your supervisor) you should enrol as a part-time candidate. If in doubt you should consult your faculty or supervisor.

International students

Student visa regulations require international students to undertake full-time study. International students on visas other than student visas may be permitted to study part-time.

Policy online

In addition to the resolutions covering specific courses there are a number of University policies that apply to students. These include:

- The code of conduct for students
- Academic honesty in coursework
- Student plagiarism: Coursework assessment and examination of coursework

All of these policies can be accessed from the University's Policy online website.

Privacy

The University is subject to the *NSW Privacy and Personal Information Protection Act 1998* and the *NSW Health Records and Information Privacy Act 2002*. Central to both acts are the sets of information protection principles (IPPs) and health privacy principles which regulate the collection, management, use and disclosure of personal and health information. In compliance with the *Privacy and Personal Information Protection Act* the University developed a *Privacy Management Plan* which includes the *University Privacy Policy*. The *Privacy Management Plan* sets out the IPPs and how they apply to functions and activities carried out by the University. Both the plan and the *University Privacy Policy* were endorsed by the Vice-Chancellor on 28 June 2000.

Further information and a copy of the plan may be found at <http://www.usyd.edu.au/arms/privacy>.

Any questions regarding the *Freedom of Information Act*, the *Privacy and Personal Information Protection Act*, the *Health Records and Information Privacy Act* or the *Privacy Management Plan* should be directed to:

Tim Robinson: +61 2 9351 4263, or
Anne Picot: +61 2 9351 7262
Email: foi@mail.usyd.edu.au

Scholarships for undergraduates

Scholarships Unit
Room 147, Ground Floor, Mackie Building KO1
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 2717
Fax: +61 2 9351 5134
Email: scholarships@careers.usyd.edu.au

Web: <http://www.usyd.edu.au/scholarships>

Services for Students

See Student Services

Student Centre

Ground Floor, Carslaw Building F07
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 3023 (general enquiries)
Academic records: +61 2 9351 4109
Discontinuation of enrolment: +61 2 9351 3023
Handbooks: +61 2 9351 5057
Prizes: +61 2 9351 5060
Fax: +61 2 9351 5081, +61 2 9351 5350 (academic records)
Web: <http://www.usyd.edu.au/studentcentre>

Student Identity Cards

The student identity card functions as a library borrowing card, a transport concession card (when suitably endorsed) and a general identity card. The card must be carried at all times on the grounds of the University and must be shown on demand.

Student Services

The University provides personal, welfare, administrative and academic support services to facilitate your success at University. Many factors can impact on your wellbeing while studying at university and student services can assist you in managing and handling these more effectively. For details of services and online resources provided see your MyUni student portal or the Services for Students website: <http://www.usyd.edu.au/stuserv>.

The Sydney Summer School

Most faculties at the University offer units of study from undergraduate degree programs during summer. There are also some units of study available for postgraduate coursework programs from some faculties. As the University uses its entire quota of Commonwealth supported places in first and second semester, these units are full fee-paying for both local and international students and enrolment is entirely voluntary. However, Summer School units enable students to accelerate their degree progress, make up for a failed unit or fit in a unit which otherwise would not suit their timetables. New students may also gain a head start by completing subjects before they commence their degrees. Units start at various times from late November and run for up to six weeks (followed by an examination week). Notice of the units available is on the Summer School website and is usually circulated to students with their results notices. A smaller Winter School is also run from the Summer School office. It commences on 3 July and runs for up to three weeks (followed by an examination week). It offers mainly postgraduate and a few undergraduate units of study.

Information can be found on the Summer School website: <http://www.summer.usyd.edu.au>.

The University of Sydney Foundation Program (USFP)

The University of Sydney offers its foundation program to international students as a preparation for undergraduate degrees at several Australian universities.

The Foundation Program is conducted by Taylors College on behalf of Study Group Australia and the University of Sydney. The Foundation Program allows both first and second semester entry to undergraduate courses at the University of Sydney and other universities within Australia.

Phone: +61 2 8263 1888
Fax: +61 2 9267 0531

Email: info@io.usyd.edu.au

Web: <http://www.usyd.edu.au/foundationprogram>

College Address

The University of Sydney Foundation Program

Taylor's College

965 Bourke St

Waterloo NSW 2017

Phone: +61 2 8303 9700

Fax: +61 2 8303 9777

Timetabling Unit

The Timetabling Unit in the Student Centre is responsible for producing students' class and tutorial timetables. Semester One timetables are available from the Wednesday of O Week through the MyUni website.

University Health Service

The University Health Service provides a full experienced general practitioner service and emergency medical care to all members of the University community. You can consult a doctor either by appointment or on a walk-in basis (for more urgent matters only). The Health Service bills Medicare or your overseas student health care provider (Worldcare or Medibank Private) directly for the full cost of most consultations.

Email: director@unihealth.usyd.edu.au

Web: <http://www.unihealth.usyd.edu.au>

Fax: +61 2 9351 4110

University Health Service (Holme)

University Health Service (Holme)]]

Holme Building A09

Science Rd

University of Sydney

NSW 2006 Australia

Opening Hours: 8:30am–5pm, Mon–Fri

Phone: +61 2 9351 4095

University Health Service (Wentworth)

Level 3, Wentworth Building G01

University of Sydney

NSW 2006 Australia

Opening Hours: 8:30am–5:30pm, Mon–Fri

Phone: +61 2 9351 3484

Holme Building A09

Science Rd

University of Sydney

NSW 2006 Australia

Opening Hours: 8:30am–5pm, Mon–Fri

Phone: +61 2 9351 4095

See also the Glossary for administrative information relating to particular terms.

Student organisations and International students

Student organisations

Students' Representative Council

The Students' Representative Council (SRC) advances and defends the interests of Sydney University undergraduate students at Sydney University and in the community. SRC members receive free advocacy and advice and a discount at the SRC shop.

Level 1, Wentworth Building G01
University of Sydney
NSW 2006 Australia

Phone: + 61 2 9660 5222
Fax: +61 2 9660 4260
SRC Shop: +61 2 9660 4756
Email: info@src.usyd.edu.au
Web: www.src.usyd.edu.au

Sydney University Postgraduate Representative Association (SUPRA)

SUPRA is an independent representative association providing advice, advocacy and support services for the postgraduate student community. SUPRA is your postgraduate student association and is here to help you.

Raglan Street Building G10
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 3715
Freecall: 1800 249 950
Fax: +61 2 9351 6400
Email: admin@supra.usyd.edu.au
Web: www.supra.usyd.edu.au

Sydney University Sport

Sydney University Sport provides opportunities for participation in a range of sporting and recreational activities along with first class facilities.

University Sports and Aquatic Centre G09
University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 4960
Fax: +61 2 9351 4962
Email: admin@susport.usyd.edu.au
Web: www.susport.com

University of Sydney Union

The University of Sydney Union (USU) is the main provider of catering facilities, retail services, welfare programs and social and cultural events for the University community on the Camperdown and Darlington campuses and at many of the University's affiliated campuses.

University of Sydney Union
Level 1, Manning House A23
University of Sydney
NSW 2006 Australia

Phone: 1800 013 201 (switchboard)
Fax: +61 2 9563 6109
Email: info@usu.usyd.edu.au
Web: www.usuonline.com

International students

The following information is for international students studying onshore on an Australian Student Visa.

Full-time study

International students must maintain full-time enrolment at all times (a minimum of 18 credit points). However, in the following limited circumstances, part-time study is permitted:

- students studying in Australia on a different type of visa that does not carry study restrictions;
- students in their final semester who are required to take additional units to complete their course;
- cross-institutional students enrolled full-time at their home institution;
- students enrolled in an approved joint delivery program that involves enrolment at two institutions.

Satisfactory academic progress

The University is required to report to the Department of Immigration and Multicultural Affairs (DIMA) any International Student who fails to maintain satisfactory academic progress. This may result in automatic visa cancellation. It is important that International Students contact the International Office if they are experiencing academic difficulties.

Distance/web-based study

International students studying onshore in Australia are not permitted to enrol in distance or web-based courses. However, a small number of web-based units within a course taught largely in face-to-face mode are allowed. Contact the faculty to discuss enrolment options.

Work permits

International students with a work permit are permitted to work for up to 20 hours during semester and full-time during the University's official vacation periods. Contact the International Office for more information.

Change of address

International Students must notify the University of their residential address within seven days of arrival and notify any change of address within seven days. This may be done via the University's MyUni Web portal.

Course transfers

Sponsored students will need permission from their sponsors before transferring courses. Australian Government sponsored students (AusAID, Endeavour) and Asia Development Bank (ADB) sponsored students should contact the International Office in the early stages of considering a course transfer.

Suspension/discontinuation

The University is required to report to DIMA international students who discontinue or suspend their studies. Students who suspend their studies for severe medical or compassionate reasons should contact the International Office urgently.

Overseas student health cover

Australian Student Visa holders must maintain overseas health cover for the duration of their stay. The International Office arranges health cover for the first year but it is the individual student's responsibility to maintain health cover for each subsequent year.

Additional information

For more information related to international students, please see the Glossary in this handbook.

Abbreviations

For a glossary of terms, describing the terminology in use at the University of Sydney, please see the glossary section.

Listed below are the more commonly used acronyms that appear in University documents and publications.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A	
AARNet	Australian Academic Research Network
AAUT	Australian Awards for University Teaching
AAM	Annual Average Mark
ABC	Activity Based Costing
ABSTUDY	Aboriginal Study Assistance Scheme
ACER	Australian Council for Educational Research
AGSM	Australian Graduate School of Management
ANZAAS	Australian and New Zealand Association for the Advancement of Science
APA	Australian Postgraduate Awards
APAC	Australian Partnership for Advanced Computing
APAI	Australian Postgraduate Awards (Industry)
APA-IT	Australian Postgraduate Awards in Information Technology
APDI	Australian Postdoctoral Fellowships Industry
APEC	Asia-Pacific Economic Cooperation
APF	Australian Postdoctoral Fellowship
AQF	Australian Qualifications Framework
ARC	Australian Research Council
ARTS	Automated Results Transfer System
ASDOT	Assessment Fee Subsidy for Disadvantaged Overseas Students
ATN	Australian Technology Network
ATP	Australian Technology Park
ATPL	Australian Technology Park Limited
AUQA	Australian Universities Quality Agency
AusAID	Australian Agency for International Development
AUTC	Australian Universities Teaching Committee
AVCC	Australian Vice-Chancellors Committee

B	
BAA	Backing Australia's Ability
BAC	Budget Advisory Committee
BITLab	Business Intelligence Lab
BLO	Business Liaison Office
BOTPLS	Bridging for Overseas Trained Professionals Loans Scheme

C	
CAF	Cost Adjustment Factor
CAUT	Committee for Advancement of University Teaching
CDP	Capital Development Program
CEP	Country Education Profile
CEQ	Course Experience Questionnaire
CES	Casual Employment Service
CFO	Chief Financial Officer
CHASS	College of Humanities and Social Sciences
CHESSN	Commonwealth Higher Education System Student Number
CHS	College of Health Sciences
CIO	Chief Information Officer
COE	Confirmation of Enrolment
CPSU	Community and Public Sector Union

C	
CRC	Cooperative Research Centre
CREO	Centre for Regional Education, Orange
CRICOS	Commonwealth Register of Institutions and Courses for Overseas Students
CRRRI	Centre for Rural and Regional Innovation
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CST	College of Sciences and Technology
CULT	Combined Universities Language Test
CUTSD	Committee for University Teaching and Staff Development

D	
DAC	Data Audit Committee
DEST	Commonwealth Department of Education, Science and Training
DET	NSW Department of Education and Training
DIMA	Department of Immigration and Multicultural Affairs
D-IRD	Discovery-Indigenous Researchers Development Program
DVC	Deputy Vice-Chancellor

E	
EB	Enterprise Bargaining
EFTSU	Equivalent Full-Time Student Unit
EFTSL	Equivalent Full-Time Student Load
EIP	Evaluations and Investigations Program
ELICOS	English Language Intensive Course of Study
EMU	Electron Microscope Unit
ESOS Act	Education Services for Overseas Student Act

F	
FFT	Fractional Full-Time (Equivalent Staff)
FlexSIS	Flexible Student Information System
FHS	Faculty of Health Sciences
FMO	Facilities Management Office
FOS	Field of Study
FTE	Full-Time Equivalent (Staff)
FRM	Faculty of Rural Management

G	
GATS	General Agreement on Trade in Services
GCCA	Graduate Careers Council of Australia
GDS	Graduate Destination Survey
GPOF	General Purpose Operating Funds
GSA	Graduate Skills Assessment
GSG	Graduate School of Government
GWSLN	Greater Western Sydney Learning Network

H	
HDR	Higher Degree Research
HECS	Higher Education Contribution Scheme
HEEP	Higher Education Equity Program

Abbreviations

H	
HEFA	Higher Education Funding Act 1988
HEIMS	Higher Education Information Management System
HEIP	Higher Education Innovation Program (DEST)
HELP	Higher Education Loan Program
HEO	Higher Education Officer
HEP	Higher Education Provider
HERDC	Higher Education Research Data Collection
HESA	Higher Education Support Act
HOD	Head of Department

I	
IAF	Institutional Assessment Framework (This is a new name for what was previously the DEST Profile process.)
IAS	Institute of Advanced Studies
ICT	Information and Communication Technology
ICTR	Information and Communication Technology Resources
IELTS	International English Language Testing Scheme
IGS	Institutional Grants Scheme (DEST)
IO	International Office
IP	Intellectual Property
IPRS	International Postgraduate Research Scholarships
IREX	International Researcher Exchange Scheme
ISFP	Indigenous Support Funding Program
ISIG	Innovation Summit Implementation Group
ISSU	International Student Services Unit
ITC	Information Technology Committee
ITL	Institute for Teaching and Learning
ITS	Information Technology Services

J	
JASON	Joint Academic Scholarships Online Network

L	
LBOTE	Language Background Other Than English

M	
MBA	Master of Business Administration
MISG	Management Information Steering Group
MNRF	Major National Research Facilities Scheme
MOU	Memorandum of Understanding
MPG	Major Projects Group
MRB	Medical Rural Bonded Scholarship Scheme

N	
NBCOTP	National Bridging Courses for Overseas Trained Program
NCG	National Competitive Grant
NESB	Non-English-Speaking Background
NHMRC	National Health and Medical Research Council
NOIE	National Office for the Information Economy
NOOSR	National Office for Overseas Skill Recognition
NRSL	Non-Recent School Leaver
NSW VCC	New South Wales Vice-Chancellors' Conference
NTEU	National Tertiary Education Industry Union

O	
OECD	Organisation for Economic Cooperation and Development
OLA	Open Learning Australia
OLDPS	Open Learning Deferred Payment Scheme

O	
OPRS	Overseas Postgraduate Research Scholarships

P	
PELS	Postgraduate Education Loans Scheme
PSO	Planning Support Office
PVC	Pro-Vice-Chancellor

Q	
QA	Quality Assurance
QACG	Quality Advisory and Coordination Group

R	
R&D	Research and Development
R&R	Restructuring and Rationalisation Program
RC	Responsibility Centre
REG	Research and Earmarked Grants
REP	Research Education Program
RFM	Relative Funding Model
RIBG	Research Infrastructure Block Grant (DEST)
RIEF	Research Infrastructure Equipment and Facilities Scheme
RISF	Restructuring Initiatives Support Fund
RMO	Risk Management Office
ROA	Record of Achievement
RQ	Research Quantum
RQU	Recognition Quality Unit (Higher Education Division – DEST)
RRTMR	Research and Research Training Management Reports
RSL	Recent School Leaver
RTS	Research Training Scheme (DEST)

S	
SCA	Sydney College of the Arts
SCEQ	Sydney Course Experience Questionnaire
SCM	Sydney Conservatorium of Music
SCR	Science Capability Review
SDF	Strategic Development Fund
SEG	Senior Executive Group
SES	Socioeconomic Status
SI	Scholarship Index
SLE	Student Learning Entitlement
SNA	Safety Net Adjustment
SPIRT	Strategic Partnerships with Industry – Research and Training Scheme
SPR	Student Progress Rate
SRC	Students' Representative Council
SSR	Student/Staff Ratio
STABEX	Study Abroad Exchange (database)
SUPRA	Sydney University Postgraduate Students' Representative Association
SUSport	Sydney University Sport

T	
TAFE	Technical and Further Education
TOEFL	Test of English as a foreign language
TPI	Teaching Performance Indicator

U	
UAC	Universities Admissions Centre
UMAP	University Mobility in Asia and the Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organisation

U	
UPA	University Postgraduate Awards

V	
VCAC	Vice-Chancellor's Advisory Committee
VET	Vocational Education and Training

W	
WAM	Weighted Average Mark
WRP	Workplace Reform Program
WTO	World Trade Organization

Y	
YFE	Year of First Enrolment

Glossary

For a table of the more commonly used acronyms and abbreviations that appear in University documents and publications please see the abbreviations section.

This glossary describes terminology in use at the University of Sydney.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A

Academic Board

The senior academic body within the University. In conjunction with faculties, the Academic Board has responsibility for approving, or recommending to Senate for approval, new or amended courses and units of study and policy relating to the admission and candidature of students.

(For further information, see the University Calendar.)

Academic cycle

The program of teaching sessions offered over a year. Currently the cycle runs from the enrolment period for Semester One through to the completion of the processing of results at the end of Semester Two.

(See also Stage.)

Academic dishonesty

Academic dishonesty occurs when a student presents another person's ideas, findings or written work as his or her own by copying or reproducing them without due acknowledgement of the source and with intent to deceive the examiner. Academic dishonesty also covers recycling, fabrication of data, engaging another person to complete an assessment or cheating in exams.

(See also Plagiarism.)

Academic record

The complete academic history of a student at the University. It includes, among other things: personal details; all units of study and courses taken; assessment results (marks and grades); awards and prizes obtained; infringements of progression rules; approvals for variation in course requirements and course leave; thesis and supervision details.

Access to a student's academic record is restricted to authorised University staff and is not released to a third party without the written authorisation of the student.

(See also Academic transcript.)

Academic transcript

A printed statement setting out a student's academic record at the University. There are two forms of academic transcript: external and internal.

(See also External transcript, Internal transcript.)

Academic year

The current calendar year in which a student is enrolled.

(See also Academic cycle, Stage.)

Admission

Governed by the University's admission policy, this is the process for identifying applicants eligible to receive an initial offer of enrolment in a course at the University. Admission to most courses is based on performance in the HSC, with applicants ranked on the basis of their UAI. Other criteria such as a portfolio, interview, audition, or results in standard tests may also be taken into account for certain courses.

Admission basis

The main criterion used by a faculty in assessing an application for admission to a course. The criteria used include, among other things, previous secondary, TAFE or tertiary studies; work experience; special admission; and the Universities Admission Index (UAI).

Admission (Deferment)

An applicant who receives an offer of admission to a course may apply to defer enrolment in that course for one semester or one academic cycle.

Admission mode

A classification based on how a student was admitted to a course, for example 'UAC' or 'direct'.

Admission period

The period during which applications for admission to courses are considered.

Admission year

The year the student expects to begin the course.

(See also Commencement date.)

Advanced diplomas

(See Award course.)

Advanced standing

(See Credit.)

Advisor

A member of academic staff appointed in an advisory role for some postgraduate coursework students.

(See also Associate supervisor, Instrumental supervisor/teacher, Research supervisor, Supervision.)

Aegrotat

In exceptional circumstances involving serious illness or death of a student prior to completion of their course, the award of aegrotat and posthumous degrees and diplomas may be conferred.

Alumni sidneiensis

A searchable database of graduates of the University from 1857 to 30 years prior to the current year.

Annual average mark (AAM)

The average mark over all units of study attempted in a given academic year (equivalent to the calendar year).

The formula for this calculation is:

$$AAM = \frac{\sum (\text{marks} \times \text{credit point value})}{\sum (\text{credit point value})}$$

(sums over all units of study completed in the selected period)

Where the mark is the actual mark obtained by the student for the unit of study, or in the case of a failing grade with no mark – 0. Pass/fail assessed subjects and credit transfer subjects (from another institution) are excluded from these calculations; however, the marks from all attempts at a unit of study are included.

Annual progress report

A form which is used to monitor a research student's progress each year. The form provides for comments by the student, the supervisor, the head of the department and the dean (or their nominee). The completed form is attached to the student's official file.

Annual Report

The University's yearly financial and audit report, submitted to the NSW Parliament. It also includes a broad range of the University's activities and the strength of their performance in relation to the University's stated roles, values and goals.

Appeals

Students may lodge an appeal against academic or disciplinary decisions. An academic appeal (e.g. against exclusion) is managed by the Student Centre–Exclusions Office while it is under consideration and a record of the outcome of the appeal will be retained.

Assessment

The process of measuring the performance of students in units of study and courses. Performance may be assessed by examinations, essays, laboratory projects, assignments, theses, treatises or dissertations.

(See also Result processing, Result processing schedule.)

Formative assessment

Used principally to provide students with feedback on their progress in learning. It reinforces successful learning, and is an opportunity for students to expose the limitations in their knowledge and understanding.

Summative assessment

Used to certify competence, or to arrange students in a rank order of merit. It certifies the attainment of a standard, and is used as the basis for progression to the next part of a program, or to graduation.

Associate supervisor

A person who is appointed in addition to the supervisor of a research student, who can provide the day-to-day contact with the candidate or provide particular expertise or additional experience in supervision. (See also Advisor, Instrumental supervisor/teacher, Research supervisor, Supervision.)

Assumed knowledge

For some units of study, a student is assumed to have passed a relevant subject at the HSC and this is called assumed knowledge. While students are generally advised against taking a unit of study for which they do not have the assumed knowledge, they are not prevented from enrolling in the unit of study.

(See also Prerequisite.)

Attendance pattern

Attendance pattern is classified as full-time, part-time or external. This is dependant on the student's mode of attendance and the student load.

Attendance mode

A Department of Education, Science and Technology (DEST) classification defining the manner in which a student is undertaking a course, i.e. internal, external, mixed or offshore.

Australian Qualifications Framework (AQF)

The framework for recognition and endorsement of qualifications established by the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA).

AUSTUDY

Provides financial help to students who are 25 years old or over who meet the required criteria, and are undertaking an approved full-time course at an approved institution.

(See also Youth Allowance.)

Automated Results Transfer System (ARTS)

This system was developed by the Australasian Conference of Tertiary Admissions Centres (ACTAC) to allow the electronic academic record of a student to be accessed, via an admission centre, by tertiary institutions.

Award course

(See Course.)

B**Bachelor's degree**

The highest undergraduate award offered at the University. A bachelor's degree course normally requires three or four years of full-time study or the part-time equivalent.

(See also Award course.)

Barrier

An instruction placed on a student's record that prevents the student from re-enrolling or graduating.

(See also Deadlines (fees), Suppression of results.)

Board of Studies

An academic body which supervises a course or courses, and which is similar to a faculty except that it is headed by a chair rather than a dean and does not supervise PhD candidates.

Bursaries

Financial award made to a student, based primarily on need.

(See also Scholarships.)

C**Calendar**

The annual University publication which provides general and historical information about the University of Sydney, the statutes and regulations under which it operates and the Senate resolutions relating to constitutions and courses in each faculty.

Cadigal program

A program, named in recognition of the Aboriginal people of the land on which the University is located, designed to increase the successful participation of Aboriginal and Torres Strait Islander people in degree courses in all faculties at the University of Sydney.

Campus

The grounds on which the University is situated. There are 10 campuses of the University of Sydney:

- Burren Street (Institute of Transport Studies)
- Camperdown
- Darlington
- Camden (Agriculture and Veterinary Science)
- Conservatorium (Sydney Conservatorium of Music)
- Cumberland (Health Sciences)
- Mallett Street (Nursing)
- Rozelle (Sydney College of the Arts)
- St James (Law)
- Surry Hills (Dentistry)

Cancellation

Where enrolment is cancelled for non-payment of fees.

Candidature

Candidature commences when a student is admitted to a course of study leading to the award of a degree, diploma or certificate. There are maximum periods and in some cases minimum periods of candidature depending on the award course and whether the candidate is a full-time or part-time student.

Census date

The date at which a student's enrolment, load and HECS liability are finalised before this information is reported to DEST.

(See also Commonwealth-supported Student, HECS-HELP.)

Ceremony

(See Graduation ceremony.)

Chancellor

The non-executive head of the University. An honorary position, the Chancellor presides over meetings of the University's governing body, the Senate, and important ceremonial occasions such as graduations.

Clinical experience

Students undertake clinical placements in a professional environment as part of their course requirements. Many require University approved supervision. In order to undertake clinical placements a student may be required to fulfil additional requirements.

College of Health Sciences

Consists of the Faculties of Dentistry; Health Sciences; Medicine; Nursing; and Pharmacy.

College of Humanities and Social Sciences (CHASS)

Consists of the Faculties of Arts; Economics and Business; Education; Law; the Sydney College of the Arts; and the Sydney Conservatorium of Music.

College of Sciences and Technology (CST)

Consists of the Faculties of Agriculture, Food and Natural Resources; Architecture; Engineering; Rural Management; Science, and Veterinary Science.

Combined course

A course which leads to two awards. For example the Arts/Law course leads to the separate awards of Bachelor of Arts and Bachelor of Laws.

Combined degree

A single program with a single set of course resolutions leading to the award of two degrees (unless otherwise specified in the resolutions). (See also Combined course.)

Commencement date

The date a student commences candidature.

Commonwealth-supported student

Most of the students who study at the University of Sydney are Commonwealth supported. These students have most of the cost of their education paid by the government but must also contribute towards this cost themselves (their student contribution).

Compulsory subscriptions

Each enrolled student is liable to pay annual (or semester) subscriptions, as determined by the Senate, to the student organisations at the University. There are different organisations for undergraduate and postgraduate students, and these are specific to different campuses. The organisations at campuses other than Camperdown and Darlington include: the Conservatorium Student Association, the Cumberland Student Guild, the Orange Agricultural College Student Association and the Student Association of Sydney College of the Arts.

(See also Compulsory subscription exemption, Joining fee, Life membership.)

Compulsory subscription exemption

Students of a certain age or those with disabilities or medical conditions may be exempt from the subscription to the sports body. Conscientious objectors to the payment of subscriptions to unions of any kind may apply to the Registrar for exemption. The Registrar may permit such a student to make the payment to the Jean Foley Bursary Fund instead.

(See also Compulsory subscriptions.)

Confirmation of Enrolment form (COE)

This form is issued to each student after enrolment, showing the course and the units of study in which the student is enrolled, together with the credit point value of the units of study and the HECS weights. Until all fees are paid, it is issued provisionally. A new confirmation of enrolment form is produced every time a student's enrolment is varied.

Conjoint ventures

Two or more institutions cooperate to provide a unit or course of study to postgraduate coursework students. Arrangements exist between individual departments at the University of Sydney and individual departments at the University of New South Wales (UNSW) and the University of Technology Sydney (UTS), whereby students enrolled for a degree at one institution complete one or more units of study at the other institution to count towards the award program at their 'home' institution.

Continuing professional education

A process which provides a number of programs of continuing education courses for professionals as they move through their career. These programs are presently administered by the Centre for Continuing Education and a number of departments and foundations across the University. This process supports the whole of life learning concept and involves the maintenance of a long term relationship between the student and the University.

Convocation

The body comprising all graduates of the University.

Core unit of study

A unit of study that is compulsory for a particular course or subject area.

(See also Unit of study.)

Corequisite

A unit of study which must be taken in the same semester or year as a given unit of study (unless it has already been completed). These are determined by the faculty or board of studies concerned, published in the faculty handbook and shown in FlexSIS.

(See also Prerequisite, Waiver.)

Cotutelle Scheme

Agreement between the University and any overseas university for joint supervision and examination of a PhD student as part of an ongoing cooperative research collaboration. If successful, the student receives a doctorate from both universities with each testamur acknowledging the circumstances under which the award was made.

Course

An undertaking of study at the University of Sydney.

Award course

A formal course of study that will see attainment of a recognised award. Award courses are approved by Senate, on the recommendation of the Academic Board. The University broadly classifies courses as undergraduate, postgraduate coursework or postgraduate research.

(See also Bachelor's degree, Course rules, Diploma, Doctorate, Major, Master's degree, Minor, PhD, Stream.)

Non-award course

Studies undertaken by students who are not seeking an award from the University.

(See also Cross-institutional enrolment.)

Coursework

An award course not designated as a research award course. While the program of study in a coursework award course may include a component of original, supervised, other forms of instruction and learning normally will be dominant.

Research

A course in which at least 66 per cent of the overall course requirements involve students in undertaking supervised research, leading to the production of a thesis or other piece of written or creative work, over a prescribed period of time.

Course alias

A unique five character alpha-numeric code which identifies a University course.

Course code

(See Course alias.)

Course enrolment status

A student's enrolment status in a course is either 'enrolled' or 'not enrolled'. 'Not enrolled' reasons include: cancelled; suspended; under examination; or terminated.

(See also Cancellation, Candidature, Course leave, Enrolment, Enrolment variation, Terminated, Under examination.)

Course leave

Students are permitted to apply for a period away from their course without losing their place. Course leave is formally approved by the supervising faculty for a minimum of one semester. Students on leave are regarded as having an active candidature, but they are not entitled to a student card. At undergraduate level, leave is not counted towards the total length of the course. Students who are absent from study without approved leave may be discontinued and may be required to formally reapply for admission.

(See also Progression.)

Course rules

Rules which govern the allowable enrolment of a student in a course. Course rules may be expressed in terms of types of units of study taken, length of study, and credit points accumulated, e.g. a candidate may not enrol in units of study having a total value of more than 32 credit points per semester. Course rules also govern the requirements for the award of the course, e.g. a candidate must have completed a minimum of 144 credit points.

(See also Award course, Corequisite, Prerequisite.)

Course suspension

(See Course leave.)

Course transfer

A transfer occurs when a student changes from one course in the University to another course in the University without the requirement for an application and selection process (e.g. from a PhD to a master's program in the same faculty).

Credit

The recognition of previous studies successfully completed at this University, or another university or tertiary institution recognised by the University of Sydney, as contributing to the requirements of the course to which the applicant requesting such recognition has been admitted. It may be granted as specified credit or non-specified credit.

Specified credit

The recognition of previously completed studies as directly equivalent to units of study.

Non-specified credit

A 'block credit' for a specified number of credit points at a particular level. These credit points may be in a particular subject area but are not linked to a specific unit of study.

(See also AAM – Annual average mark, Waiver, Weighted average mark (WAM).)

Credit points

The value of the contribution each unit of study provides towards meeting course completion requirements. Each unit of study will have a credit point value assigned to it. The total number of credit points required for completion of award courses will be specified in the Senate Resolutions relevant to the award course.

Cross-institutional enrolment

An enrolment in units of study at one university to count towards an award course at another university. Cross-institutional enrolments incur a student-contribution liability (see Commonwealth-supported student) or tuition fee charge at the institution at which the unit of study is being undertaken.

(See also Non-award course).

D**Data Audit Committee (DAC)**

The Data Audit Committee's role is to oversee the integrity and accuracy of the course and unit of study data as strategic University data. It also advises the Academic Board on suggested policy changes related to course and unit of study data. A subcommittee of the VCAC Enrolment Working Party, it is chaired by the Registrar, with membership including the deans, the Student Centre, FlexSIS and the Planning Support Office.

Deadlines (Enrolment variations)

(See Enrolment variation.)

Deadlines (Fees)

The University has deadlines for the payment of fees (e.g. HECS, compulsory subscriptions, course fees). Students who do not pay fees by these deadlines may have their enrolment cancelled or they may have a barrier placed on the release of their record.

(See also Barrier, Cancellation.)

Dean

The head of a faculty, or the principal or director of a college (such as the Sydney Conservatorium of Music or the Sydney College of Arts).

Dean's certificate

A statement from the Dean certifying that all requirements, including fieldwork and practical work, have been met and that the student is eligible to graduate. Not all faculties use Dean's Certificates. In faculties that do, qualified students have 'Dean's Certificate' noted on their academic record.

Deferment (Deferral)

(See Admission (deferment), Course leave.)

Degree

(See also Award course, Bachelor's degree.)

Delivery mode

Indicates how students receive the instruction for a unit of study. The delivery mode must be recorded for each unit as distinct from the attendance mode of the student, i.e. an internal student may take one or more units by distance mode and an external student may attend campus for one or more units.

Distance education

Where subject matter is delivered in a more flexible manner, such as correspondence notes, and student may only attend campus if required.

(See also Extended semester, Distance education, International – off shore.)

Intensive on campus

Core content is delivered with support learning in an intensive (one or more days) format on campus. Participation is usually compulsory. Previously this may have been called residential, block mode, or weekend workshop.

On campus (normal)

Attendance of scheduled lectures, tutorials etc at a campus of the University.

Department

(See School.)

Department of Education, Science and Training (DEST)

The Commonwealth Government department responsible for higher education.

Differential HECS

(See Higher Education Contribution Scheme (HECS).)

Diploma

The award granted following successful completion of diploma course requirements. A diploma course usually requires less study than a degree course.

(See also Award course.)

Direct admissions

For some courses, applications may be made directly to the University. Applications are received by faculties or the International Office, and considered by the relevant department or faculty body. Decisions are recorded and letters are forwarded to applicants advising them of the outcome.

(See also Admission, UAC.)

Disability information

Students may inform the University of any temporary or permanent disability which affects their life as a student. Disability information is recorded but it is only available to particular authorised users because of its sensitive nature.

Disciplinary action

Undertaken as the result of academic or other misconduct, e.g. plagiarism, cheating, security infringement, criminal activity.

Discipline

A defined area of study, for example, chemistry, physics, economics.

Discipline group

A DEST code used to classify units of study in terms of the subject matter being taught or being researched.

Discontinuation (course)

(See Enrolment variation.)

Discontinuation (unit of study)

(See Enrolment variation.)

Dissertation

A written exposition of a topic which may include original argument substantiated by reference to acknowledged authorities. It is a required unit of study for some postgraduate award courses in the faculties of Architecture and Law.

Distance education

Where a student does not attend campus on a daily basis for a given course or unit of study.

(See also Delivery mode, Extended semester.)

Doctorate

A high-level postgraduate award. A doctorate course normally involves research and coursework; the candidate submits a thesis that is an original contribution to the field of study. Entry to a doctorate course often requires completion of a master's degree course. Note that the doctorate course is not available in all departments at the University. (See also Award course, PhD.)

Domestic Student

A student who is not an international student.

(See also Local student.)

Double degree

A double degree is a program where students are permitted by participating faculties (and/or by specific resolutions within a single award) to transfer between courses in order to complete two awards.

Downgrade

Where a student enrolled in a PhD reverts to a master's by research, either on the recommendation of the University on the basis that the

research they are undertaking is not at an appropriate level for a PhD; or at the student's own request, for personal or academic reasons.

E**Equivalent full-time student unit (EFTSU)**

The equivalent full-time student unit (EFTSU) is a measure of student load based on the workload for a student undertaking a full year of study in a particular course. A student is then recorded as having generated one EFTSU.

(See also Load, Stage.)

Equivalent full-time student load (EFTSL)

The equivalent full-time student load (EFTSL) for a year. It is a measure, in respect of a course of study, of the study load for a year of a student undertaking that course of study on a full-time basis (effective 1 January 2005).

Embedded courses

Award courses in the graduate certificate, graduate diploma and master's degree by coursework sequence which allow unit of study credit points to count in more than one of the awards, e.g. the Graduate Certificate in Information Technology, Graduate Diploma in Information Technology and Master of Information Technology.

Enrolment

A student enrolls in a course by registering with the supervising faculty in the units of study to be taken in the coming year, semester or session.

Commencing

An enrolment is classified as commencing if a student has enrolled in a particular degree or diploma for the first time.

Continuing

Students already in a course at the University re-enrol each year or semester. Most continuing students are required to pre-enrol.

(See also Pre-enrolment.)

Enrolment list

A list of all currently enrolled students in a particular unit of study.

(See also Unit of study.)

Enrolment status

(See Course enrolment status.)

Enrolment Variation

Students may vary their enrolment at the beginning of each semester. Each faculty determines its deadlines for variations, but HECS liability depends on the HECS census date.

(See also HECS.)

Examination

A set of questions or exercises evaluating on a given subject given by a department or faculty.

(See Examination period, Assessment.)

Examination period

The time set each semester for the conduct of formal examinations.

Examiner (Coursework)

The person assessing either the written/oral examination, coursework assignments, presentations, etc of a student or group of students.

Exchange student

Either a student of the University of Sydney who is participating in a formally agreed program involving study at an overseas university or an overseas student who is studying here on the same basis. The International Office provides administrative support for some exchanges.

Exclusion

A faculty may ask a student whose academic progress is considered to be unsatisfactory to 'show good cause' why the student should be allowed to re-enrol. If the faculty deems the student's explanation unsatisfactory, or if the student does not provide an explanation, the student may be excluded either from a unit of study or from a course or faculty. An excluded student may apply to the faculty for permission to re-enrol. Normally, at least two years must have elapsed before such an application would be considered.

University policy relating to exclusion is set out in the University Calendar.

(See also Progression, Senate appeals.)

Exemption

A decision made at a sub-unit of study level to allow a student to complete a unit of study without also completing all the prescribed components of coursework and/or assessment.

(See also Credit, Waiver.)

Expulsion

The ultimate penalty of disciplinary action is to expel the student from the University. The effect of expulsion is:

- the student is not allowed to be admitted or to re-enrol in any course at the University;
- the student does not receive their results;
- the student is not allowed to graduate; and
- the student does not receive a transcript or testamur.

Extended semester

A distance-learning student may be allowed more time to complete a module or program if circumstances beyond the student's control, e.g. drought, flood or illness, affect the student's ability to complete the module or program in the specified time.

(See also Distance education.)

External

(See Attendance mode, Distance education.)

External transcript

A certified statement of a student's academic record printed on official University security paper. It includes the student's name, any credit granted, all courses the student was enrolled in and the final course result and all units of study attempted within each course together with the result. It also acknowledges prizes the student has received. Marks can be included or omitted, as required.

(See also Academic transcript, Internal transcript.)

F**Faculty**

A formal part of the University's academic governance structure, consisting mainly of academic staff members and headed by a dean, which is responsible for all matters concerning the award courses that it supervises. Usually, a faculty office administers the faculty and student or staff inquiries related to its courses. The University Calendar sets out the constitution of each of the University's faculties.

(See also Board of Studies, Supervising faculty.)

Faculty handbook

The annual University publication for each faculty which provided detailed information about the faculty and its courses.

FEE-HELP Loan

Fee-paying students who are Australian citizens or holders of a Permanent Humanitarian Visa can gain assistance in paying their fees through the Commonwealth Government's FEE-HELP program. There is a \$50,000 limit to the amount students can borrow and a 20 per cent loan fee on the amounts borrowed through FEE-HELP.

Fee-paying students

Students who pay tuition fees to the University and are not liable for HECS.

Fellows of Senate

Members of the governing body of the University.

Flexible learning

(See Delivery mode, Distance education.)

Flexible start date

Full fee-paying distance students are not restricted to the same enrolment time frames as campus-based or HECS students.

Flexible Student Information System (FlexSIS)

The computer-based Flexible Student Information System at the University of Sydney.

FlexSIS holds details of courses and units of study being offered by the University and the complete academic records of all students enrolled at the University.

Formative assessment

(See Assessment.)

Full-time student

(See also Attendance pattern, EFTSU.)

G**Grade**

The outcome for a unit of study linked with a mark range. For example, a mark in the range 85–100 attracts the grade 'high distinction' ('HD'). (See also Mark.)

Grade	Description	Comment
HD	High distinction	A mark of 85–100.
D	Distinction	A mark of 75–84.
CR	Credit	A mark of 65–74.
P	Pass	A mark of 50–64.
R	Satisfied requirements	This is used in pass/fail only outcomes.
UCN	Unit of study continuing	Used at the end of semester for units of study that have been approved to extend into a following semester. This will automatically flag that no final result is required until the end of the last semester of the unit of study.
PCON	Pass (concessional)	A mark of 46–49. Use of this grade is restricted to those courses that allow for a concessional pass of some kind to be awarded. A student may re-enrol in a unit of study for which the result was PCON. Each faculty will determine and state in its course regulations what proportion, if any, may count – e.g. "no more than one sixth of the total credit points for a course can be made up from PCON results".
F	Fail	A mark of 0–49. This grade may be used for students with marks of 46–49 in those faculties which do not use PCON.
AF	Absent fail	Includes non-submission of compulsory work (or non-attendance at compulsory labs, etc) as well as failure to attend an examination.
W	Withdrawn	Not recorded on an external transcript. This is the result that obtains where a student applies to discontinue a unit of study by the HECS census date (i.e. within the first four weeks of enrolment).
DNF	Discontinued not to count as failure	Recorded on external transcript. This result applies automatically where a student discontinues after the HECS census date but before the end of the seventh week of the semester (or before half of the unit of study has run, in the case of units of study which are not semester-length). A faculty may determine that the result of DNF is warranted after this date if the student has made out a special case based on illness or misadventure.

Grade	Description	Comment
INC	Incomplete	This result is used when examiners have grounds (such as illness or misadventure) for seeking further information or for considering additional work from the student before confirming the final result. Except in special cases approved by the Academic Board, this result will be converted to a normal permanent passing or failing grade either: by the dean at the review of examination results conducted pursuant to section 2(4) of the Academic Board policy 'Examinations and Assessment Procedures'; or automatically to an AF grade by the third week of the immediately subsequent academic session. Deans are authorised to approve the extension of a MINC grade for individual students having a valid reason for their incomplete status.
UCN	Incomplete	A MINC or INC grade is converted, on the advice of the dean, to UCN when all or many students in a unit of study have not completed the requirements of the unit. The students may be engaged in practical or clinical placements, or in programs extending beyond the end of semester (e.g. honours).

Graduand

A student who has completed all the requirements for an award course but has not yet graduated.

(See also Graduation, Potential graduand.)

Graduate

A person who holds an award from a recognised tertiary institution.

(See also Graduand, Graduation.)

Graduate Certificate

(See Award course.)

Graduate Diploma

(See Award course.)

Graduate entry degree

A bachelor's, or undergraduate degree, that requires another undergraduate degree as a prerequisite of entry. Examples of graduate entry degrees at the University of Sydney include: the Medical Program; Graduate Law and the Bachelor of Dentistry.

Graduation

The formal conferring of awards either at a ceremony or in absentia.

(See also In absentia, Potential graduand.)

Graduation ceremony

A ceremony where the Chancellor confers awards upon graduands.

Group work

Means a formally established project to be conducted by a number of students in common, resulting in a single piece of assessment or a number of associated pieces of assessment.

(See also Legitimate cooperation.)

Grand Weighted Average Mark (GWAM)

Is the WAM calculated over all units of study undertaken in a degree course (except those "Discontinued – Not to count as failure" and those with only a "Satisfied Requirements" result), weighted according to credit point value and the year-levels (1, 2, 3 or 4) of the units of study. The GWAM may be expressed as:

$$GWAM = \frac{\sum (Mark \times Credit Points \times Year)}{\sum (Credit Points \times Year)}$$

H**Handbook**

(See Faculty handbook.)

Head of department (HOD)

The head of the academic unit which has responsibility for the relevant unit of study, or equivalent program leader.

Higher doctorates

(See Award course.)

HECS (Higher Education Contribution Scheme)

Higher Education Contribution Scheme (HECS)

The Higher Education Contribution Scheme (HECS) was the previous Commonwealth Government student loan scheme. It ceased to operate on 1 January 2005 and was replaced by HECS-HELP (see below).

HECS-HELP Loan

Commonwealth supported students who are Australian citizens or holders of a Permanent Humanitarian Visa can choose to pay their contributions upfront or to obtain a HECS-HELP loan from the Commonwealth. A HECS-HELP loan is repaid through the tax system once the student is working and their income reaches a threshold (currently around \$35,000). Students who choose to pay their student contribution upfront receive a 20 per cent discount. The student's contribution is calculated twice a year (before each semester).

Honorary degrees

A degree *honoris causa* (translated from the Latin as 'for the purpose of honouring') is conferred on a person whom the University wishes to honour. Long-standing full-time members of the University's academic staff who are not graduates of the University may be considered by Senate, upon their retirement, for admission *ad eundem* gradum, to an appropriate degree of the University.

Honours

Some degrees may be completed 'with Honours'. This may involve either the completion of a separate honours year or additional work in the later years of the course or meritorious achievement over all years of the course. Honours are awarded in a class (Class I, Class II – which may have two divisions or, Class III).

NSW Higher School Certificate (HSC)

The NSW Higher School Certificate (HSC), which is normally completed at the end of year 12 of secondary school. The UAI (Universities Admission Index) is a rank out of 100 that is computed from a student's performance in the HSC.

I**In absentia**

Latin for 'in the absence of'. Awards are conferred in absentia when graduands do not, or cannot, attend the graduation ceremony scheduled for them. Those who have graduated in absentia may later request that they be presented to the Chancellor at a graduation ceremony.

(See also Graduation.)

Instrumental supervisor/teacher

All students at the Sydney Conservatorium of Music and BMus students on the Camperdown Campus have an instrumental teacher appointed.

(See also Advisor, Associate supervisor, Research supervisor, Supervision.)

Internal mode

(See Attendance mode.)

Internal transcript

A record of a student's academic record for the University's own internal use. It includes the student's name, student identifier (SID), address, all courses in which the student was enrolled and the final course result, and all units of study attempted within each course together with the unit of study result.

(See also Academic transcript, External transcript.)

International student

Any student who is not an Australian or New Zealand citizen or a permanent resident of Australia is an international student. An

international student is required to hold a visa that allows study in Australia and may be liable for international tuition fees.

Fee-paying

A private International Student who is liable to pay tuition fees for their studies with the University.

Fee-paying – Outgoing exchange

An international fee-paying student undertaking short term study at a recognised overseas institution with which the University has a student exchange agreement. Exchange study counts towards the student's University of Sydney award and students remain enrolled in their University of Sydney course during the period of exchange.

International – cross-institutional

An international fee paying student undertaking non-award study at the University on a cross-institutional basis. They are liable to pay fees for the study they undertake at the University, but there is no compliance reporting requirement, which rests with their 'home' institution.

International – Sponsored

A private international student who is fully sponsored for his/her tuition; his/her sponsorship may also cover Overseas Health Cover and Compulsory Subscriptions.

Offshore studies

International offshore students undertake their program of study at one of the University's offshore campuses and hence do not enter Australia; therefore they do not require a visa. They are distinct from international students who are on outbound exchange programs as they never enter Australia during their program of study.

Short course

An international fee-paying student undertaking a short course with the University of Sydney comprising such programs as international development programs, executive training or study visits. The study undertaken by these students is non-award and generally a student visa is not required.

Sponsored award

An international student sponsored by the Australian government, undertaking a program of study at the University. Currently Australian Development Scholarships holders, funded by AusAID, are the only students in this category. These students are fully sponsored for their tuition and other costs such as travel and health cover, and are paid a stipend.

Study Abroad

An international student who is undertaking short-term study at the University under the Study Abroad scheme. Study Abroad students must have completed at least one year of study towards a degree at a recognised institution in their home country and are continuing towards the degree of their home institution.
(See also Local student, Student type.)

J

Joining fee

Students enrolling for the first time pay a joining fee in addition to the standard subscription for the University of Sydney Union or equivalent student organisation.

(See also Compulsory subscription.)

L

Learning Entitlement

Each student has a seven year full-time period during which they can remain Commonwealth supported. This seven year period is called their 'learning entitlement'.

Leave

(See Course leave.)

Legitimate cooperation

Any constructive educational and intellectual practice that aims to facilitate optimal learning outcomes through interaction between students.

(See also Group work.)

Life membership

Under some circumstances (e.g. after five full-time years of enrolments and contributions) students may be granted life membership of various organisations. This means they are exempt from paying yearly fees.

(See also Compulsory subscriptions.)

Load

The sum of the weights of all the units of study in which a student is enrolled. The weight is determined by the proportion of a full year's work represented by the unit of study in the degree or diploma for which the student is a candidate. Student load is measured in terms of Equivalent full-time student units (EFTSU).

(See also Equivalent full-time student units (EFTSU).)

Local Student

Either an Australian or New Zealand citizen or Australian permanent resident. New Zealand citizens are required to pay their Higher Education Contribution Scheme (HECS) fees upfront.

(See also Commonwealth-supported student, Domestic student, International student.)

M

Major

A field of study, chosen by a student, to represent their principal interest. This would consist of specified units of study from later stages of the award course. Students select and transfer between majors by virtue of their selection of units of study. One or more majors may be awarded upon the graduand's assessment of study.

(See also Award course, Minor, Stream.)

Major timetable clash

The term used when a student attempts to enrol in units of study which have so much overlap in the teaching times that it has been decided that students must not enrol in the units simultaneously.

Mark

An integer (rounded if necessary) from 0 to 100 indicating a student's performance in a unit of study.

(See also Grade.)

Master's degree

A postgraduate award. Master's degree courses may be offered by coursework, research only or a combination of coursework and research. Entry to the course often requires completion of an honours year at an undergraduate level.

(See also Award course.)

Method of candidature

A course is either a research course or a coursework course and so the methods of candidature are 'research' and 'coursework'.

(See also Course – Coursework, Course – Research.)

Minor

Studies undertaken to support a Major. Requiring a smaller number of credit points than a major students select and transfer between minors (and majors) by virtue of their selection of units of study. One or more minors may be awarded upon the graduand's assessment of study.

(See also Award course, Major, Stream.)

Mixed mode

(See Attendance mode.)

MPhil

The Master of Philosophy (MPhil) is a master's by research degree offered by some (but not all) of the University's faculties.

(See also Award course, Master's degree.)

Mutually exclusive units of study

(See Prohibited combinations of units of study.)

MyUni

The University of Sydney's student portal system. It provides students with access to information about the University and its courses, including access to email, library services, student support services, student self-administration and e-learning software such as Blackboard and WebCT.

N**Non-award course**

(See Course.)

Non-standard session

A teaching session other than the standard February and August sessions – e.g. Summer School, in which units of study are delivered and assessed in an intensive mode during January.

(See also Semester, Session.)

O**Orientation Week**

Orientation or 'O Week', takes place in the week before lectures begin in Semester One. During O Week, students can join various clubs, societies and organisations, register for courses with departments and take part in activities provided by the University of Sydney Union.

P**Part-time student**

(See Attendance mode, Attendance pattern, Equivalent full-time student units (EFTSU).)

Permanent home address

The address used for all official University correspondence with a student, both inside and outside of semester time (e.g. during semester breaks), unless the student provides a different overridden by semester address for use during the semester.

(See also Semester address.)

PhD

The Doctor of Philosophy (PhD) and other doctorate awards are the highest awards available at the University. A PhD course is normally purely research-based; the candidate submits a thesis that is an original contribution to the field of study.

(See also Award course, Doctorate.)

Plagiarism

Presenting another person's ideas, findings or work as one's own by copying or reproducing them without the acknowledgement of the source.

(See also Academic dishonesty.)

Postgraduate

A term used to describe a course leading to an award such as graduate diploma, a master's degree or PhD which usually requires prior completion of a relevant undergraduate degree (or diploma) course. A 'postgraduate' is a student enrolled in such a course.

(See also Course – Coursework, Course – Research.)

Postgraduate Education Loans Scheme (PELS)

An interest-free loans facility for eligible students who are enrolled in fee-paying, postgraduate non-research courses. It is similar to the deferred payment arrangements available under the Higher Education Contribution Scheme (HECS). This scheme was replaced by the FEE-HELP scheme on 1 January 2005.

(See FEE-HELP Loan.)

Potential graduand

A student who has been identified as being eligible to graduate on the satisfactory completion of their current studies.

(See also Graduand, Graduation.)

Pre-enrolment

Pre-enrolment – also known as provisional re-enrolment – takes place in October, when students indicate their choice of unit of study enrolment for the following year. After results are approved, pre-enrolment students are regarded as enrolled in those units of study for which they are qualified. Their status is 'enrolled' and remains so provided they pay any money owing and comply with other requirements by the due date. Students who do not successfully pre-enrol in their units of study for the next regular session are required to attend the University on set dates during the January/February enrolment period.

(See also Enrolment.)

Prerequisite

A unit of study that is required to be successfully completed before another unit of study can be attempted. Prerequisites can be mandatory (compulsory) or advisory.

(See also Assumed knowledge, Corequisite, Waiver, Qualifier.)

Prizes

Awarded in recognition of outstanding performance, academic achievement or service to the community or University.

Probationary candidature

A student who is enrolled in a postgraduate course on probation for a period of time up to one year. The head of department is required to consider the candidate's progress during the period of probation and make a recommendation for normal candidature or otherwise to the faculty.

Professional practice

Students undertake placement in a professional practice as a part of their course requirements. May require University approved supervision. Professional placements are located in a wide range of professional practices environments, and may not require additional criteria to be fulfilled.

Progression

Satisfactory progression is satisfying all course and faculty rules (normally assessed on an annual basis) to enable the completion of the chosen award within the (maximum) completion time allowed.

(See also Exclusion.)

Prohibited combinations of units of study

When two or more units of study contain a sufficient overlap of content, enrolment in any one such unit prohibits enrolment in any other identified unit.

(See also unit of study.)

Provisional re-enrolment

(See Pre-enrolment.)

Q**Qualification**

An academic attainment recognised by the University.

Qualifier

A mandatory (compulsory) prerequisite unit of study which must have a grade of pass or better.

(See also Assumed knowledge, Corequisite, Prerequisite, Waiver.)

R**Recycling**

The submission for assessment of one's own work, or of work which substantially the same, which has previously been counted towards the satisfactory completion of another unit of study, and credited towards a university degree, and where the examiner has not been informed that the student has already received credit for that work.

Registration

In addition to enrolling with the faculty in units of study, students must register with the department responsible for teaching each unit. This is normally done during Orientation Week. Note that unlike enrolment, registration is not a formal record of units attempted by the student.

Research course

(See Course – Research.)

Research supervisor

A supervisor is appointed to each student undertaking a research postgraduate degree. The supervisor will be a full-time member of the academic staff or a person external to the University recognised for their association with the clinical teaching or the research work of the University. A research supervisor is commonly referred to as a supervisor.

(See also Advisor, Associate supervisor, Instrumental supervisor/teacher, Supervision.)

Result processing

Refers to the processing of assessment results for units of study. For each unit of study, departments tabulate results for all assessment activities and assign preliminary results.

(See also Assessment, Formative assessment, Examination period, Summative assessment.)

Result processing schedule

The result processing schedule will be determined for each academic cycle. All departments and faculties are expected to comply with this schedule.

(See also Assessment, Examination period, Result processing.)

Result

The official statement of a student's performance in each unit of study attempted as recorded on the academic transcript, usually expressed as a mark and grade.

(See also Grade, Mark.)

Research Training Scheme (RTS)

The RTS provides Commonwealth-funded higher degree by research (HDR) students with an 'entitlement' to a HECS exemption for the duration of an accredited HDR course, up to a maximum period of four years full-time equivalent study for a doctorate by research and two years full-time equivalent study for a master's by research.

S**Scholarships**

Financial or other form of support made available to enable students to further their studies. (See also Bursaries.)

School

A school or academic unit shall encourage and facilitate teaching, scholarship and research and coordinate the teaching and examining duties of members of staff in the subjects or courses of study with which it is concerned.

Semester

A half-yearly teaching session whose dates are determined by the Academic Board. Normally all undergraduate sessions will conform to the semesters approved by the Academic Board. Any offering of an undergraduate unit not conforming to the semester dates (non-standard session) must be given special permission by the Academic Board.

(See also Session, Non-standard session.)

Semester address

The address to which all official University correspondence is sent during semester time, if it is different to the permanent address.

Senate

The governing body of the University.

(See the University Calendar for more details of its charter and powers.)

Senate appeals

Senate appeals are held for those students who, after being excluded by a faculty from a course, appeal to the Senate for readmission. While any student may appeal to the Senate against an academic decision, such an appeal will normally be heard only after the student has exhausted all other avenues, i.e. the department, faculty, board of study and, in the case of postgraduates, the Committee for Graduate Studies.

(See also Exclusion.)

Session

Any period of time during which a unit of study is taught. A session differs from a semester in that it need not be a six-month teaching period, but it cannot be longer than six months. Each session maps to either Semester One or Two for DEST reporting purposes. Session offerings are approved by the relevant dean, taking into account all the necessary resources, including teaching space and staffing. The Academic Board must approve variation to the normal session pattern. (See also Semester, Non-standard teaching period.)

Session address

(See Semester address.)

Short course

A fee paying student undertaking a short course with the University of Sydney comprising professional development, executive training etc. The study undertaken by these students is a non-award course.

Show cause

(See Progression, Exclusion.)

Special consideration

Candidates who suffer serious illness or misadventure which may affect performance in any assessment, may request that they be given special consideration in relation to the determination of their results.

Sponsorship

Financial support of a student by a company or government body.

Stage

A normal full-time course of study taken in a year.

(See also Course rules, EFTSU, Progression.)

Stream

A defined award course, which requires the completion of set units of study as specified by the course rules for the particular stream, in addition to the core program specified by the course rules. A stream will appear with the award course name on testamurs, e.g. Bachelor of Engineering in Civil Engineering (Construction Management).

(See also Award course, Major, Minor.)

Student

Student means a person enrolled as a candidate for an award course or unit of study.

Student identifier (SID)

A nine-digit number which uniquely identifies a student at the University.

Student ID Card

All students who enrol are issued with an identification card. The card includes the student's name, SID, the course code, a library borrower's bar code and a passport-style photo. The card identifies the student as eligible to attend classes and must be displayed at formal examinations. It must be presented to secure student concessions and to borrow books from all sections of the University Library.

Student progress rate (SPR)

A calculation which measures the rate at which load undertaken is passed annually in each award program.

Student type

Student type identifies whether a student is local or international and the type of study the student is undertaking.

(See also International student, Domestic student, Exchange student.)

Study Abroad program

A scheme administered by the International Office which allows international students who are not part of an exchange program to take units of study at the University of Sydney, but not towards an award program. In most cases the units of study taken here are credited towards an award at their home institution. (See also Exchange student.)

Subject area

A unit of study may be associated with one or more subject areas. The subject area can be used to define prerequisite and course rules, e.g. the unit of study 'History of Momoyama and Edo Art' may count towards the requirements for the subject areas 'Art History and Theory' and 'Asian Studies'.

Summative assessment

(See Assessment.)

Summer School

(See Sydney Summer School.)

Supervising faculty

The faculty which has the responsibility for managing the academic administration of a particular course, i.e. the interpretation and administration of course rules, approving students' enrolments and variations to enrolments. Normally the supervising faculty is the faculty offering the course.

However, in the case of combined courses, one of the two faculties involved will usually be designated the supervising faculty. Further, in the case where one course is jointly offered by two or more faculties (e.g. the Liberal Studies course), a joint committee may make academic decisions about candidature and the student may be assigned a supervising faculty for administration.

Supervision

Refers to a one-to-one relationship between a student and a nominated member of the academic staff or a person specifically appointed to the role.

(See also Advisor, Associate supervisor, Instrumental supervisor/teacher, Research supervisor.)

Suppression of results

Results for a particular student can be suppressed by the University when the student has an outstanding debt to the University; or the student is facing disciplinary action. A student may also request a suppression for personal reasons.

Suspension

(See Course leave.)

Sydney Summer School

A program of accelerated, intensive study running for approximately six weeks during January and February each year. Both undergraduate and postgraduate units are offered. Summer School provides an opportunity for students at Sydney and other universities to catch up on needed units of study, to accelerate completion of a course or to undertake a unit that is outside their award course.

All units attract full fees and enrolled students are also liable for compulsory subscriptions. Some fee-waiver scholarships are available.

Semester Weighted Average Mark (SWAM)

Is the WAM calculated over all units of study undertaken in a semester (except those 'Discontinued – Not to count as failure' and those with only a 'Satisfied Requirements' result), weighted according to credit point value. The SWAM may be expressed as:

$$SWAM = \frac{\sum (Mark \times Credit\ points)}{\sum (Credit\ points)}$$

T**Teaching department**

(See School.)

Teaching end date

Official finish date of formal timetabled classes.

Teaching start date

Official commencement date of formal timetabled classes.

Terminated

Term used when a student's candidature has been officially closed because they are not able to complete the Course requirements. (See also Candidature.)

Testamur

A certificate of award provided to a graduand, usually at a graduation ceremony. The Award conferred will be displayed along with other appropriate detail.

Thesis

A major work that is the product of an extended period of supervised independent research. (See also Course – Research.)

Timetable

The schedule of lectures, tutorials, laboratories and other academic activities that a student must attend.

Transcript

(See Academic transcript.)

Transfer

(See Course transfer.)

Tuition fees

Tuition fees may be charged to students in designated tuition fee-paying courses. Students who pay fees are not liable for HECS.

U**Universities Admissions Centre (UAC)**

The UAC receives and processes applications for admission to undergraduate courses at recognised universities in NSW and the ACT. Most commencing, local undergraduate students at the University apply through the UAC.

Universities Admission Index (UAI)

A measure of overall academic achievement in the HSC that assists universities in ranking applicants for university selection. The UAI is based on the aggregate of scaled marks in ten units of the HSC, and is a number between 0.00 and 100.00 with increments of 0.05.

Under examination

Indicates that a research student has submitted their written work (thesis) for assessment, and is awaiting the finalisation of the examiners' outcome and recommendation.

Undergraduate

A term used to describe both a course leading to a diploma or bachelor's degree and a student enrolled in such a course.

Unit of study

Unit of study or unit means a stand-alone component of an award course. Each unit of study is the responsibility of a department. (See also Prohibited combinations of unit of study.)

Unit of study enrolment status

The enrolment status indicates whether the student is still actively attending the unit of study (i.e. currently enrolled) or is no longer enrolled.

(See also Discontinuation or Cancellation.)

Unit of study level

Units of study are divided into Junior, Intermediate, Senior, Honours, Year 5, and Year 6. Most majors consist of 32 Senior credit points in a subject area (either 3000 level units of study or a mix of 2000 and 3000 level units of study).

University

Unless otherwise indicated, University in this document refers to the University of Sydney.

University Medal

A faculty may recommend the award of a University Medal to a student qualified for the award of an undergraduate honours degree (or some master's degrees), whose academic performance is judged to be outstanding.

Upgrade

Where a student enrolled in a master's by research course is undertaking research at such a standard that either the University recommends that the student upgrade their degree to a PhD, or the student seeks to upgrade to a PhD and this is supported by the University.

USYDnet

The University of Sydney's intranet system. It provides access to other services such as directories (maps, staff and student, organisations), a calendar of events (to which staff and students can submit entries), and a software download area.

V**Variation of enrolment**

(See Enrolment variation.)

Vice-Chancellor and Principal

The chief executive officer of the University, responsible for its leadership and management. The Vice-Chancellor and Principal is head of both academic and administrative divisions.

W**Waiver**

In a prescribed course, a faculty may waive the prerequisite or corequisite requirement for a unit of study or the course rules for a particular student. Unlike credit, waivers do not involve a reduction in the number of credit points required for a course. (See also Credit, Exemption.)

Winter School

An intensive session offered by the University during the mid-year break.

Weighted average mark (WAM)

This mark uses the unit of study credit point value in conjunction with an agreed 'weight'. The formula for this calculation is:

$$WAM = \frac{\sum (W_c \times M_c)}{\sum (W_c)}$$

Where W_c is the weighted credit point value – i.e. the product of the credit point value and the level of weighting of 1, 2, 3, or 4 for a first, second, third or fourth year unit of study respectively; and where M_c is the greater of 45 or the mark out of 100 for the unit of study.

The mark is the actual mark obtained by the student for the unit of study, or in the case of a failing grade with no mark – 0. Pass/fail assessed subjects and credit transfer subjects (from another institution) are excluded from these calculations; however, the marks from all attempts at a unit of study are included. (Effective from 1 January 2004.)

In addition, faculties may adopt other average mark formulae for specific progression or entry requirements. If such a formula is not specified in the faculty resolutions, the formula outlined above is used. (See also WAM weight.)

WAM weight

A weight assigned to each unit of study to assist in the calculation of WAMs.

Y**Year of first enrolment (YFE)**

The year in which a student first enrolls at the University. (See also Commencement date.)

Youth Allowance

Youth Allowance is payable to a full-time student or trainee aged 16–24 years of age who is enrolled at an approved institution such as a school, college, TAFE or university, and undertaking at least 15 hours a week face-to-face contact.

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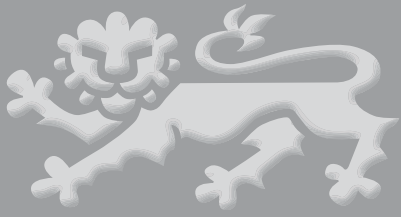
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Quick links:

www.facilities.usyd.edu.au/maps/index.shtml

Campuses

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The University of Sydney

Camperdown and Darlington campuses



For further assistance please contact the Information Centre 9351 3106
 Campus Property and Services - March 2006

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 J4 Anderson Stuart Building
 G3 Badham Building
 H3 Bank Building
 L2 Baxter's Lodge
 L8 Biochemistry and Microbiology Building
 E6 Blackburn Building
 E7 Bosch Building 1A
 E7 Bosch Building 1B
 H3 Brennan MacCallum Building
 E6 Bruce Williams Pavilion
 L6 Carslaw Building
 F4 Chaplaincy
 M8 Chemical Engineering Building
 J5 Chemistry Building
 N8 Civil Engineering Building
 N9 Civil Engineering Workshop
 K10 Clark Building
 J9 Darlington Centre
 J10 Darlington House
 K9 Darlington Road Terraces
 L10 Demountables
 K5 Eastern Avenue Auditorium & Lecture Theatre Complex
 L9 Economics and Business Building
 H2 Edgeworth David Geology Building
 G4 Education Building
 G4 Education Building Annex
 H5 Edward Ford Building
 N7 Electrical Engineering Building
 N7 Engineering Link Building
 C3 Evelyn Williams Building
 K3 Fisher Library
 K4 Fisher Library Stack
 G2 Footbridge Theatre
 C2 Gatekeeper's Lodge
 J7 Gatekeeper's Lodge (City Road)
 M8 Gordon Yu-Hoi Chui Building
 J2 Great Hall
 G3 Griffith Taylor Building
 D4 HK Ward Gymnasium
 F2 Heydon-Laurence Building
 G2 Holme Building
 N5 Information Technologies
 K8 Institute Building
 N5 International House
 F2 JRA McMillan Building
 D3 JD Stewart Building
 F3 John Woolley Building
 F1 Mackie Building
 H3 MacLaurin Hall
 H2 Macleay Building
 G1 Margaret Teifer Building
 J6 Madsen Building
 H4 Manning House
 H4 Manning Squash Courts
 D3 McMaster Annexe
 D3 McMaster Building
 O6 Mechanical Engineering Building
 A2 Medical Foundation Building

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 G4 Education
 K3 Fisher
 N7 Link
 L6 McGrath (Carslaw)
 H3 Pharmacy
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 J3 Nicholson Museum
 N6 Seymour Centre
 K7 Sir Hermann Black Gallery
 M6 Tin Sheds Gallery
 J2 War Memorial Art Gallery
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 N7 Engineering
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 D4 HK Ward Gymnasium
 H5 Lawn Tennis Courts
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 F3 Business Liaison Office
 F1 Careers Centre
 G1 Cashier
 D10 Centre for Continuing Education
 H3 Chancellor
 L10 Computing Centre
 H2 Executive Offices
 J3 Information Centre
 L10 Information and Communications Technology
 L9 International Office
 K8 Office of Development
 G1 Personnel
 M10 Printing Services (UPS)
 H2 Publications Office
 H3 Research Office
 M10 Room Bookings & Venue Management
 F1 Scholarships Unit
 L5 Student Centre
 M10 Student Housing
 G4 Student Services Unit
 K8 Summer School
 H3 University Relations (Vice Principal)
 C3 Veterinary Hospital & Clinic
 H2 Vice-Chancellor

K8

Merewether Building
 E1 No.1-3 Ross Street
 M7 Old School Building
 F4 Old Teachers' College
 H3 Pharmacy Building
 H6 Physics Annexe
 G5 Physics Building
 N8 PNR Building
 E6 Queen Elizabeth II Research Institute
 H5 RC Mills Building
 F2 RD Watt Building
 D4 RMC Gunn Building
 M9 Raglan Street Building
 N7 Rose Street Building
 E2 Ross Street Building
 G2 Science Road Cottage
 E1 Selle House
 M10 Services Building
 N6 Seymour Centre
 K10 Shepherd Centre
 O6 Shepherd Street Carpark
 K9 Store Dixon Wing
 F5 The Arena Sports Centre
 J3 The Quadrangle
 J5 Transient Building
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 M9 University Sports & Aquatic Centre
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 H1 Laurel Tree House
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 K9 Darlington Road Terraces
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 L10 Mandelbaum House
 A4 Sancta Sophia College
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 B5 St John's College
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 F7 Wesley College
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 M9 University Sports & Aquatic Centre
 M9 University Co-op Bookshop
 C3 Valentine Chariton Cat Centre
 C3 Veterinary Hospital & Clinic
 K7 Wentworth Building

Course planner

Year	Semester	Unit of study 1 & credit points		Unit of study 2 & credit points		Unit of study 3 & credit points		Unit of study 4 & credit points		Total credit points
1	1									
	2									
2	summer									
	1									
	winter									
	2									
3	summer									
	1									
	winter									
	2									
4	summer									
	1									
	winter									
	2									
5	summer									
	1									
	winter									
	2									
Total credit points										