



The
University
of Sydney

'09

Veterinary Science

handbook 2009



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Acknowledgements



The Arms of the University

Sidere mens eadem mutato

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

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Official course information

Faculty handbooks and their respective online updates along with the *University of Sydney Calendar* form the official legal source of information relating to study at the University of Sydney. Please refer to the following websites:

www.usyd.edu.au/handbooks
www.usyd.edu.au/calendar

Amendments

All authorised amendments to this handbook can be found at www.usyd.edu.au/handbooks/handbooks_admin/updates2009

Disability access

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

Resolutions

The Coursework Clause

Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all undergraduate courses, and the relevant Resolutions of the Senate.

The Research Clause

All postgraduate research courses must be read in conjunction with the relevant rules and Resolutions of the Senate and Academic Board, including but not limited to:

1. The *University of Sydney (Amendment Act) Rule 1999 (as amended)*.
2. The *University of Sydney (Doctor of Philosophy (PhD)) Rule 2004*.
3. The Resolutions of the Academic Board relating to the Examination Procedure for the Degree of Doctor of Philosophy.
4. The relevant Faculty Resolutions.

Disclaimers

1. The material in this handbook may contain references to persons who are deceased.
2. 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.

Price

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

Handbook purchases

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

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Handbook enquiries

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Important dates

University semester and vacation dates for 2009

Summer/Winter School lectures	Dates
Summer School – December program	Begins: Monday 8 December
Summer School – main program	Begins: Monday 5 January
Summer School – late January program	Begins: Monday 19 January
Winter School – main program	Monday 29 June to Saturday 25 July
Semester One	Dates
International student orientation (Semester 1) – STABEX	Monday 16 February and Tuesday 17 February
International student orientation (Semester 1) – full degree	Wednesday 18 February and Thursday 19 February
Lectures begin	Monday 2 March
AVCC Common Week/non-teaching Easter period	Friday 10 April to Friday 17 April
International application deadline (Semester 2) *	Thursday 30 April *
Last day of lectures	Friday 5 June
Study vacation	Monday 8 June to Friday 12 June
Examination period	Monday 15 June to Saturday 27 June
Semester ends	Saturday 27 June
AVCC Common Week/non-teaching period	Monday 6 July to Friday 10 July
Semester Two	Dates
International student orientation (Semester Two) – STABEX	Monday 20 July and Tuesday 21 July
International student orientation (Semester Two) – full degree	Wednesday 22 July and Thursday 23 July
Lectures begin	Monday 27 July
AVCC Common Week/non-teaching period	Monday 28 September to Friday 2 October
Last day of lectures	Friday 30 October
International application deadline (for Semester 1, 2010) *	Saturday 31 October *
Study vacation	Monday 2 November to Friday 6 November
Examination period	Monday 9 November to Saturday 21 November
Semester ends	Saturday 21 November

* Except for the faculties of Dentistry, Medicine and the Master of Pharmacy course. See www.acer.edu.au for details.

Last dates for withdrawal or discontinuation for 2009

Semester 1 – units of study	Dates
Last day to add a unit	Friday 13 March
Last day for withdrawal	Tuesday 31 March
Last day to discontinue without failure (DNF)	Friday 24 April
Last to discontinue (Discontinued – Fail)	Friday 5 June
Semester 2 – units of study	Dates
Last day to add a unit	Friday 7 August
Last day for withdrawal	Monday 31 August
Last day to discontinue without a failure (DNF)	Friday 11 September
Last day to discontinue (Discontinued – Fail)	Friday 30 October
Last day to withdraw from a non-standard unit of study	Census date of the unit, which cannot 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	Monday 26 January
Good Friday	Friday 10 April
Easter Monday	Monday 13 April
Anzac Day	Monday 27 April
Queen's Birthday	Monday 8 June
Labour Day	Monday 5 October



How to use this handbook

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 with enquiries about library loans, child care, fees, casual employment, places to eat and stay, support groups and 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, and so on
- what University services are available and where to find them
- how to get around campus.

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

Where to find information

Course terminology

University terminology, such as 'credit point', 'unit of study', and 'WAM', can be found in the **Abbreviations** and **Glossary** chapters, 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 and Winter 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. It is divided into two parts, and lists units of study alphabetically (by course name) and again by course code (alphanumeric).

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 **Essential information for students** chapter near the end of this book. Together they outline the agreement between student and faculty, and student and University.

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:

- University terminology and abbreviations
- campus maps to help you find your way around
- Summer and Winter 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. Use the planner at the back of this handbook.

Timetables

For information about personal timetables, centrally timetabled units of study, and venue bookings, see:

www.usyd.edu.au/studentcentre/timetabling.shtml

For the session calendar, see:

<http://web.timetable.usyd.edu.au/calendar.jsp>

Students with a disability

For accessible (word, pdf and html) versions of this document, see: 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: www.usyd.edu.au/disability

Handbook updates

The information in this handbook is current at the time of publication. Further information on University policies, such as plagiarism and special consideration, can be found on the University's website, along with official handbook amendments.

www.usyd.edu.au/handbooks/handbooks_admin/updates2009

Feedback regarding this handbook is welcome.

info@publications.usyd.edu.au



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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 wellbeing 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

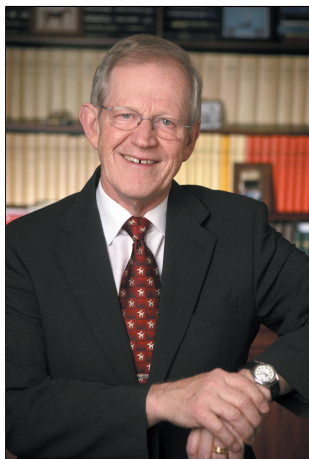
Pride in the faculty's heritage and belief in our core values

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 95 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, the Faculty Manager and the supportive staff in the faculty office will be essential contacts to enable you to learn effectively. They will help you to make 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.

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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Associate Professor Paul McGreevy

Postgraduate Studies

Dr Merran Govendir

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Hospital Directors

The University Veterinary Teaching Hospital - Camden
Associate Professor Andrew Dart
The University Veterinary Teaching Hospital - Sydney
Dr Sanaa Zaki
Wildlife Health & Conservation Centre
Professor David Phalen

Clinical Practice Manager

Craig Lord

Director of Small Animal Clinical Services, UVTHC

TBA

Practice Coordinator, UVTHS

Hazel Bateman

Veterinary Specialists

Theresa McCann
Beth McDonald, BVSc(Hons) MVSt, MACVS DiplACVD
Christine Smith, DVM DipACVS

Linda Vogelneust, BVSc(Hons), MACVScs (Feline Med) FACVSc
(Dermatology)

Senior Registrars

Aitor Arteaga, DVM CertSAM, MRCVS
Kenneth Cockwill, BSc(Grt Dist) DVM(Dist)
Andrew Dunn, BVSc(Hons), MACVS
Karen Hazell, BVMS, MACVS
John Inns, MA Vet MB, MACVSc (Small Animal Medicine) MACVSc
(Small Animal Surgery)
Cheryl Macpherson, BVSc(Hons), MACVSc
Tanya Stokes, BVSc(Hons) BAnimSc, MACVSc (Small Animal
Medicine) MRCVS
Kim Ticeman, BVSc DVetAn
Katja Voss
Marta Wereszka, BSc BVMS MS

Registrars

Katherine Briscoe, BVSc(Hons) ACVS
Nadine Fiani, BVSc
Christopher Greenwell, BVSc
Soo Yui Kuan, BVSc, MACVSc
Joanne Rainger, BVSc BSc(Vet)(Hons) PhD

Senior Veterinary Pathologist

Neil Horadagoda, MVSc PhD, MACVSc

Clinical Residents

Christina Baxter, BVSc
Katherine Briscoe, BVSc(Hons), ACVS

Veterinary Interns, UVTHS

Amy Aspley-Davis, BVSc(HonsI)
Sally-Anne Debney, BVSc
Gloria Perkovic, BVSc(Hons)
Joanna Whitney, BVSc(Hons) BSc(Vet)(Hons)
Joanna Wong, BVSc(Hons)

Veterinary Interns, UVTHC

Shannon Harland, BVSc
Juan Podadera
Elizabeth Tee, BVSc
Norikata Yanai, BVSc(Hons)

Imaging

Richard Lam, VCSc
Helen Laurendet, BSc(Appl), MIR
Kathleen Hughes
Karen Hoffman, BVSc DipVetClinStud MVSc PhD
Robert Wrigley, BVSc(Hons) MS DVR, MRCVS

Nursing Staff

Kelly Amaro, UVTHS
Sharon Andronicos, WHCC
Louise Barnes, UVTHC
Stella Chapman, UVTHS
Jessica Correa, UVTHS
Sally-Anne Debney, UVTHS
Carolina Dillen, UVTHS
Jennifer Doyle, UVTHS
Kylie Drake, UVTHS
Kate Fahy, UVTHS
Rhonda Foreman, UVTHS
Rhianon Foster, UVTHS
Lani Hackland, UVTHS
April Hadges, UVTHS
Elizabeth Jones, UVTHC
Elizabeth Kachembere, Pharmacy, UVTHS
Nicole Kingston, UVTHS
Lorena Munos-Graziano, UVTHS
Alison Nolan, UVTHC
Michelle Siskovic, UVTHC

Holly Smith, UVTHS
 Rebecca Stephenson, UVTHC
 Joanne Tapp, UVTHS
 Emma Treacy, UVTHS
 Tara Wallace, UVTHC
 Natasha Whitehead, UVTHS

Animal Attendants

Kevin Bertie, UVTHC
 Mitchell Burns, UVTHS
 Melinda Hayter, UVTHC
 Gregory Macnamara, UVTHC
 Antonio Nastasi, UVTHS
 Bruce Tye, UVTHC

Administration

Faculty Manager

Shirley Ray, BAppSc NSWIT MSc UNSW DipEd(Sec)

Coordinator, Faculty Educational Services

Irene van Ekris, BSc JCU GradCertEducStudies (Higher Education)

Administrative Staff

Lisa Ashley, Undergraduate Officer (BAnVetBioSc), Sydney
 Stephanie Betts, Animal Husbandry Placements, Sydney
 Sue Edmonds, Publications Unit, Sydney
 Jo-Anne Geist, Poultry Res Fdn, Camden
 Fairlie Gidley-Baird, Bovine Unit, Camden
 Michelle Heward, Admin Assistant, Camden
 Ron Henderson, Facilities Coordinator, Camden
 Marianna Koureas, UVTHS Reception
 Tess La Lande, Postgraduate Officer, Faculty Office
 Neil Loomes, Admin Assistant, WHCC
 Rhonda McDonald, Receptionist, Camden
 Angela McLoughlin, Finance Assistant, UVTHS
 Elaine McNeice, Admin Assistant, UVTHC
 Lee Mashman, Undergraduate Officer, Faculty Office
 Jann Merchant, PG Coursework Support, Sydney
 Joanne Moon, Office Coordinator, UVTHC
 Sally Pope, e-Learning Support, Sydney
 Luzia Rast, Project Officer
 Melanie Robson, Extramural Placements Coordinator, Sydney
 Marion Saddington, Camden
 Sandra Saville, Finance Assistant, Camden
 Debbie Sheehan, Admin Assistant, UVTHC
 Kaye Schollum, Dean's Office
 Noi Somsiri, Finance, Sydney
 Jonathan Usmar
 Meg Vost, VPHM, Sydney
 Alison Ward, Research Support, Sydney
 Noelene West, Receptionist, Camden (casual)
 Marie Wildridge, ReproGen, Camden
 Diane Woods, Admin Assistant, UVTHC
 Emmaline Yeo, VPHM Support, Sydney

Building Attendants, Veterinary Science Conference Centre

Russell Clifton
 Nick Hyde (casual)

Information Technology

Faculty Computer Systems Manager

David Liu

Web Services Coordinator

Maria Mowczan

Computer Systems Officer, Camden

Chris Stimson

Web Developer

Damien McMonigal

Technical Staff

Professional Officers

Patricia Martin, MVSc
 Denise Wigney, BVSc DipVetPath, MASM

Technical Manager, Camden

Rajesh Bangur, BSc UWS MAppSc UWS

Senior Technical Officers

Karen Barnes, PTHC BAppSc C Sturt
 Gavin Burland
 Elaine Chew, BSc DipPathTech STC
 Keith Ellis
 Kim Heasman
 Marilyn Jones
 Craig Kristo, AssocDip Biology Qld
 Dorothy Lewis, MSc Br Col
 David Palmer
 Monica Ruckholdt
 George Tsoukalas, PTHC
 Anna Waldron

Technical Officers

Gina Attard
 Byron Biffin
 Nicole Carter
 Sherry Catt
 Sopheak Chaophrasy, UVTHC
 Dung Doan, BSc Griffith Uni, Qld
 Joy Gill
 Jayne Hibbert, UVTHC
 Rebecca Maurer, Camden
 Denise McDonnell, Sydney
 Riley Neve
 Natalie Schiller
 Donald Slade
 Andrew Souter
 Brendan Taylor
 Karen Thompson, Camden
 Keith Tribe
 Alison Tweedie, Camden
 Kathy Turner, UVTHC

Laboratory Assistants

Pabitra Dhungyel
 Alamelu Vengatassalam

Technical Assistants

Sherie Brookes
 Jan van Ekris
 Julie Fahl
 Brian Harvey
 Karen Thompson
 Nobel Toribio
 Veronica Ventura

Supervisor, Horse Unit

Gregory Hogan

Research

Principal Research Fellow

Vivien Reeve, BSc PhD

Senior Research Fellows

Sergio Garcia, PhD
 Mohammad Sharilou, MSc PhD

Research Fellows

Roslyn Bathgate, BSc(Hons) PhD
 Graeme Brown
 Richard Callinan

Om Dhungyel, BVSc&AH MScVetSc PhD
Natasha Ellis, PhD
Kendra Kerrisk, BAppSc PhD
Claire Kershaw-Young
Mehtar Khatkar, BScAg(Hons) MSc PhD
Anne Lehnert, MSc PhD
Karren Plain

Research Associates

Munif Allanson, BSc PhD
Doug Begg, MSc PhD *Otago*

Postdoctoral Fellows

Tiziana Beninati, BVM PhD
Kumudika de Silva, PhD
Marta Hernandez-Jover, BVSc MSc PhD
Elisabeth Jonas
Segit Kayis
Ronald Newman, MSc PhD

Research Assistants

Ajantha Horadogoda, PhD
Dinesh Khatkar
Michelle Kueh
Amy Rogers
Diane Titmuss

Honorary Appointments

Emeritus Professors

EF Annison, 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
Gareth Evans, BA *Oxon* PhD
Brian RH Farrow, BVSc PhD, FACVSc
David Fraser, BVSc PhD *Camb*
Chis Maxwell, BScAg PhD
Frank Nicholas, BScAgr PhD *Edin*
Reuben J Rose, DVSc PhD DipVetAn, FRCVS FACBS MACVSc

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*
Heather Greenfield, BSc(Hons) PhD *Lond* RPHNutr *UK* DipPublHealth *UNSW*
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
William L. Porges, HDA *Hawkesbury Agric. Coll.* DipEd(Tert)*Darling Downs* I.A.E. BVSc PhD, MRCVS
Tracey Rogers, BVSc *UQ* DipEd PhD

Adjunct Senior Lecturers

Angela Frimberger, VMV DACVIM (Oncology)
Karon Hoffmann, BVSc PhD MVSc DipVetClinStud
Paul Mills, BVSc *UQ* PhD *UQ*

Adjunct Lecturer

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
John Edwards
Ken Mason
Jeffrey S Smith, BVSc DipACVO, FACVSc

Honorary Associate Professors

Anthony W English AM, BVSc PhD *Qld*, FACVSc RFD
Robert Love, MVSc PhD *Brun*, FACVSc
David L. Evans, BVSc PhD
Peter Wynn, MRurSc DipEd *NE* PhD

Honorary Senior Lecturer

Richard Churcher, BVSc, MACVSc FACVSc
Paul Hopwood, DipTertiaryEd *NE* BVSc PhD, MRCVS
Michelle L. Hyde, BScAgr PhD
Joan Lloyd, DVM *Canada* MVetStud PhD
Ramesh Malik, BVSc *Punjab* MSc *Haryana Uni* PhD *UNE*

Honorary Associates

John M. Angles
Linda Beene, BArts PhD(Medicine)
Tracey L. Bradley
Michalel J. Cannon, BVSc GradDipEd
Yizhou Chen, PhD
Janine Deakin
Xuequin Du, BMed *China* MProfStud *Philippines* PhD *UNSW*
Jeffery Eppleston, BScAg MScAg PhD *UNSW* DipSolarSim (Amer Soc Photobiology) GradDipl *UNSW*
Janine Deakin, BSc(Hons) PhD
Lindsay Gillan, BMed PhD
Matthys Draisma
Jeffrey Go
Suresh Gulati, BSc *Panjab Uni, India* PGDipl *UNSW* MSc *Macq* PhD *UNSW*
Peter C. Higgins, BVSc, CPM FAIM FAMI FASI FAICD FICA
Carolyn Hogg, BSc *UWA* PhD
Stephen Hum, BVSc *Budapest* PhD *Budapest*
Sally Isberg, PhD
John James, BArts *Qld* PhD *UNSW*
Belinda Jones, BSc *Sheffield* PhD
Carolyn Kabore, PhD
Francois Lamoury, BBiochem *France*
Juliana Lamoury, BSc *France* PhD *France*
Lun Li
Steven J. Lapidge
David J. Jenkins
Lilia Kuleshova
Kellie Leigh, BSc(Hons) PhD
Ian Martin, BVSc PhD
William D. Meikle
David M. McGill
Andrew N. McLean
Lee H. Morris
Justine O'Brien, BScAgr(Hons) PhD
Stephen Page, BSci BVSc MVetClinStudies MAppSci
Edmund Peeler
Ahmed R. Rabiee
Robert Ratcliffe, BVSc
Rodney L. Reece
Anthony Ross, BVSc MSc *JCU* PhD *NZ*
James Rothwell, BVSc PhD
Peter Selle, BVSc PhD
Kirsti Seksel, BVSc BA *Macq* MA *Macq*
Meredith L. Kerr Sheil, MBBS PhD, FRACP
Rebecca E. Spindler
Joy S. Tripovich, PhD
Keith Walker, BVSc PhD
Phillip Widders, BSc BVSc PhD *Bristol*
Kyll Zenger, BAppSci *UWS* MSc *UWS* PhD *Macq* GradDip Legal Studies (IP and ADR) *UT* MIndustProperty *UT*
R Max Zuber, BVSc, FACVSc

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 are required to undertake placements on horse, pig, beef and dairy cattle, sheep, and poultry farms and at an abattoir. 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 Teaching Hospitals 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 Teaching Hospitals (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 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 Teaching Hospital 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 25 days of practical work in animal husbandry in the vacation periods during Year 3 of the course. In fourth year students are required to attend a placement at an abattoir. 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 Teaching Hospitals (Sydney and Camden). All arrangements for placements are made through the faculty office.

Assumed knowledge for school leavers

NSW Higher School Certificate or equivalent level Chemistry, Mathematics 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 VETS5355 unit of study instead of the two standard Elective Rotations:

VETS5355	Prerequisites
Honours Elective Research 10 credit points	Veterinary Science Years 1–4. 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 Bachelor of Animal and Veterinary Bioscience was introduced in 2005 and involves studies in animal health and disease, genetics and biotechnology, animal behaviour, welfare and handling, reproduction, systems management (both natural and farming) and animal nutrition in the context of animal production, management and research.

It is an applied science degree blending a science foundation with fields specific to animal science and incorporating a large amount of practical work. Emphasis will be placed on the development of analytical, quantitative, computing and communication skills, as well as practical animal handling and management. The degree is of four years' duration, and honours may be awarded at graduation on the



basis of performance. Specialist research skills are gained in the fourth year through the completion of a research project.

Assumed knowledge for school leavers

Mathematics, Chemistry and Biology

Areas of study

Students will gain training and understanding in animal nutrition; genetics and biotechnology; reproduction; behaviour, husbandry and welfare science; animal systems management; and animal health and disease. Graduates may apply this knowledge and skill base to domestic, native and exotic animals in the context of food animal production, natural systems management and research.

Professional development

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

Career opportunities

The Bachelor of Animal and Veterinary Bioscience provides an excellent path to careers in the animal industries, agribusiness, government, research and education. Animal scientists have proven to be highly employable across a broad range of disciplines, working in capital cities, rural areas, and overseas.

Employment areas include: animal breeding and assisted reproduction, animal nutrition and feed development, molecular genetics (animal and human), the pharmaceutical industry (human and veterinary), reproductive technology and IVF programs (animal and human), quarantine (including AQIS and biosecurity), sustainable agriculture, biomedical research, animal health, biotechnology (animal and

microbial), food safety assessment and management, intensive and extensive animal production enterprises, rural consultancy, marketing agricultural and veterinary products, native animal research, media and journalism, Government departments (eg. Department of Agriculture, Forestry and Fisheries), secondary and tertiary education and overseas aid.

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

VETS1030

Animal Husbandry 1A

Credit points: 6 **Teacher/Coordinator:** Dr Peter Knight **Session:** Semester 1 **Classes:** lectures: 43 hrs practicals: 30 hrs **Assessment:** intra-semester: 2 x Items of written assessment (maximum 500 words each) (35%); Pig handling practical (5%) end-of-semester: 1 x 2 hr examination (60%) other: Non-barrier assessment of small animal handling

The aim of this unit is to introduce students to management of some of the standard animals in the BVSc (dogs, cats, horses, birds, pigs), as well as "pocket pets". Animal Husbandry includes housing, handling, and basic aspects of nutrition of animals. The structure of the relevant production animal industries will be described. The physical characteristics of the breeds are included, as well their roles as production and companion animals. Ways in which animal welfare can be compromised by producers and companion animal owners will be discussed. The pig and poultry industries in Australia are described, and production of meat and eggs is outlined. Aviary bird breeds and their management are also included. A library class in Information Source Evaluation is also provided. A series of practical classes in animal handling is administered, using small animals, "pocket pets", pigs and horses.

Textbooks

Huntington P. Myers J. Owens E. Horse sense: the guide to horse care in Australia and New Zealand. Collingwood: Landlinks Press 2004

Reference Books:

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. Oxford: Blackwell Publishing 1997
Page S. Cat Owners Manual. Fog City Press.
McGreevy P. ed. Dog Lovers Companion. Brisbane: Herron Books
Reid RL. A Manual of Australian Agriculture. 5th edn. Heinemann 1990
Sainsbury D. Animal Health. 2nd edn. Blackwell Science 1998

VETS1033

Animal Husbandry 1B

Credit points: 6 **Teacher/Coordinator:** Dr Pietro Celi **Session:** Semester 2 **Classes:** Lectures: 28 hrs, practicals: 47 hrs **Prerequisites:** VETS1030 or VETS1006 **Assumed knowledge:** A basic understanding of biological principles **Assessment:** Intra-semester: Practical animal handling skills exams (10%), 1 x essay (25%). End of semester: 1 x 2.5 hr written paper (55%) other: plant collections (10%).

This unit of study covers aspects of ruminant management and production, especially sheep, beef and dairy cattle. Basic fish, alpaca and crocodile husbandry is covered in the new animal industry section. The agronomic and ecological principles of the production and utilisation of native and sown pastures are also covered.

On successful completion of this Unit of Study students will be able to: Understand the characteristics of the Australian Livestock Industry; Appreciate the role of veterinarians in the livestock industries; Understand how the various husbandry and management techniques can impact on animal welfare and animal production; Consistently display safe and systematic competence in large animal handling; Communicate and interact competently with primary producers.

Full day practical handling classes are conducted at the University Farms, Camden, with 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.

VETS1032

Cell Biology 1A

Credit points: 6 **Teacher/Coordinator:** Dr Paul Sheehy **Session:** Semester 1 **Classes:** lectures: 47 hrs practicals: 10 hrs tutorials: 7hrs **Assumed knowledge:** HSC level chemistry and/or biology would be an advantage **Assessment:** intra-semester: 1 x mid-semester exam (20%) end of semester: 1 x 2 hr written exam (65%) other: 1 x 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. An introduction to the contribution of the endocrine system to homeostasis of animals via their effects on animal metabolism and physiology will also be described. An understanding of commonly occurring disturbances to the production or action of hormones will be developed with clinical material being used to illustrate normal structure and function.

Textbooks

Cell Biology 1A Handbook

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

VETS1018

Cell Biology 1B

Credit points: 6 **Teacher/Coordinator:** Dr Paul Sheehy **Session:** Semester 2 **Classes:** lectures: 43 hrs practicals: 24 hrs **Prerequisites:** VETS1032 or VETS1013 **Assessment:** intrasemester: 1 x Mid-semester Inquiry Task (10%); 1 x Mid-semester exam (20%) end of semester: 1 x 2 hr written paper (60%) 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

Cell Biology 1B Handbook

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

CHEM1405

Chemistry

Credit points: 6 **Session:** Semester 1 **Classes:** Lectures: 52 hours Practical: 27 hours (nine 3 hour classes) **Assumed knowledge:** HSC Chemistry **Assessment:** Intrasemester: 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



3. Units of study

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

VETS1031

Professional Practice 1

Credit points: 6 **Teacher/Coordinator:** Dr Susan Matthew **Session:** Semester 2 **Classes:** lectures: 72 hrs practicals: 3 x 2 hr visits to Educational Support Practices **Assessment:** intra-semester: Group and individual assignments; online submissions. end of semester: 1 x examination

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

Textbooks

Unit of Study Handbook

VETS1014

Veterinary Anatomy and Physiology 1A

Credit points: 6 **Teacher/Coordinator:** Dr Rachael Gray **Session:** Semester 1 **Classes:** lectures: 38 hrs practicals: 35 hrs tutorials: 6 hrs **Assessment:** intra-semester: April (15%) Anatomy; May (10%) Physiology; Practical work (5%) Anatomy. end of semester: June 1 x Written examination: Anatomy and Physiology (50%); 1 x Anatomy Practical (20%)

Anatomy and histology refer to the study 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, connective tissue including blood, and the endocrine system. Basic principles of physiological control, water and electrolyte balance and the physiology of nerve and muscle cells complete the course. Clinical materials, for example, radiographic images, are used to illustrate normal structure and function. Examples of structural and physiological abnormalities that cause dysfunction and disease in animals are included. Computer based resources and formative assessments will also be used.

Textbooks

VAP1A Unit of Study Handbook

Eurell JA. Frappier BL. Dellman's Textbook of Veterinary Histology. 6th Edn. Ames: Blackwell Publishing 2006

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

Dyce KM. Sack WO. Wensing CJG. Textbook of Veterinary Anatomy. 3rd Edn. Philadelphia, Saunders 2002

Sjaastad ØV. Hove K. Sand O. Physiology of Domestic Animals. Oslo: Scandinavian Veterinary Press 2003

Reference Books

Bacha WJ. Bacha LM. Color Atlas of Veterinary Histology. 2nd Edn. Philadelphia: Lippincott Williams & Wilkins 2000

Ross MH. Pawlina W. Histology A Text and Atlas. 5th Edn. Baltimore: Lippincott Williams & Wilkins 2006

Boyd JS. Paterson C. Colour Atlas of Clinical Anatomy of the Dog and Cat. 2nd Edn. London: Mosby 2001

Budras KD. McCarthy PH. Fricke W. Richter R. Anatomy of the Dog. An Illustrated Text. 4th Edn. Hannover: Schlütersche 2002

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

Swenson MJ. Reece WO. Dukes' Physiology of Domestic Animals. 11th Edn. Comstock, Cornell University Press 1993

Recommended Reading: See handbook for details.

VETS1034

Veterinary Anatomy and Physiology 1B

Credit points: 6 **Teacher/Coordinator:** Dr Glenn Shea **Session:** Semester 2 **Classes:** lectures: 40 hrs practicals: 32.5 hrs tutorials/Group Work: 7.5 hrs **Prerequisites:** VETS1014 **Assumed knowledge:** VETS1032 or VETS1013 **Assessment:** intra-semester: 1 x physiology written paper (12%), 1 x anatomy practical quiz (10%) end of semester: 1 x 2 hr written theory paper (58%: 32% anatomy; 26% physiology), 1 x anatomy practical exam (20%).

In this unit the gross anatomy, histology and physiology of the respiratory, 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

VAP 1 B Unit of Study Handbook

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

Eurell J, Frappier, BL. Dellmann's Textbook of Veterinary Histology. 6th edn. Iowa: Blackwell 2006

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

Sjaastad ØV, Hove K, Sand O. Physiology of Domestic Animals. Oslo: Scandinavian Veterinary Press 2003

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

Cunningham JG. Textbook of Veterinary Physiology. 3rd edn. Philadelphia: WB Saunders Co 2001

Year 2

VETS2010

Animal Digestion and Nutrition

Credit points: 7 **Teacher/Coordinator:** Dr Susan Hemsley **Session:** Semester 1 **Classes:** lectures: 62 hrs practicals: 19 hrs tutorials: 10 hrs **Assumed knowledge:** VETS1014, VETS1034 **Assessment:** intra-semester: 1 x practical quiz; 1 x theory quiz; 1 x assignment (33%) end of semester: theory exams (67%)

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 along with classes exploring 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:

Eurell JA. ed. Frappier BL. Dellmann's Textbook of Veterinary Histology. 6th edn. Lippincott Williams & Wilkins 2006

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

OR

Sjaastad ØV. Hove K. Sand O. Physiology of Domestic Animals. Oslo: Scandinavian Veterinary Press. 2003

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

VETS2012

Equine Anatomy

Credit points: 4 **Teacher/Coordinator:** Dr Glenn Shea **Session:** Semester 2 **Classes:** lectures: 13 hrs practicals: 52 hrs **Prerequisites:** VETS1014, VETS1034, VETS2011, VETS2010 **Assessment:** intra-semester: 2 x 1 hr written papers (one in-semester) (each 20%); 1 x practical examination (40%); 1 x 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 Manual

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

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

Additional course material will be available on the web

Reference Books:

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

VETS2009

Genetics and Biometry

Credit points: 6 **Teacher/Coordinator:** Assoc Prof Peter Thomson **Session:** Semester 1 **Classes:** lectures: 26 hrs (Genetics) , 26 hrs (Biometry) practicals: 13 hrs (Biometry) tutorials: 13 hrs (Genetics) **Assumed knowledge:** HSC Mathematics, VETS1018 **Assessment:** intra-semester: Genetics: 1 x 0.5 hr half-way exam (17%) Biometry: regular quizzes (15%), practical assignment (15%) end of semester: 1 x 1 hr Genetics exam (33%), 1 x 1 hr 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 2003

Petrie A. Watson P. Statistics for Veterinary and Animal Science. 2nd edn. Oxford: Blackwell 2006

Thomson P. Tammen I. Dhand N. Belov K. Genetics and Biometry VETS2009. Unit of Study handbook 2009

Recommended Reading

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

VETS2013

Principles of Disease

Credit points: 8 **Teacher/Coordinator:** Dr Mark Krockenberger **Session:** Semester 2 **Classes:** lectures: 61 hrs practicals: 11 hrs **Assumed knowledge:** Veterinary Science Year 1 (Semesters 1 and 2) and Year 2 (Semester 1 only) **Assessment:** intra-semester: WebCT quizzes; Practical Class Exercises; Mid-Semester Practical; Mid-semester Quiz end of semester: 1 x Written exam. other: 1 x Practical exam.

The overarching theme for this unit of study is the concept of disease as the result of the interaction between the host, the agent of disease and environmental factors (HPEI). Diseases encountered in veterinary practice are used to illustrate these concepts. Critical underpinning of this approach to disease, is the understanding of the five fundamental pathological processes (general pathology) as host response to disease or the direct effect of agents of disease. Physical, chemical, genetic and infectious agents of disease are introduced.

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 (abnormal structure and/or function).

Principles of Disease is vital in preparing the student for the specific disciplines studied in systemic pathology, and studies of agents of disease (microbiology and parasitology), as well as for some components of pharmacology, in Semester 5 of the course.

Textbooks

McGavin MD. Zachary JF. Pathologic Basis of Veterinary Disease. 4th ed. Mosby 2007

Reference Books

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. Mass Blackwell Science 1999

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

VETS2008

Professional Practice 2

Credit points: 4 **Teacher/Coordinator:** Dr Christine Hawke **Session:** Semester 1 **Classes:** lectures: 10 x 2 hr presentations practicals: 3 x 2 hr visits to Educational Support Practices other: Independent Learning Project (24 hrs) **Prerequisites:** Either VETS1031 or both VETS1021 and VETS1017 **Assessment:** intrasemester: participation, 1 x quiz, 1 x oral presentation, 1 x written report end of semester: 1 x examination

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.

Textbooks

Unit of Study Handbook.

VETS2011

Veterinary Anatomy and Physiology 2A

Credit points: 7 **Teacher/Coordinator:** Assoc Prof Rosanne Taylor **Session:** Semester 1 **Classes:** lectures: 46 hrs practicals: 30 hrs tutorials: 22 hrs **Assumed knowledge:** Veterinary Science Year 1, VETS2010 **Assessment:** intrasemester: 1 x 40 min assessment (total 25%) end of semester: 1 x 90 min exam (45%) other: 1 x 45 min practical exam (30%)

This unit has been designed to extend knowledge obtained during Year 1 units in Veterinary Anatomy and Physiology and explore some mechanisms of animal dysfunction. It also deals with 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, how loss of structure and function causes signs of dysfunction, and development of skills used to recognize normal and abnormal animals. Students will learn through dissection, problem solving 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 and will provide a basis for analysis of animals with abnormal neurological function in medicine. The unit also covers avian anatomy and aspects of applied cardiovascular and exercise physiology, thermoregulation and integument. Tutorials and formative assessments on webct will be used to assist learning.

Textbooks

Sjaastad OV. Hove K. Sand O. Physiology of Domestic Animals. Scandinavian Veterinary Press 2004

Eurell JA. Frappier BL. Dellman's Textbook of Veterinary Histology. 6th edn. Blackwell 2006

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

Reference Books:

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

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

Reece WO. Dukes Physiology of Domestic Animals. 12th edn. Ithaca: Comstock Publishing 2004

List provided by staff

Recommended Reading: List provided by staff

VETS2016**Veterinary Anatomy and Physiology 2B**

Credit points: 8 **Teacher/Coordinator:** Dr Liisa Ahlstrom **Session:** Semester 2 **Classes:** lectures: 58 hrs practicals: 39 hrs tutorials: 4 hrs **Prerequisites:** VETS2011 **Assumed knowledge:** VETS1014, VETS1034, VETS2010 **Assessment:** intrasemester: 1 x 1 hr exam (25%) end of semester: 1 x 2 hrs theory, 1 x 0.5 hr practical (57%) other: 1 x 5 minute oral presentation (5%), 2 x 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 CJG. Textbook of Veterinary Anatomy. 3rd edn. Saunders 2002
Senger PL. Pathways to Pregnancy and Parturition. 2nd edn. Current Conceptions Inc 2003

VETS2015**Veterinary Conservation Biology**

Credit points: 4 **Teacher/Coordinator:** Assoc Prof David Phalen **Session:** Semester 2 **Classes:** lectures: 45 hrs practicals: 6 hrs tutorials: 3 hrs (Taronga Zoo) **Assessment:** intra-semester: 1 x Research Plan (5%), 1 x Essay (2,000 words) (25%) end of semester: 1 x 90min exam (70%)

Veterinary Conservation Biology covers the identification, anatomy, and physiology of Australia's unique native birds, reptiles, amphibians, and mammals. The second section of this course details the threatening processes that are impacting Australia's environment and ecosystems. Processes discussed include climate change, urbanization, drought, agricultural practices, bush fires, invasive animal species, and disease. The last section of this course focuses on the roles that veterinarians and biologists can play in in situ and ex situ conservation of Australian wildlife. Experts in each of these fields will contribute to the teaching so that students can learn from people with first hand experiences in each specialty.

Textbooks

The VCB Handbook contains some of the information necessary for this course. PDF files of articles germane to this course and powerpoint presentations will be available on web CT.

Reference Books:

Burgman. Lindenmayer. Conservation Biology for the Australian Environment. 1008 ISBN 0 949324 78 7

Reference Book

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

Year 3**VETS3018****Animal Behaviour and Animal Welfare Sci**

Credit points: 3 **Teacher/Coordinator:** Assoc Prof Paul McGreevy **Session:** Semester 1 **Classes:** lectures: 16 hrs practicals: 26 hrs **Assumed knowledge:** Veterinary Science Years 1 - 2 **Assessment:** intrasemester: 2 x 2 written assignments (50%) end of semester: 1 x 1.5 hr 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

Gregory N. The Physiology and Behaviour of Animal Suffering. UFVA
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.

VETS3242**Animal Disease**

Credit points: 8 **Teacher/Coordinator:** Dr Katrina Bosward **Session:** Semester 2 **Classes:** lectures: 65 hrs practicals: 25 hrs group work: 20 hrs **Prohibitions:** VETS3020, VETS3038 **Assumed knowledge:** Veterinary Science Years 1 - 2, Semester 1 Year 3 **Assessment:** intra-semester: 1 x mid-semester exam (15%) end of semester: 1 x final exam (65%) other: 4 x 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 hr presentations tutorials: 11 x 1 hr tutorials group work: 11 x 1 hr **Assumed knowledge:** VETS1021, VETS1017, VETS2008 **Assessment:** intra-semester: Group Presentation, Individual Reflection end of semester: 1 x examination

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

VETS3244**Small Animal Medicine and Therapeutics 1**

Credit points: 8 **Teacher/Coordinator:** Dr Linda Fleeman **Session:** Semester 2 **Classes:** Lectures: 72 x 1 hr Tutorials: 24 x 1 hr **Prerequisites:** Semesters 1 to 5 of the BVSc **Assumed knowledge:** Semesters 1 to 5 of the BVSc **Assessment:** Intra-semester: Assignments (10%), 1 x Examination (40%) End of Semester: 1 x Final Examination (50%)

Small Animal Medicine & Therapeutics 1 is the foundational unit of small animal veterinary medicine and expands on the application of the fundamental principles of Veterinary Pharmacology (VETS3013).

This unit builds upon concepts of problem-solving and pathological processes explored earlier in the curriculum. It enables integration and application of knowledge learnt in Veterinary Anatomy & Physiology 1A, 1B, 2A and 2B

(VETS1014, VETS1034, VETS2011, VETS2016), Principles of Disease (VETS2013), Veterinary Microbiology (VETS3040), Animal Disease (VETS3038), Veterinary Pathology (VETS3011) & Veterinary Pharmacology and Toxicology (VETS3013).

Through predominantly case-based teaching, this unit of study enables undergraduate veterinary students to develop clinical reasoning frameworks using the problem-oriented approach to medicine and lays the foundation for practicing as a small animal clinician. Further, this unit integrates veterinary pharmacology, enabling the development of specific therapeutic plans for small animal patients based on fundamental principles and evidence-based medicine.

Assessment: Small Animal Medicine & Therapeutics 1 includes assignment/s that provide students with the opportunity to develop foundational skills in clinical examination of the small animal patient, intra-semester evaluations and an end of semester examination.

Textbooks

The recommended textbook for the Small Animal Medicine Component of this unit is:

Nelson RW, Couto CG. Eds. Small Animal Internal Medicine. Mosby, St Louis, Missouri, USA. 4th Edn. 2003

The recommended textbook for the Pharmacology component of this unit is:

Maddison JE, Page S, Church DB. Eds. Small Animal Clinical Pharmacology. Elsevier Health Sciences. 2002

Other core texts:

Ettinger SJ, Feldman EC. Eds. Textbook of Veterinary Internal Medicine: Diseases of the dog and cat. Vol 1 & 2. Saunders Elsevier Missouri, USA. 2005
Feldman EC, Nelson RW. Canine and Feline Endocrinology and Reproduction. Saunders, St. Louis, Missouri, USA. 3rd Edn. 2004

Kittleson MD, Kienle RD. Small Animal Cardiovascular Medicine. Mosby, St Louis, Missouri, USA. 1998

Fox PR, Sisson D, Moise NS. Eds. Textbook of Canine and Feline Cardiology: Principles and Clinical Practice. 2nd Edn. WB Saunders, Philadelphia, USA. 1999

Braund KG. Clinical Syndromes in Veterinary Neurology. 2nd Edn. Mosby Year Book, St Louis, USA. 1993

VETS3243

Veterinary Clinical Pathology

Credit points: 4 **Teacher/Coordinator:** Professor Paul Canfield **Session:** Semester 2 **Classes:** Lectures: 36 x 1hr Practical/tutorial: 6 x 2 hrs

Prerequisites: Veterinary Science Years 1 - 2, Semester 1 Year 3. **Prohibitions:** VETS3025 **Assumed knowledge:** Semesters 1 to 5 of the BVSc. **Assessment:** Intra-semester: Continual tutorial/ Practical evaluation (20%) End of Semester: 1 x 2hr Open book written exam (80%)

Veterinary Clinical Pathology involves the application of pathological, biochemical, haematological, microbiological and parasitological techniques and test results to clinical aspects of veterinary science. Practical work includes the examination of specimens taken from living animals by techniques in the above fields. Special attention, throughout the course, is given to the application and interpretation of tests used in the diagnosis, prognosis and management of clinical disease. Material on disease is provided for companion and farm animals as well as wildlife. This course builds on Veterinary Pathology, Veterinary Microbiology, Veterinary Parasitology; integrates horizontally with Small Animal Medicine and Animal Disease taught within the same semester; and prepares students for both small animal practice and large animal health and production and clinical practice.

Textbooks

A Unit of Study Handbook and WEBCT e-learning site contains detailed information and notes for Veterinary Clinical Pathology.

Recommended reading available from the University of Sydney Library:

Rebar AH, MacWilliams PS, Feldman BF, Metzger Jr FL, Pollock RVH, Roche J. Ed. Cann CC. A Guide to Hematology in Dogs and Cats. Teton NewMedia, Jackson Wyoming, USA. 1st Edn. 2002. ISBN 1-893441-48-2.

Raskin RE, Meyer DJ. Eds. Atlas of Canine and Feline Cytology. WB Saunders Co., Philadelphia, USA. 1st Edn. 2001. ISBN 0-7216-6335-4.

Harvey J. Atlas of Veterinary Hematology. WB Saunders Co., Philadelphia, USA. 1st Edn. 2001. ISBN 0-7216-6334-6.

Kaneko JJ, Harvey JW, Bruss ML. Clinical Biochemistry of Domestic Animals. Eds. Academic Press Inc., San Diego, California, USA, 5th Edn. 1997. ISBN 0-12-396305-2.

Hawkey CM, Dennett TB. Color Atlas of Comparative Veterinary Hematology. Iowa State University Press, Ames, Iowa, USA. 1st Edn. 1989. ISBN 0-8183-0449-3.

Baker R, Lumsden JH. Eds. Color Atlas of Cytology of the Dog and Cat. Mosby Inc., St Louis, USA. 1st Edn. 2000. ISBN 0-8151-0402-2.

Archer RK, Jeffcott LB. Comparative Clinical Haematology. Blackwell Scientific Publications, Oxford, UK. 1st Edn. 1977. ISBN 0-632-00289-1.

Cowell RL, Tyler RD, Meinkoth JH. Eds. Diagnostic Cytology and Hematology of the Dog and Cat. Mosby Inc., St Louis, USA. 2nd Edn. 1999. ISBN 0-8151-0362-X.

Cowell RL, Tyler RD. Eds. Diagnostic Cytology and Hematology of the Horse. Mosby Inc., St Louis, USA. 2nd Edn. 2002. ISBN 0-323-01317-1.

Latimer KS, Mahaffey EH, Prasse KW. Eds. Duncan & Prasse's Veterinary Laboratory Medicine. Clinical Pathology. Iowa State University Press, A Blackwell Publishing Co., Ames, Iowa, USA. 1st Edn. 1989. ISBN 0-8183-2070-7.

Eade SC, Bounous DI. Ed. Pratt PW. Laboratory Profiles of Equine Diseases. Mosby Inc., St Louis, USA. 1st Edn. 1997. ISBN 0-8151-1731-0.

Sodikoff CH. Laboratory Profiles of Small Animal Diseases. Mosby Inc., St Louis, USA. 3rd Edn. 2001. ISBN 0-323-00956-5.

Davidson M, Else R, Lumsden J. Eds. British Small Animal Veterinary Association, Cheltenham, UK. 1998. ISBN 0-905214-41-2.

Jain NC. Schalm's Veterinary Hematology. Lea & Febiger, Philadelphia, Pennsylvania, USA. 4th Edn. 1986. ISBN 0-8121-0942-2.

Feldman BF, Zinkl JG, Jain NC. Eds. Schalm's Veterinary Hematology. Lippincott Williams & Wilkins, Philadelphia, Pennsylvania, USA. 5th Edn. 2000. ISBN 0-683-30692-8.

Willard MD, Tvedten H, Turnwald GH. Small Animal Clinical Diagnosis by Laboratory Methods. WB Saunders Co, Philadelphia, Pennsylvania, USA. 3rd Edn. 1999. ISBN 0-7216-7160-8.

Reagan WG, Sanders TG, DeNicola DB. Veterinary Hematology. Atlas of common domestic species. Manson Publishing, London, UK. 1st Edn. 1998. ISBN 01-8745-88-X.

Thrall MA, Baker DC, DeNicola D, Fettman MJ, Lassen ED, Rebar A, Weiser G, Ed. Troy DB. Veterinary Hematology and Clinical Chemistry. Lippincott Williams & Wilkins, Philadelphia, Pennsylvania, USA. 1st Edn. 2004. ISBN 0-683-30415-1.

Meyers DJ, Coles EH, Rich LJ. Veterinary Laboratory Medicine. WB Saunders Co, Philadelphia, Pennsylvania, USA. 1st Edn. 1992. ISBN 0-7216-2654-8.

VETS3040

Veterinary Microbiology

Credit points: 5 **Teacher/Coordinator:** Dr Jacqui Norris **Session:** Semester 1

Classes: lectures: 56 hrs practicals: 9 hrs **Prerequisites:** VETS2013

Assumed knowledge: Veterinary Science Years 1 - 2 **Assessment:** intra-semester: 1 x Case-based quiz (15%), 1 x Practical exam: identifying an unknown bacteria (5%) end of semester: 1 x Theory exam (45%), 1 x Practical exam (20%). assignments: Development of a visual learning tool for microbiology (15%).

Veterinary Microbiology encompasses veterinary bacteriology, virology, and mycology. This unit of study uses clinical cases and research studies to 1) explore the unique features of these infectious agents, 2) explore their role in the development of animal disease; 2) critically analyse the strategies used for their diagnosis, treatment and control; and 3) encourage an evidence based approach to investigating clinical problems. Veterinary microbiology is based on an understanding of the structure and function of bacteria, viruses and fungi of veterinary significance as well as the pathological and immunological processes taught in Principles of Disease VETS2013. Veterinary Microbiology helps to prepare students for Animal Disease VETS3242, clinical subjects and life in veterinary practice.

Textbooks

Textbook of Veterinary Microbiology (VETS3040) and Animal Disease (VETS3038): Virology, Mycology and Special Bacteria. 2009: University of Sydney

Textbook of Veterinary Microbiology (VETS3040) and Animal Disease (VETS3038): Bacteriology. 2009: University of Sydney

Reference Books:

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

Hirsh DC, Zee YC. Veterinary Microbiology. 2nd edn. Blackwell Publishing 2004
Murphy FA. et al. Veterinary Virology. 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:** Dr Jan Slapeta **Session:** Semester 1

Classes: lectures: 39 hrs practicals: 24 hrs tutorials: 8 hrs **Assumed knowledge:** Veterinary Science Years 1 - 2

Assessment: Intra-semester: 1 x exam (10%), 5 x practical exercises (10%), 1 x group project on a topical area of parasitology (15%) End of Semester: 1 x practical examination (10%) which will require some identification of parasites of veterinary importance. 1 x written examination (55%)

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, with emphasis on principles of 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 VETS3242.

Textbooks

Unit of Study Workbook is available through the Faculty.

Recommended Textbook:

Taylor. Coop. Wall. Veterinary Parasitology. 3rd Edn. Blackwell Publishing. 2007

Reference Books

Schmidt. Roberts. Foundation of Parasitology. 7th Edn. McGraw-Hill 2005

Zajac. Conboy. Veterinary Clinical Parasitology. 7th Edn. Blackwell Publishing. 2006

Students can access the following recommended paper from student resources on WebCT

Richard-Ballweber. The practical Veterinarian: Veterinary Parasitology. Butterworth-Heinemann. 2001

VETS3011

Veterinary Pathology

Credit points: 7 **Teacher/Coordinator:** Dr Mark Krockenberger **Session:** Semester 1 **Classes:** Lectures: 58 hrs Practicals: 20 hrs gross and microscopic pathology plus 6 hrs necropsy technique, description and interpretation. Case-based learning activities including tutorials: 32 hrs timetabled for these activities - 24 for group discussions and **Prerequisites:** VETS2013 **Assumed knowledge:** Veterinary Science Years 1 - 2 **Assessment:** intra-semester: ICAPs (20%), Prac Exam (10%) 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

Veterinary Pathology Handbook

McGavin MD. Zachary JF. Pathologic Basis of Disease. 4th edn. Mosby. 2007

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

VETS3013

Veterinary Pharmacology and Toxicology

Credit points: 4 **Teacher/Coordinator:** Dr Merran Govendir **Session:** Semester 1 **Classes:** lectures: 36 hrs tutorials: 16 hrs **Prerequisites:** VETS2013 **Assumed knowledge:** Veterinary Science Years 1 - 2 **Assessment:** intrasemester: Quizzes, 1 x assignment end of semester: 1 x 1 hr exam

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 provide 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. Pharmacology. 6th edn. Edinburgh: Churchill Livingstone 2007

Maddison JE. Page S. Church DB. Small Animal Clinical Pharmacology. 2nd Edn. Philadelphia: WB Saunders & Co 2008

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 second 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. After completing VETS4331 students will be able to 1) Consistently display safe and systematic competence in large animal handling; 2) identify how the various husbandry and management techniques can impact on animal welfare and animal production and recommend procedures to minimize these impacts; 3) appreciate the significance of the role of veterinarians in the livestock industries; 4) communicate and interact competently with primary producers; 5) develop effective professional standards. 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.

VETS4221

Bird Health and Production

Credit points: 4 **Teacher/Coordinator:** Dr Patricia Holyoake, Prof Richard Whittington. **Session:** Semester 2 **Classes:** lectures: 34 hrs (14 chickens + 15 caged birds, reptiles & pocket pets + 5 fish). practicals: 18 hrs (5 chickens + 10 caged birds + 3 fish). **Prerequisites:** Veterinary Science Years 1 - 3 **Assessment:** Intra-semester: 1 x Fish assignment (10%); Chicken/Caged bird/pocket pet mid-semester assignment (40%). End of semester: 1 x Written exam (50%). 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.) and aquatic animals. The reptile and "pocket pets" component will cover anatomy and physiology applicable to clinical examination and common problems encountered in practice in Australia. The diagnosis and treatment of common conditions affecting aquarium fish and aquaculture enterprises will also be presented. This will include epidemiological approaches to production limiting problems. Students will gain experience handling representatives of the common species and performing common clinical procedures.

Textbooks

Unit of Study Handbook.

Reference Books:

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

Ferguson HW. Systemic Pathology of Fish. 2nd edn. Scotian Press. 2006

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

Stoskopf MK. Fish Medicine. Philadelphia: WB Saunders. 1993

Y Saif. ed. Diseases of Poultry. 11th edn. Iowa State University Press 2003

VETS4222

Horse Medicine and Surgery

Credit points: 6 **Teacher/Coordinator:** Dr Tony D. Mogg **Session:** Semester 2 **Classes:** lectures: 40 hrs practicals: 36 hrs tutorials: 2 hrs **Prerequisites:** Veterinary Science Years 1 - 3 **Assessment:** intrasemester: 1 x Written exam; Scenario based assignment; Horse handling practical exam end of semester: 1 x Written exam other: 1 x Practical exam

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, pharmacology 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 equine medicine, surgery and reproduction.

Textbooks

Unit of Study Handbook

Reference Books:

Bertone JJ. Horspool L.J. eds. Equine Clinical Pharmacology. WB Saunders 2004

Blanchard TL. et al. Manual of Equine Reproduction. 2nd edn. St Louis: Mosby 2003

Reed SM. Bayly WM. Sellon D. eds. Equine Internal Medicine. 2 edn. W.B. Saunders 2003

Robinson NE. ed. Current Therapy in Equine Medicine 5. WB Saunders 2002

Ross MW. Dyson S.J. Diagnosis and Management of Lameness in the Horse. WB Saunders 2003

Smith BP. ed. Large Animal Internal Medicine, 3rd edn. Mosby Yearbook 2001

Stashak T.S. ed. Adam's Lameness in Horses. 5th edn. Lea & Febiger 2002

VETS4223

Pig Health and Production

Credit points: 4 **Teacher/Coordinator:** Dr Trish Holyoake **Session:** Semester 2 **Classes:** lectures: 20 hrs practical: 5 hrs tutorial: 2 hrs independent learning: 12 hrs **Prerequisites:** Veterinary Science Years 1 - 3 **Assessment:** intra-semester: Group WebCT exercise, 1 x individual multiple choice exam end of semester: 1 x 1 hr 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 and biosecurity aspects of intensively housed animals. There is some exposure given to pet pigs and use of pigs as models for biomedical research. Practical classes are designed to provide students with the opportunity to observe and participate in specialized husbandry and diagnostic practices undertaken on pig farms. Students will have the opportunity to practice problem-solving in a pig production setting during a tutorial.

Textbooks

Unit of Study Handbook

Straw BE. et al. Diseases of Swine. 9th edn. 2006

VETS4224

Ruminant Health and Production

Credit points: 10 **Teacher/Coordinator:** Assoc Prof John House **Session:** Semester 2 **Classes:** lectures: 58 hrs practicals: 85 hrs tutorials: 12 hrs TILHAP's **Prerequisites:** Veterinary Science Years 1 - 3 **Assessment:** intrasemester: TILHAP's (15%), 1 x mid-semester exam (35%). end of semester: 1 x final exam (50%) 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

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)

VETS4111

Veterinary Anaesthesia

Credit points: 4 **Teacher/Coordinator:** Dr Sanaa Zaki **Session:** Semester 1 **Classes:** lectures: 30 hrs practicals/tutorials: 14 hrs **Prerequisites:** Veterinary Science Years 1 - 3 **Assessment:** intra-semester: A combination of assignments, quizzes and practical assessment (40%) end of semester: 1 x 90 min written examination (60%) other: Formative assessment throughout semester

This course teaches students about the planning and implementation of safe anaesthesia for small and large animals. Where possible case material from both Veterinary Teaching Hospitals is incorporated to highlight the clinical application of this unit of study. The focus is primarily on dogs, cats, horses and production animals; however discussion of other species is included.

Within the scope of Veterinary Anaesthesia the course will cover: different anaesthetic agents and techniques for different species; anaesthesia for common disease conditions; equipment used in anaesthesia; pain management; and resuscitation techniques for cardio-pulmonary arrest.

Lectures introduce the theory that underpins safe and humane anaesthetic practice. Tutorial classes reinforce and develop further the concepts discussed in lectures. Practical classes demonstrate to students the techniques and procedures performed routinely during clinical anaesthesia as well as life saving procedures that may be required in an emergency. Clinical Learning sessions introduce students to the Anaesthesia Unit at the UVTH-S and provide opportunity for them to observe anaesthetic procedures and participate in clinical rounds.

Textbooks

Unit of Study Handbook

Hall. Clarke. Trim. Veterinary Anaesthesia. 10th edn. Harcourt

Flecknell. Waterman-Pearson. Pain Management in Animals. WB Saunders

Reference Books

VETS4112**Veterinary Medicine & Clinical Pathology**

Credit points: 8 **Teacher/Coordinator:** Dr Linda Fleeman **Session:** Semester 1 **Classes:** lectures: 61 hrs approx practicals: 9 hrs tutorials: 34 hrs approx **Prerequisites:** Veterinary Science Years 1 - 3 **Assessment:** intra-semester: 1 x Clinical Pathology and Veterinary Medicine Exam (30%) end of semester: 1 x Veterinary Clinical Pathology Exam (20%), 1 x Veterinary Medicine Exam (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 utilized 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:** Prof Robert Wrigley **Session:** Semester 1 **Classes:** lectures: 26 hrs tutorials: 26 hrs **Prerequisites:** Veterinary Science Years 1 - 3 **Assessment:** intrasemester: 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, Mattoon JS. Small Animal Diagnostic Ultrasound. 2nd edn. Philadelphia: WB Saunders Company 2002

VETS4114**Veterinary Surgery**

Credit points: 6 **Teacher/Coordinator:** Assoc Prof Geraldine Hunt **Session:** Semester 1 **Classes:** lectures: 44 hrs practicals: 24 hrs **Prerequisites:** Veterinary Science Years 1 - 3 **Assessment:** intra-semester: MCQ week 7 or 8 (25%) end of semester: 1 x written final exam (60%) other: 1 x 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

Fossum TW and others. Small Animal Surgery. Mosby, St Louis

Reference Books:

The VETS4114 Handbook provides references and material that supplements the textbook.

Recommended Reading:

Piermattei. Flo. DeCamp. Handbook of Small Animal Orthopedics and Fracture Repair. 4th edn. WB Saunders 2006

Piermattei DL, Johnson KA. An Atlas of Surgical Approaches to the Bones of the Dog and Cat. 4th edn. WB Saunders 2004

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

Credit points: 4 **Teacher/Coordinator:** Dr Sanaa Zaki, 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 tutorials: 5 hrs **Prerequisites:** Veterinary Sciences Years 1-4 **Assessment:** intra-semester: Supervisor Report Form (continuous); 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 UVTHS 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 Faculty of Veterinary Science Graduate Attributes).

Textbooks

Handbook for Intramural Rotations

VETS5350**Elective Rotation 1**

Credit points: 5 **Teacher/Coordinator:** Dr John Baguley **Session:** Semester 1, Semester 2 **Classes:** practicals: 18-day practicum **Prerequisites:** Veterinary Sciences Years 1-4 **Assessment:** intra-semester: Supervisor Report (S/U); Written assignment (S/U); Communication Task (S/U)

This Unit of Study involves placement at a Faculty approved location linked to the veterinary student intern's career interest area. Suitability of locations will be negotiated between the veterinary intern and elective rotation coordinator. 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. Interns will be under the supervision of an extramural supervisor who will liaise with Faculty, review the aims of the rotation with the intern, and assess the performance of the intern via a standard report form.

Interns are expected to fully participate in agreed activities whilst attending the placement, typically taking on the role and schedule of a full time, supervised veterinary associate. The requirements of this rotation include the completion of the following documents: and 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:** Dr John Baguley **Session:** Semester 1, Semester 2 **Classes:** practicals: 18-day practicum **Prerequisites:** Veterinary Sciences Years 1-4 **Assessment:** intra-semester: Supervisor Report (S/U); Written assignment (S/U); Communication Task (S/U)

This Unit of Study involves placement at a Faculty approved location linked to the veterinary student intern's career interest area. Suitability of locations will be negotiated between the veterinary intern and elective rotation coordinator. 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. Interns will be under the supervision of an extramural supervisor who will liaise with Faculty, review the aims of the rotation with the intern, and assess the performance of the intern via a standard report form.

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 veterinary associate. The requirements of this rotation include the completion of the following documents: and 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 John Baguley **Session:** Semester 1, Semester 2 **Classes:** lectures: 14 hrs tutorials: 4 hrs **Prerequisites:** Veterinary Science Years 1 - 4 completed. **Assessment:** intrasemester: Required submissions. end of semester: 1 x exam 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 (UVTHS)**

Credit points: 4 **Teacher/Coordinator:** Dr Vanessa Barrs **Session:** Semester 1, Semester 2 **Prerequisites:** Veterinary Sciences Years 1-4 **Assessment:** Intrasemester: Supervisor report form. Case presentations at Clinical Rounds.

This 3 week rotation at the University Veterinary Teaching Hospital Sydney, is designed to give student interns hands-on experience in general practice and exposure to the types of cases they will encounter most commonly after 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. A major focus of the rotation will be developing clinical competency in preventative health care programs for small animals, including vaccination and worming protocols. 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 University Veterinary Teaching Hospital 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 (UVTHS)**

Credit points: 4 **Teacher/Coordinator:** Dr Vanessa Barrs **Session:** Semester 1, Semester 2 **Classes:** See description **Prerequisites:** Veterinary Sciences Years 1-4 **Assessment:** Intrasemester: 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 apply it to the diagnosis and treatment of disease in small animal patients. Abundant case-material will be provided to enable hands-on application of the problem-orientated approach to veterinary medicine.

In this rotation emphasis will be placed on acquiring excellent skills in history taking and advanced physical examination. Interns will be given ample opportunities to hone their client communication skills and will participate in a variety of interactive tutorials with referral medicine clinicians. Interpretation of diagnostic imaging scans 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 and construction of treatment plans 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 UVTHS rotations interns will participate in other hospital activities including collection of samples for 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

VETS5357**Rural Mixed Practice Extramural**

Credit points: 3 **Teacher/Coordinator:** Assoc Prof John House **Session:** Semester 1, Semester 2 **Classes:** 18-day Practicum **Prerequisites:** Veterinary Science Years 1 - 4 completed. **Prohibitions:** VETS5337 **Assessment:** Intra-semester: Assignment/s: Supervisor Report (S/U); Case Log (S/U); Communication Task (S/U)

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, and gain an insight into the career opportunities of a Rural Mixed Practice. Student 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.

Textbooks

Smith BP. Large Animal Internal Medicine Mosby 3rd Edn. Reference Books: Radostits OM, Gay CC, Blood DC, Hinchcliff KW. Veterinary Medicine 10th Edn.

VETS5356**Rural Mixed Practice Intramural**

Credit points: 10 **Teacher/Coordinator:** Dr Tony D. Mogg **Session:** Semester 1, Semester 2 **Classes:** 54-day practicum **Prerequisites:** Veterinary Science Years 1 - 4 completed **Prohibitions:** VETS4336 **Assessment:** Intrasemester:

3. Units of study

Supervisor Report Forms; Written Reports; Oral Communication Tasks; Unit of Study Examinations

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 a university rural mixed practice. Through participation in professional activities students are expected to develop their communication skills with the public, staff and colleagues. Student interns must achieve a satisfactory grade in all six services (anaesthesia, equine, livestock, small animals, pathology and dermatology) to fulfil the requirements of this unit of study (including passing all unit of study examinations).

Textbooks

A course handbook will be available for students. It contains details of clinical rotations, learning objectives, reference lists, assessment, staffing as well as other relevant class material.

VETS5358

Rural Public Practice Extramural

Credit points: 4 **Teacher/Coordinator:** Assoc Prof Peter Windsor **Session:** Semester 1, Semester 2 **Classes:** practicals: 18-day practicum **Prerequisites:** Veterinary Sciences Years 1-4 **Prohibitions:** VETS5349 **Assessment:** intrasemester: 1 x written report (max. 2,000 words); 1 x reflective journal (max. 500 words); 1 x communication task; 1 x Supervisor Report Form

This unit of study involves a 28-day rotation with a public agency or company involved in servicing the rural industries and supporting the food and fibre sector. In Australia, the majority of placements are with the NSW Rural Lands Protection Boards (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 international 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. Student interns will be under the supervision of District Veterinarians, Veterinary Officers or their equivalent and may be involved in ongoing projects including the implementation of regional animal health plans, applied research activities, or veterinary surveillance, extension and regulatory programs. Student 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 veterinary associate.

Textbooks

Handbook for Extramural Rotations

VETS5359

Small Animal Practice Extramural

Credit points: 3 **Teacher/Coordinator:** Dr John Baguley / Dr Christine Hawke **Session:** Semester 1, Semester 2 **Classes:** practicals: 18-day practicum **Prerequisites:** Veterinary Science Years 1 - 4 **Prohibitions:** VETS5335 **Assessment:** intra-semester: Assignments; Supervisor Report (S/U); Case Log (S/U); Communication Task (S/U)

The small animal practice extramural rotation builds on skills, knowledge and attitudes, developed throughout the entire course and is designed to enable veterinary student interns to gain a holistic understanding and experience of small animal practice prior to graduation. Veterinary student interns are placed at a Faculty of Veterinary Science approved small animal practice of their choice for a one month 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 veterinary associate. The requirements of 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

A Unit of Study Handbook and WEBCT elearning site contains detailed information & notes for this UoS.

VETS5348

Small Animal Surgery (UVTHS)

Credit points: 4 **Session:** Semester 1, Semester 2 **Prerequisites:** Veterinary Sciences Years 1-4 **Assessment:** other: Ongoing assessment using supervisor report form, and assessment of communications tasks including written medical records and oral presentation in Surgery Rounds.

The UVTHS 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 UVTHS 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.

Honours Elective

VETS5355

Honours Elective

Credit points: 10 **Teacher/Coordinator:** Dr John Baguley **Session:** Semester 1, Semester 2 **Classes:** Practicals: 36 day practicum **Prerequisites:** Veterinary Sciences Years 1-4 VETS5331 Preparation for Veterinary Practice. WAM => 70 **Corequisites:** Permission from Faculty to Enrol. **Assessment:** Supervisor Report (S/U) and Communication Task Intrasemester: (S/U) for each placement. Research Supervisor Report (S/U); Oral defence (S/U); and Dissertation (5,000 words)

Note: Department permission required for enrolment.

This unit of study provides veterinary student interns who have attained a suitable WAM based upon academic achievements in years 1-4 with the opportunity to develop greater proficiency in research within a veterinary related discipline of their choice. Eligible students may enrol in the honours unit of study instead of the two standard elective rotations offered in final year.

Bachelor of Animal and Veterinary Bioscience

Year 1

Year 1 has the following 48 credit point structure:

AFNR1001

The Rural Environment

Credit points: 6 **Teacher/Coordinator:** Dr Daniel Tan **Session:** Semester 1 **Classes:** (2 lec, 1 tut, 2 prac)/wk **Assessment:** On-line assessment (problem based learning), practical reports and plant collection, practical tests, two hr final exam. **Practical field work:** Field practical sessions allow 'hands-on' experience with agronomy and animal husbandry

This unit allows students to discuss Australian rural production and the Australian environment, their interrelation, the issues agriculture and the environment face for the future and the context in which this takes place. It is a core unit for students in BScAgr, BHortSc, BLWSc,

BAnVetBioSc and is the main introductory unit for further studies in the Faculty. For studies in the area of Agriculture and Natural Resources, it is important to be able to identify and describe common domestic animals, crops and weeds, broad acre production systems, key environmental issues and to be able to discuss their significance. Students completing this unit of study will be able to relate the Australian environment to opportunities and limitations for agronomy, animal husbandry and native animal and plant species, partly through problem based learning (PBL) in relation to a topical rural issue. In addition students will practice the identification of economic plant species and explore the ecology of pests and weeds and related integrated management practices. Through the problem based activities, students will learn valuable research skills and how to critically assess sources of information through library and database research. Through the production of reports and essays, students can demonstrate academic writing and recognise the importance of academic honesty.

Textbooks

Pearson CJ, Cunningham GM and King DH (1993). 'A Plain English Guide to Agricultural Plants.' (Longman Cheshire: Melbourne)
 Pratley JE (Ed) (2003). 'Principles of Field Crop Production.' (Oxford University Press: South Melbourne)
 Reid RJ (Ed) (1990). 'The Manual of Australian Agriculture.' (Butterworths: Sydney).

AFNR1002

Climate and the Environment

Credit points: 6 **Teacher/Coordinator:** Dr Daniel Tan **Session:** Semester 2 **Classes:** (2 lec, 1 tut & 2 prac)/wk **Assessment:** On-line assessments (problem based learning), laboratory reports and web activities, 2 hr final exam.

This unit allows the students to discover how climate influences the biophysical and biotic environment and how this affects rural production, native and domestic animals, crops and pastures, native vegetation and pest populations; it also highlights the importance of physics in solving problems in relation to climate and rural production. It is a core unit for students in BScAgr, BHortSc, BLWSc, BAnVetBioSc, builds on knowledge gained in AFNR1001 and lays the basis for studies in the biophysical area of the Faculty. For studies in the area of Agriculture and Natural Resources, it is important to develop knowledge and quantitative skills in the basic physical principles and the main drivers for climate and climate change in an agricultural context. Students completing this unit of study will be able to reflect on the ecosystem interactions between animals, plants and the biophysical environment. In addition, students will experiment with how changes in climate and spatial climate variability can affect animal and pest populations, vegetation densities and cropping patterns and its relation to management decisions. Using problem based activities, students will learn valuable research skills and to critically assess sources of information through library and database research. Students will demonstrate academic writing by producing reports and essays and recognise the importance of academic honesty.

Textbooks

Denny MW (1993) 'Air and Water: the Biology and Physics of Life's Media (Princeton University Press).

AVBS1002

Concepts of Animal Management

Credit points: 6 **Teacher/Coordinator:** Mrs Irene Van Ekris **Session:** Semester 2 **Classes:** 6 hrs/week (lectures and practicals) **Prerequisites:** 6 credit points of junior Biology **Assessment:** practical class testing (20%), written assignments (20%), 90 min exam (60%) **Practical field work:** There will be several whole day practical classes at the Camden campus

This unit will explore the management of animals in natural and man-made environments. At the end of this unit of study, student will understand: The characteristics of the management systems of the major domestic species used for production in Australia and in a world wide context; the characteristics and principles underpinning sustainable management of native animals in natural and man-made environments; an appreciation of the dependence of living organisms upon their environment; an appreciation of the husbandry practices and innovations that have been adopted by the production industries to retain their competitive advantage; a demonstrated capability in

handling and husbandry of the major domestic production animal species, and an appreciation of the application of these skills to non-domestic species; a demonstrated understanding of the importance of high standards of animal welfare practice in the management of animals.

Textbooks

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

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:** BIOL(1911 or 1101 or 1901) **Assumed knowledge:** None. However, students who have not completed HSC Biology (or equivalent) are strongly advised to take the Biology Bridging Course (in February). **Assessment:** One 2.5 hour exam, assignments, quizzes.

Note: It is recommended that BIOL (1001 or 1911) be taken concurrently with all other Junior units of study in Biology. Students who have completed HSC Biology and scored 80+ should enrol in BIOL1911. Students who lack 80+ in HSC Biology but have a UAI of at least 93 may enrol in BIOL1911 with permission from the UEO. The completion of MBLG 1001 is highly recommended.

Concepts in Biology is an introduction to the major themes of modern biology. The unit emphasizes how biologists carry out scientific investigations, from the cellular/molecular level to the level of ecosystems. Topics covered in lectures and practicals include: introductory cell biology, with particular emphasis on how cells obtain and use energy; the diversity and biology of microorganisms; an introduction to molecular biology through the role of DNA in protein synthesis, including current developments in DNA technology; genetics or organisms; theories of evolution and phylogenetic analysis, and how they are used to interpret the origins of the diversity of modern organisms; and interactions between organisms in biological communities, with emphasis on Australian ecology.

Textbooks

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

OR

BIOL1911

Concepts in Biology (Advanced)

Credit points: 6 **Session:** Semester 1 **Classes:** 3 lectures & one 3 hrs prac/wk. **Prerequisites:** 80+ in HSC 2-unit Biology (or equivalent) or Distinction or better in a University level Biology unit, or by invitation. **Prohibitions:** BIOL (1001, 1101, 1901). **Assessment:** One 2.5hr exam, assignments, quizzes.

Note: Department permission required for enrolment. Note: It is recommended that BIOL (1001 or 1911) be taken concurrently with all other Junior units of study in Biology. The completion of MBLG1001 is highly recommended.

Concepts in Biology (Advanced) builds on the main themes introduced in HSC Biology, with emphasis on current research in biology. Topics covered in lectures and practicals include: cell biology, with particular emphasis on how cells obtain and use energy; the diversity and biology of microorganisms; current developments in molecular biology, including recombinant DNA technology and the human genome project; inheritance, genetics and the origins of diversity of modern organisms; and interactions between organisms in biological communities, with emphasis on Australian ecology. Research-based lectures will expand on the general lecture topics and include current investigations of such diverse topic areas as cancer therapies, metabolic malfunction, anarchy in beehives, evolutionary studies of snake reproductive strategies, plant phylogeny and global environmental change.

Textbooks

As for BIOL1001.

BIOL1002

Living Systems

Credit points: 6 **Session:** Semester 2 **Classes:** Three 1 hour lectures and one 3 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.

3. Units of study

Note: It is recommended that BIOL (1001 or 1911) be taken before this unit of study. This unit of study, together with BIOL (1001 or 1911) provides entry to all Intermediate units of study in biology in the School of Biological Sciences.

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.

Textbooks

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

OR

BIOL1902

Living Systems (Advanced)

Credit points: 6 **Session:** Semester 2 **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:** 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.

CHEM1001

Fundamentals of Chemistry 1A

Credit points: 6 **Session:** Semester 1 **Classes:** Three 1 hour lectures and one 1 hour tutorial per week; one 3 hour practical per week for 10 weeks. **Prohibitions:** CHEM1101, CHEM1901, CHEM1109, CHEM1903 **Assumed knowledge:** There is no assumed knowledge of chemistry for this unit of study, but students who have not undertaken an HSC chemistry course are strongly advised to complete a chemistry bridging course before lectures commence. **Assessment:** Theory examination (75%), laboratory exercises and continuous assessment quizzes (25%) **Practical field work:** A series of 10 three-hour laboratory sessions, one per week for 10 weeks of the semester.

The aim of the unit of study is to provide those students whose chemical background is weak (or non-existent) with a good grounding in fundamental chemical principles together with an overview of the relevance of chemistry. There is no prerequisite or assumed knowledge for entry to this unit of study. Lectures: A series of 39 lectures, three per week throughout the semester.

Textbooks

A booklist is contained in the booklet Junior Chemistry distributed at enrolment. Further information can be obtained from the School.

OR

CHEM1101

Chemistry 1A

Credit points: 6 **Session:** Semester 1, Semester 2, Summer Main **Classes:** Three 1 hour lectures and one 1 hour tutorial per week; one 3 hour practical per week for 10 weeks. **Corequisites:** Recommended concurrent units of study: 6 credit points of Junior Mathematics **Prohibitions:** CHEM1001, CHEM1109, CHEM1901, CHEM1903 **Assumed knowledge:** HSC Chemistry and Mathematics **Assessment:** Theory examination (75%), laboratory exercises and continuous assessment quizzes (25%) **Practical field work:** A series of 10 three-hour laboratory sessions, one per week for 10 weeks of the semester.

Chemistry 1A is built on a satisfactory prior knowledge of the HSC Chemistry course. A brief revision of basic concepts of the high school course is given. Chemistry 1A covers chemical theory and physical chemistry. Lectures: A series of 39 lectures, three per week throughout the semester.

Textbooks

A booklist is contained in the booklet Junior Chemistry distributed at enrolment. Further information can be obtained from the School.

CHEM1002

Fundamentals of Chemistry 1B

Credit points: 6 **Session:** Semester 2 **Classes:** Three 1 hour lectures and one 1 hour tutorial per week; one 3 hour practical per week for 10 weeks. **Prerequisites:** CHEM (1001 or 1101) or equivalent **Prohibitions:** CHEM1102, CHEM1108, CHEM1902, CHEM1904 **Assessment:** Theory examination (75%), laboratory exercises and continuous assessment quizzes (25%) **Practical field work:** A series of 10 three-hour laboratory sessions, one per week for 10 weeks of the semester.

CHEM1002 builds on CHEM1001 to provide a sound coverage of inorganic and organic chemistry. Lectures: A series of 39 lectures, three per week throughout the semester.

Textbooks

A booklist is contained in the booklet Junior Chemistry distributed at enrolment. Further information can be obtained from the School.

OR

CHEM1102

Chemistry 1B

Credit points: 6 **Session:** Semester 1, Semester 2, Summer Main **Classes:** One 3 hour lecture and 1 hour tutorial per week; one 3 hour practical per week for 10 weeks. **Prerequisites:** CHEM (1101 or 1901) or a Distinction in CHEM1001 or equivalent **Corequisites:** Recommended concurrent units of study: 6 credit points of Junior Mathematics **Prohibitions:** CHEM1002, CHEM1108, CHEM1902, CHEM1904 **Assessment:** Theory examination (75%), laboratory exercises and continuous assessment quizzes (25%) **Practical field work:** A series of 10 three-hour laboratory sessions, one per week for 10 weeks of the semester.

Chemistry 1B is built on a satisfactory prior knowledge of Chemistry 1A and covers inorganic and organic chemistry. Successful completion of Chemistry 1B is an acceptable prerequisite for entry into Intermediate Chemistry units of study. Lectures: A series of 39 lectures, three per week throughout the semester.

Textbooks

A booklist is contained in the booklet Junior Chemistry distributed at enrolment. Further information can be obtained from the School.

MATH1011

Life Sciences Calculus

Credit points: 3 **Session:** Semester 1, Summer Main **Classes:** Two 1 hour lectures and one 1 hour tutorial per week. **Prohibitions:** MATH1111, MATH1001, MATH1901, MATH1906, BIOM1003 **Assumed knowledge:** HSC Mathematics **Assessment:** One 1.5 hour examination, assignments and quizzes.

This unit is designed for students of the life sciences who do not intend to undertake higher year mathematics and statistics. It includes the fitting of data to various functions and demonstrates the use of calculus in optimisation problems. It extends differential calculus to functions of two variables and develops integral calculus, including the definite integral and multiple integrals.

Textbooks

As set out in the Junior Mathematics Handbook

MATH1015

Biostatistics

Credit points: 3 **Session:** Semester 1 **Classes:** Two 1 hour lectures and one 1 hour tutorial per week. **Prohibitions:** MATH1005, MATH1905, STAT1021, STAT1022, ECMT1010, BIOM1003 **Assumed knowledge:** HSC Mathematics **Assessment:** One 1.5 hour examination, assignments and quizzes.

MATH1015 is designed to provide a thorough preparation in statistics for students in the Biological and Medical Sciences. It offers a comprehensive introduction to data analysis, probability and sampling, inference including t-tests, confidence intervals and chi-squared goodness of fit tests.

There are comprehensive details of this unit of study in the Junior Mathematics Handbook distributed at the time of enrolment.

Textbooks

As set out in the Junior Mathematics Handbook

Year 2

Year 2 has the following 48 credit point structure:

AGEC1006**Economic Environment of Agriculture**

Credit points: 6 **Teacher/Coordinator:** Ms Lynn Henry **Session:** Semester 2 **Classes:** (3 lec, 1 workshop)/wk **Prohibitions:** AGE1003, AGE1004 **Assumed knowledge:** HSC Mathematics **Assessment:** One two hour exam, workshop papers, mid semester exam.

To give students an overview of the structure, viability and importance of the agricultural sector in the Australian economy. It is a core unit of study in the BScAgr, BHortSc and BAnVetBioSc degrees. It is designed to give an understanding of the basic economic principles and how they relate to Australian agriculture. Students will look at basic economic theory and concepts and then apply these concepts to solve simplified versions of real problems faced by the agriculture and resource sectors. Students will look at the relationship between these concepts and the concepts learnt within their science related courses. Students will be able to analyse economic concepts and apply these concepts to real world scenarios. They will be able to synthesis and comprehend the relationship between the economic and science disciplines. The students will gain skills through workshop based tasks, information literacy and communication skills through the presentation of the workshop reports and discussion throughout the workshop.

Textbooks

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

AGCH2004**Agricultural Chemistry**

Credit points: 6 **Teacher/Coordinator:** Dr Caldwell (Coordinator), Prof Fraser **Session:** Semester 1 **Classes:** 3 lec/wk and 33 hr prac **Prerequisites:** 12 junior credit points of Chemistry **Prohibitions:** AGCH2003 **Assessment:** One 2hr theory exam, one 1 hr theory of prac exam, lecture quiz, 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 and 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 five laboratory sessions will involve experiments in the preparation and/or properties of carbohydrates, proteins, lipids and DNA. One session will examine 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) of 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 (2 hour theory exam (70%), assignments/presentations (30%)), the final 20% for this unit of study shall be assessed by a second assignment/presentation

This unit will also 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, MA & Linder Mayer, DB 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 books
Strahan, R (ed.) 1983, *The Australian Museum complete book of Australian mammals*, Angus & Robertson
Frankham R, Ballou JD, Briscoe DA. 2002, *Introduction to Conservation Genetics*, Cambridge University Press. New York

BIOM2001**Biometry 2**

Credit points: 6 **Teacher/Coordinator:** Dr Thomas Bishop **Session:** Semester 1 **Classes:** (2 lec, 1 workshop, 1x2 hr practical)/wk **Prerequisites:** BIOM1003 or (MATH1011 and MATH1015) **Assessment:** 1 2 hour theory exam (30%), 1 2 hour practical exam (30%), 1 written assignment (10%), weekly practical assignments (30%)

This unit of study is designed to introduce students to (i) analysing experiments where there are 3 or more treatment levels (ii) the modelling of regression relationships. It is a core unit for students in BScAgr, BHortSc, BLWSc and BAnVetBioSc, and builds upon the concepts learnt in BIOM1003. In the first part, students will investigate how to analyse experiments with more than 2 treatment levels, multiple factors and different blocking designs. In the second half they will learn to model relationships between response and predictor variables using regression. In addition they will learn about the scientific method and the principles of experimental design. At the end of this unit, students will have learnt how to analyse data using ANOVA and regression, the basic methods needed for their future studies and careers. The students will gain research and inquiry skills through completion of weekly computer assignments and a written assignment on the scientific method. Information literacy and communication skills will be developed through weekly computer work.

*Textbooks**Recommended only:*

Clewer, A. G. & Scarisbrick, D. H. 2001, *Practical Statistics and Experimental Design for Plant and Crop Science*, John Wiley & Sons, West Sussex.
Dytham, C. 2003, *Choosing and Using Statistics: A Biologist's Guide*, Blackwell, Oxford.
McConway, K. J., Jones, M. C. & Taylor, P. C. 1999, *Statistical Modelling using GENSTAT*, Arnold, London.
Mead, R., Curnow, R. N. & Hasted, A. M. 2003, *Statistical Methods in Agriculture and Experimental Biology*, Chapman & Hall/CRC, London.
Morris, T. R. 1999, *Experimental Design and Analysis in Animal Sciences*, CABI Publishing, Oxon.

GENE2001**Agricultural Genetics 2**

Credit points: 6 **Teacher/Coordinator:** Professor Peter Sharp **Session:** Semester 1 **Classes:** (3 lec, 3 prac/tut)/wk **Prerequisites:** At least one of (BIOL1001, BIOL1002, BIOL1101, BIOL1901, BIOL1911) **Assessment:** Exam, assignment, tests.

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.

ANSC3103

Animal Structure and Function A

Credit points: 6 **Teacher/Coordinator:** Dr Melanie Collier **Session:** Semester 1 **Classes:** lectures 3hrs/wk, laboratories/tutorials 3hrs/wk (note these will vary depending upon the week) **Prerequisites:** 12 credit points of junior biology **Assumed knowledge:** ANSC2002 or AVBS1002 **Assessment:** assignments/presentations (45%), theory exam (55%)

Animal Structure and Function A will develop an understanding of the role of the body systems in maintaining homeostasis in an animal's internal environment. In ASFA the structure and function of the cardiovascular, respiratory, central nervous and urinary systems of the body are explored in depth particularly with reference to the maintenance of homeostasis and an animal's perception of, and response to, its environment. The developed understanding of the normal functioning of these systems allows identification of the impact on the animal of abnormal function of these systems. A study of the structure and function of muscle will include its role in movement, as meat in a production setting and in a study of a horse's response to exercise and training. The overall goals of the Unit are (i) to enable students to develop a rich understanding of the relationships between body systems and structures (to be continued in ASFB), (ii) to develop generic skills particularly in oral presentation, (iii) to develop an appreciation of the links between structure, function and their relevance to animal production that will be further developed in advanced, applied studies in Behaviour in third year and in 4th year Animal Production.

Textbooks

The recommended textbook for the animal structure component of the unit is: Dyce, KM, Sack, WO & Wensing, CJG 2002, Textbook of veterinary anatomy, 3rd edn, W.B.Saunders, Philadelphia for the physiology component of this unit: Sherwood, L, Klandorf, H and Yancey, P H (2005) Animal Physiology. From Genes to Organisms. Thomson Brooks Cole A handbook containing details of lecture outlines, objectives, reference lists, details of practical classes, staffing as well as other relevant class material will be available for students to purchase

ANSC3104

Animal Structure and Function B

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:** ANSC3103 **Assumed knowledge:** ANSC2002 or AVBS1002 **Assessment:** anatomy dissection project 20%, topic test 20%, exam 60%

In this Unit students will complete the study of the structure and function of organ systems in animals started in ANSC3103. The role of hormones, the integument and the immune systems will be investigated in relation to maintenance of internal homeostasis. An introduction to digestion and male and female reproductive anatomy and physiology will form the basis for further applied studies in these areas in third year Units of Study in Animal Nutrition and Animal Reproduction. There will be development of the generic skills of critically reading and writing.

Textbooks

For Animal Structure:
Dyce, KM, Sack, WO & Wensing, CJG 2002, Textbook of veterinary anatomy, 3rd edn, W.B.Saunders, Philadelphia
OR
Smallwood, JE 1973, An introductory study to bovine anatomy, The author, Bryan, Texas
For Animal function:
Sherwood, L, Klandorf, H and Yancey, PH 2005. Animal Physiology. From Genes to Organisms. Thomson Brook Cole

AVBS2001

Introductory Veterinary Pathogenesis

Credit points: 6 **Teacher/Coordinator:** Dr Damien Higgins **Session:** Semester 2 **Classes:** 6 hrs/week (lectures and practicals) **Prerequisites:** BIOL1001 and BIOL1002 and (CHEM1101 or CHEM1001) and (CHEM1102 or CHEM1002) and ANSC3103 **Corequisites:** ANSC3104 **Assessment:** Prac class quizzes (10%), mid-semester quiz (15%), essay (15%), practical exam (15%), written exam (50%)

The overarching theme for this unit of study is the concept of the interaction between the host (or the animal), the agent of disease (genetics, physical, chemical and infectious agents) and environmental factors. In disease states, the host responds to the aetiological agent of disease and the environment through one of the basic five pathological processes that occur in tissues. These include inflammation and repair, degeneration and necrosis, circulatory disturbances, tissue deposits and pigments, and disorders of growth. A case based approach will be used whenever possible to illustrate these principles and enable the student to develop a problem solving approach and the skills of critical thinking.

Textbooks

McGavin, MD & Zachary JF 2007, Pathologic Basis of Disease 4th ed., Mosby

Year 3

Core units

ANSC3101

Animal Nutrition 3

Credit points: 6 **Teacher/Coordinator:** Dr Alex Chaves **Session:** Semester 2 **Classes:** lectures 3 hrs/wk, tutorials 1 hr/wk, laboratories 2 hrs/wk **Prerequisites:** ANSC2002 or AVBS1002 **Assessment:** assignments, including web based problem solving exercises (35%), oral presentation (10%), quiz (10%), tutorial (5%), written exam (40%) **Practical field work:** 2 field trips (6 hours)

This Unit of Study builds upon principles discussed in ANSC2002 (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 and wildlife. 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 & Morgan 2002, Animal Nutrition, 6th edn, Prentice Hall

ANSC3102

Animal Reproduction

Credit points: 6 **Teacher/Coordinator:** Dr Chris Grupen **Session:** Semester 1 **Classes:** lectures 2 hrs/week, tutorials 1 hr/week, practicals 3 hrs/week **Prerequisites:** ANSC2002 or AVBS1002 **Assessment:** written and oral assignments 25%, written exam 15%, end of semester written exam 60%

This unit of study provides a comprehensive programme on basic and applied aspects of male and female reproductive biology, with particular emphasis on domestic animals. The fundamental topics include reproductive cycles, sexual differentiation, gametogenesis, fertilization, embryo development, gestation and parturition. The applied aspects include tuition on semen collection and processing, control and management of reproduction, artificial insemination, embryo transfer, pregnancy diagnosis, and induction of parturition.

Classes are given at the Camperdown Campus in Sydney and at the Camden Campus Animal Reproduction Unit in Cobbitty.

Textbooks

Hafez, B & Hafez, ESE (eds) 2000, *Reproduction in farm animals*, Lippincott Williams and Wilkins
Senger, PL 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 2 **Classes:** lectures 3 hrs/wk, practicals 3 hrs/wk **Prerequisites:** GENE2001 or MBLG2072 or MBLG2972 **Assessment:** 30min test on practicals (25%), 1500wd essay (25%), 1.5 hr exam (50%)

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, DS and Mackay, TFC 1995, *An introduction to quantitative genetics*, 4th edn, Longman Chesire, London
OR
Simm, G 1998, *Genetic Improvement of Cattle and Sheep*, Farming Press, Miller Freeman, Tonbridge, UK

AVBS3000

Professional Development

Credit points: 6 **Teacher/Coordinator:** Dr Russell Bush **Session:** Semester 1, Semester 2 **Classes:** 5 preparatory workshops, seminars (throughout years 1-3) **Assessment:** professional development reports (60%), case studies (20%), current animal issues (20%) **Practical field work:** 60 days of work experience including a faculty field trip to be completed throughout the degree program

Students are required to undertake professional development in University vacations as an integral and essential part of their overall training in the degree of Bachelor of Animal and Veterinary Bioscience. Students will complete 60 days of work experience throughout their program, including a minimum of 20 days spent on commercial animal production enterprises and one faculty professional development field trip. Students will visit at least three different farming enterprises in the major and emerging animal production industries. The remaining 40 days will include at least one placement with an animal-related business or service provider, and experience in either a scientific research organisation or short scientific volunteer position. Students will undertake additional placements at relevant animal or animal-related businesses, farms or organisations as required to complete 60 days. A professional consultant-style report must be submitted after each placement. Seminars to promote awareness of career options and current issues in animal science will be provided on a regular basis by past graduates and other professionals working in the animal industries. Students are encouraged to attend as many of these as possible throughout their degree program, and are required

to submit four case studies based on material presented in these seminars. Attendance at seminars is compulsory during third year. Students will also submit an essay on a current issue in the animal science area of their choice.

Textbooks

On-line resource material will be available

Elective units available in 2009

Enrolment in elective units is subject to prerequisite and corequisite requirements, prohibitions and timetabling constraints. Special permission may be required to enrol in some units.

AGCH3025

Chemistry and Biochemistry of Foods

Credit points: 6 **Teacher/Coordinator:** Dr Meredith Wilkes, Dr Robert Caldwell, Prof Les Copeland **Session:** Semester 1 **Classes:** 3 lec/wk; 24 hrs lab **Prerequisites:** AGCH2003 or AGCH2004 or PLNT2001 or PLNT2901 or BCHM2071 or BCHM2072 or 6 credit points of Intermediate units in Chemistry **Prohibitions:** AFNR5102 **Assessment:** One 2-hr theory exam, one 1-hr theory of prac exam, practical reports, lecture quizzes.

This unit of study aims to give students an understanding of the properties of food constituents, and the interactions between these constituents during food processing, storage and digestion. The unit will develop an understanding of the relationship between form and functionality of constituents and the concept of fitness-for-purpose (ie, quality) in converting agricultural products into foods. Students will gain an appreciation of the relationship between chemical composition and properties of macroconstituents (carbohydrates, proteins, lipids) and microconstituents (vitamins, minerals, flavour and antinutritional chemicals) and their functions in plant and animal based foods. The material presented in lectures and practical classes will enable students to develop research and inquiry skills and an analytical approach in understanding the biochemistry of foods, food processing and storage. On completing this unit, students will be able to describe the chemical and biochemical properties of major food constituents, and demonstrate an understanding of the functionality of these constituents in food processing and nutrition. Students will have gained experience in laboratory techniques used in industry for the analysis of some food products, and information literacy and communication skills from the preparation of practical reports.

Textbooks

Laboratory notes will be available for purchase from the Copy Centre in the first week of semester and lecture notes and readings will be made available through WebCT. There is no recommended textbook.

AGCH3032

Land and Water Ecochemistry

Credit points: 6 **Teacher/Coordinator:** Professor Ivan Kennedy, Dr Robert Caldwell **Session:** Semester 2 **Classes:** 5-day field trip in AVCC common break; 20 hr lectures/tutorials, 25 hr laboratory classes and project during semester **Prerequisites:** AGCH2003 or AGCH2004 or PLNT2001 or CHEM24XX or BCHM2XXX or ENVI2001 **Prohibitions:** AGCH3030, AGCH3031 **Assessment:** One 2 hr exam, field trip report and presentation, prac and project reports.

This field-oriented unit will develop professional expertise in rural ecochemistry, measuring impacts on sustainability and seeking solutions to chemical problems at the catchment scale. AGCH3032 is an elective unit suitable for the BSc, BScAgr, BLWSc, BHortSc, BResEc and BAnVetBioSc degrees, building on intermediate units in chemistry or biochemistry. It will promote knowledge and professional skills related to key chemical processes in ecosystems causing risks to soil and water resources, the quality of agricultural produce and to ecological biodiversity. These will be examined by quantitative risk analysis, targeted monitoring and remediation, seeking innovative solutions (e.g. IPM and genetic modification).

A field trip in the AVCC break and professional report on a chosen topic will investigate relevant case studies at selected centres in eastern Australian doing innovative research on global warming and climate change, soil and water quality and environmental protection. Lectures will provide knowledge in the environmental C, N and S cycles important for sustaining action in ecosystems, the nature of greenhouse gases and mitigation of their production including C

sequestration, risks to biota (soil, water, plants, animals) from acidification and innovative means of remediation, environmental risk from pesticides and other pollutants, monitoring and their remediation. In laboratory exercises, students will gain skills in relevant analyses using GC, LC, mass spectrometry and ELISA. The assessment procedures are designed to provide students with skills in definition of research problems and risk assessment, quality in analyses, risk management and remediation, and effective communication of outputs.

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 AGEC1006 or (AGEC1003 and AGEC1004) or RSEC1031 **Prohibitions:** AGEC2001 **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:** Ms Elizabeth Nolan **Session:** Semester 1 **Classes:** (2 lec, 1 tut)/wk **Prerequisites:** AGEC1006 or (AGEC1003 and AGEC1004) or AGEC1002 or AGEC1102 or RSEC1031 or AGEC1031 **Assessment:** One 45 minute mid semester, one group presentation based on individual case studies, one 2000 word case study, one 2hr exam.

This unit of study is designed to provide an introductory understanding of agribusiness marketing in a modern context.

The unit will provide students in the Sciences degrees with an understanding of how the economic theory taught in first year in AGEC1006 can be treated in an applied context. For BAgREc students, it is an intermediate level unit in the Agribusiness major.

In this unit of study students will study the theory relating to the 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 to demonstrate how marketing decisions are made along the marketing chain. At the end of this unit students will be able to use marketing theory to analyse the steps in the marketing chain and be aware of the forces for change within that chain.

By completing this unit, students should have improved their ability to master key theories, identify and frame problems, organise knowledge, carry out individual and group research, and synthesise information. They should also have improved their information literacy skills, and communication skills through group presentations and individual research.

Textbooks

Schaffner, DJ, Schroder, WR and Earle, MD (2003). Food Marketing: An international Perspective, 2nd Edition, McGraw-Hill.

AGEC2103

Production Economics

Credit points: 6 **Teacher/Coordinator:** Ms Shauna Phillips **Session:** Semester 1 **Classes:** (2 lec, 1 tut)/wk **Prerequisites:** ECON1001 or AGEC1006 or (AGEC1003 and AGEC1004) or RSEC1031 **Prohibitions:** AGEC2003 **Assessment:** 1 mid sem exam (50 mins), 1 end sem exam (2hrs), 1 assignment.

Production economics is concerned with production decisions on resource allocation at the firm, industry and economy levels. The topics include: the nature of agricultural resource industry production;

production functions; factor substitution; principles of enterprise combination and multi-product production; firm objectives; constrained and unconstrained maximisation; cost functions and other duality relationships; economies of scale and size in farming; input demands and dual relationships; production over time; productivity and technical change; production under risk and the illustration of the principles involved through the use of practical applications and exercises involving both the agricultural and resource industries. In addition, basic decision analysis will be introduced including basic concepts of probability; concepts of utility; utility functions and elicitation of preferences.

Students will understand the major economic concepts and principles of resource allocation for the firm in the context of agricultural production, and understand the firm and market level economic insights provided by economic analysis of production.

This is a core unit for BAgREc and BResEc students and a non-core unit for BScAgr students. Production Economics is the first of several units of study in the BAgREc and BResEc degrees directed towards developing an economic understanding of how society organizes its production activities. Other related units of study include the third year units Agribusiness Management (BAgREc) and Applied Optimisation (BResEc), and various fourth year units, eg. Quantitative Planning Methods, Agricultural Finance and Risk and Environmental and Resource Economics and other resource economics units.

Students will formulate simple economic optimisation problems of production graphically and mathematically, such problems include unconstrained optimisations, equality-constrained optimisations and linear inequality-constrained optimizations. Students will use both calculus and linear algebra in deriving optimal resource allocations for these problems. Familiarity with performing optimisations and exploring the sensitivity of optima will be developed with the use of spreadsheets and mathematical programming packages.

Textbooks

Debertin, D.L. (2002) Agricultural Production Economics, 2nd edn, D.L. Debertin, University of Kentucky, Lexington.

AGEC3101

Agribusiness Management

Credit points: 6 **Teacher/Coordinator:** Ms Lynn Henry **Session:** Semester 2 **Classes:** (2 lec, 2 wkshp)/wk **Prerequisites:** AGEC2103 or AGEC2003 or AGEC1006 or (AGEC1003 and AGEC1004) **Prohibitions:** AGEC1102; AGEC3103; AGEC3001 **Assessment:** One mid semester exam (1 hour), one final exam (2 hours), workshop papers and assignment.

This unit of study is designed to introduce decision making problems encountered by firms and agribusiness firms and general methods of solving microeconomic decision making problems. It is unit of study that builds on knowledge gained in junior units of study in particular AGEC1006, AGEC2103 and AGEC2102. Students will review production economics and activity analysis and show how budgeting methods can be used to relate them. They will extend these budgeting techniques to problems of time and risk, using capital and parametric budgeting. Students will also be introduced to linear programming and show how this tool is a practical method of solving decision making problems. Students will learn to consider methods for solving decision making problems where the outcomes are not known with certainty. The students will gain skills through workshop based tasks, an assignment, information literacy and communication skills through the presentation of the workshop reports and discussion throughout the workshop.

AGRO3004

Managing Agro-Ecosystems

Credit points: 6 **Teacher/Coordinator:** Dr Carina Moeller, Dr Brett Whelan, Dr Daniel Tan **Session:** Semester 2 **Classes:** (2hrs lec, 3hrs field and computer lab pracs)/wk **Prerequisites:** PLNT2003 or PLNT2903 **Assumed knowledge:** AFNR1001 and AFNR1002 **Assessment:** Crop fact-sheets, report on field practical (group work), take-home exam.

The most critical and interesting questions managers of natural resources face deal with the inherent complexity of agricultural systems. Long- and short-term interactions exist between physical (eg climate, soil) and biological (eg crops, pastures) factors and

agricultural management, among others. To understand these interactions and their impacts on production and environmental outcomes in dryland systems including crop and pastures is the overall aim of this unit. AGRO3004 is a core unit for BScAgr students and builds on knowledge and skills gained in the first year and second year units AFNR1001, AFNR1002, AVBS1002, PLNT2003 and SOIL2003. During the semester, the concept of an agro-ecosystem and principles of crop and pasture production are introduced. Emphasis is given to the magnitude, temporal and spatial scale of variability in agro-ecosystems and the consequent management implications. Computer simulation is used to explore effects of climate, soil type and alternative management options in systems including crops and pastures. Precision agriculture techniques for optimising agricultural management are introduced. Students develop key graduate attributes for agricultural scientists in information literacy, experimentation, critical analysis, written expression and team work.

Textbooks

Pratley J (Ed.) (2003) 'Principles of field crop production (4 edn).' (Oxford University Press: Melbourne, Australia).

ANSC3105

Animal Biotechnology

Credit points: 6 **Teacher/Coordinator:** Prof Chris Moran **Session:** Semester 2 **Classes:** lectures 3 hrs/wk, tutorials 1 hr/wk, seminars/workshops 0.25 hrs/wk, laboratories 0.5 hrs/wk **Prerequisites:** (ANSC2002 or AVBS1002) and GENE 2001 **Assessment:** seminar (20%), essay (20%), 2 hr exam (60%) **Practical field work:** excursions, self-directed learning, supervised reading, computer aided instruction 1.25 hrs/wk

Lectures, tutorials, laboratories (PCR, DNA sequencing and 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 Greg Cronin **Session:** Semester 1 **Classes:** 6 hrs/wk (lectures, demonstrations, discussions and debates) **Prerequisites:** ANSC2002 or AVBS1002 **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, transport, slaughter, 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 welfare, 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: Broom, DM & Fraser, AF 2007, Domestic animal behaviour and welfare, 4th edition, CAB International, Cambridge Uni Press, Cambridge

Other core texts are:

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

Gregory, NG 1998, Meat science and animal welfare, CABI Publishing, Wallingford, UK

Hemsworth, PH & Coleman, GJ 1998, Human-livestock interactions: the stockperson and the productivity and welfare of intensively farmed animals, CAB International, Wallingford, UK

Monamy, V 1996, 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

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

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

BIOL3007

Ecology

Credit points: 6 **Teacher/Coordinator:** A/Prof Ross Coleman **Session:** Semester 2 **Classes:** Two 1 hour lecture and one 3 hour laboratory per week **Prerequisites:** 12 credit points of Intermediate Biology; or 6 credit points of Intermediate BIOL, and ENVI2111 or MARS2006; or 12 credit points of MARS units, including MARS2006 **Prohibitions:** BIOL3907, MARS3102 **Assumed knowledge:** Although not prerequisites, knowledge obtained from BIOL3006/3906, and BIOL3008/3908 and/or BIOL3009/3909, is strongly recommended. **Assessment:** One 2hr exam, presentations, essay, project report.

This unit explores the dynamics of ecological systems, and considers the interactions between individual organisms and populations, organisms and the environment, and ecological processes. Lectures are grouped around four dominant themes: Interactions, Evolutionary Ecology, The Nature of Communities, and Conservation and Management. Emphasis is placed throughout on the importance of quantitative methods in ecology, including sound planning and experimental designs, and on the role of ecological science in the conservation, management, exploitation and control of populations. Relevant case studies and examples of ecological processes are drawn from marine, freshwater and terrestrial systems, with plants, animals, fungi and other life forms considered as required. Students will have some opportunity to undertake short term ecological projects, and to take part in discussions of important and emerging ideas in the ecological literature.

Textbooks

Ecology: an Australian Perspective (2003) Edited by P. Attiwill and B. Wilson. Oxford University Press.

BIOL3009

Terrestrial Field Ecology

Credit points: 6 **Teacher/Coordinator:** Dr Glenda Wardle **Session:** S2 **Intensive Classes:** One 6 day field trip held in the pre-semester break, and 4 practical classes during weeks 1-4 in Semester 2. **Prerequisites:** 12 credit points of Intermediate Biology or ANSC2004 and BIOM2001. **Prohibitions:** BIOL3909 **Assumed knowledge:** BIOL (3006 or 3906). Prior completion of one of these units is very strongly recommended. **Assessment:** Discussions and quiz (10%), research project proposal and brief presentation (10%), sampling project report (20%), specimen collection (10%), research project report (50%).

Note: One 6 day field trip held in the pre-semester break (19 - 24 July 2009) and 4 practical classes during weeks 1-4 in Semester 2.

This field course provides practical experience in the experimental analysis of terrestrial populations and assemblages. Students learn a broad range of ecological sampling techniques and develop a detailed understanding of the logical requirements necessary for manipulative ecological field experiments. The field work incorporates survey techniques for plants, small mammals and invertebrates and thus provides a good background for ecological consulting work. Students attend a week-long field course and participate in a large-scale research project as well as conducting their own research project. Invited experts contribute to the lectures and discussions on issues relating to the ecology, conservation and management of Australia's terrestrial flora and fauna.

BIOL3010

Tropical Wildlife Biology and Management

Credit points: 6 **Session:** S1 Intensive **Classes:** 5 day Field School, followed by 5 days of classes at Sydney University. **Prerequisites:** 12 credit points of Intermediate Biology (BIOL/ENVI/PLNT). **Prohibitions:** BIOL3910 **Assumed knowledge:** None, although BIOL2011/2911 would be useful. **Assessment:** One 2 hour exam, one 1 hour practical exam, a 2000 word practical, a 15 min oral presentation, .

Note: Dates: 15 February - 20 February 2009 Northern Territory, followed by tutorials and practical classes at the University of Sydney 23 February - 27 February 2009.

Due to its isolation from the rest of the world and unique evolutionary history, the Australian terrestrial vertebrate fauna (amphibians, reptiles, birds and mammals) is highly unusual, and hence has a lot to offer in the study of evolutionary processes. The rarity of some species and Australia's unusual climate and landforms present special challenges for the management of our native wildlife. This unit of study addresses the evolution, ecology and management of Australia's terrestrial fauna. The subject comprises a five-day field course in the Northern Territory, near Darwin, where students will learn field-based techniques in wildlife management, combined with lectures given by experts in the evolution, ecology and management of wildlife.

BIOM3006

Statistics for the Natural Sciences

Credit points: 6 **Teacher/Coordinator:** Dr Thomas Bishop **Session:** Semester 2 **Classes:** (2x1 hr workshops, 1x3 hr practical)/wk **Prerequisites:** BIOM2001 or STAT2012 or STAT2912 **Assessment:** 1x3 hour exam (40%), 1 major report (20%), weekly practical assignments (40%)

This unit of study is designed to introduced students to the analysis of data they may face in their future careers, in particular data that are not well behaved, they may be non-normal, there may be missing observations or they may be correlated in space and time. It is a core unit for students in BLWSc and is a prerequisite for those in BScAgr wishing to specialise in Environmetrics. It is also offered to BSc students wishing to complete an applied statistics unit. In the first part, students will learn about the generalisation of the linear regression and ANOVA model to accommodate non-normal data, mixtures of categorical and continuous data and non-linearities in the relationship between the response and predictor variables. In the second part, students will learn about stochastic processes and how to analyse (i) data that is correlated in space and time (ii) designed experiments with REML. At the end of this unit, students will have learnt a range of advanced statistical methods and be equipped to apply this knowledge to analyse data that they may encounter in their future studies and careers. The students will gain research and inquiry skills through completion of weekly computer assignments and a major report where they will analyse a 4th year research project. Information literacy and communication skills will be developed through weekly computer work and an oral presentation of the results from the major report.

ENVI3111

Environmental Law and Ethics

Credit points: 6 **Teacher/Coordinator:** Dr Gerry Bates Dr Jane Johnson **Session:** Semester 1 **Classes:** Two 2 hour lectures per week. **Prerequisites:** 12 credit points of Intermediate Science or Agriculture units. **Prohibitions:** ENVI3001, ENVI3003. **Assumed knowledge:** Intermediate Environmental Science. **Assessment:** Essays, tutorial papers.

This unit of study covers topics in environmental law and ethics. The environmental law component provides an overview of all laws in Australia pertaining to environmental matters and looks at a number of environmental issues at the various levels of analysis, policy making, implementation of policy, enforcement, and dispute resolution. It also provides a broad background to the political and economical issues as they relate to the legal issues involved. It also examines international environmental law, particularly examining how these influence and affect our local policies. The ethics component helps students develop thoughtful and informed positions on issues in environmental ethics using arguments derived from traditional ethics as well as environmentally specific theories. Ethical conflicts are often inevitable and difficult to resolve but using the resources of philosophical ethics and regular reference to case studies, students can learn to recognize the values and considerations at stake in such conflicts, acknowledge differing viewpoints and defend their own well considered positions.

ENVI3112

Environmental Assessment

Credit points: 6 **Teacher/Coordinator:** Dr John Dee Dr Scott Kable **Session:** Semester 2 **Classes:** Two 2 hour lectures per week. **Prerequisites:** 12 credit points of Intermediate Science or Agriculture units. **Prohibitions:** ENVI3002, ENVI3004. **Assumed knowledge:** Intermediate Environmental Science. **Assessment:** Essays, tutorial papers, report.

This unit of study is composed of two components: environmental impact assessment and risk assessment. The former is generally concerned with issues related to environmental impact assessment and builds toward the process of producing an EIS/EIA. Moor specifically it seeks to establish a critical understanding of the theory and practice of environmental impact studies/statements (EIS) and environmental impact assessment processes (EIA) from both the positive (scientific) and normative (value) perspectives. Emphasis is placed on gaining skills in writing and producing an assessment report, which contains logically ordered and tightly structured argumentation that can stand rigorous scrutiny by political processes, the judiciary, the public and the media. The risk assessment component considers a more chemical approach to the assessment of risk and issues of safety with respect to chemicals, ecotoxicology and the environment.

ENTO2001

Agricultural Entomology

Credit points: 6 **Teacher/Coordinator:** Dr Sarah Mansfield **Session:** Semester 2 **Classes:** (2x1hour lecture, 1x3hour practical, 1x1hour insect collection)/week **Assessment:** 1 x 2hr exam (50%), 3 x lab quizzes (15%), 1x practical test (20%), 1 x insect collection (15%).

This unit is an introduction to insects, the most abundant group of organisms. The course begins with insect external and internal anatomy, feeding modes, life cycles and behaviour. Real world examples are used to demonstrate the ecological roles insects play in natural and agricultural ecosystems (e.g. pollinators, herbivores, predators, parasitoids, disease vectors). This knowledge is then linked to aspects of applied entomology: insecticides, biological control, habitat manipulation, integrated pest management, medical entomology and insect conservation. Practical sessions focus on insect morphology and taxonomy, so that students learn to identify common insect orders and families. Students must make a representative insect collection. This course forms the basis of students' entomological knowledge for BScAgr and BHortSc degrees and lays the foundation for future study in entomology.

Textbooks

Required: 1) Laboratory manual, available from University Publishing Service. 2) Zborowski, P. & Storey, R. 1995. A field guide to insects in Australia. Reed New Holland, Sydney. 207 pp.
Recommended: Gullan, P.J. & Cranston, P.S. 2005. The Insects: an outline of entomology. 3rd edition, Blackwell Publishing, Malden, MA. 505 pp.

MICR2022

Microbes in Society

Credit points: 6 **Teacher/Coordinator:** Dr Deborah Blackenberg **Session:** Semester 2 **Classes:** Two 1 hour lectures per week, plus an additional four 1 hour tutorials per semester. Eleven 3 hour practicals per semester

Prerequisites: 6 of Junior Biology and (6 of MBLG (1001 or 1901) or PLNT2001 or PLNT2911) and 6 of Junior Chemistry **Prohibitions:** MICR2922, MICR2002, MICR2902, MICR2004, MICR2008, MICR2012, MICR2909 **Assumed knowledge:** MICR (2021 or 2921 or 2024 or 2026) **Assessment:** One 2 hour theory exam, continuous assessment in practicals, assignment, two quizzes, practical assessment exercises.

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 MBLG (1001 or 1901) or PLNT (2001 or 2901).

Pathogenic microbes cause infectious diseases of humans, animals and plants, and inflict enormous suffering and economic losses. Beneficial microbes are important contributors to food production, agriculture, biotechnology, and environmental processes. The aims of MICR2022/2922 are to explore the impacts and applications of microbes in human society and in the environment at large, and to teach skills and specialist knowledge in several key areas of microbiology. Medical Microbiology lectures will cover bacterial, viral, and fungal pathogens, and will introduce the concepts of epidemiology, transmission, pathogenicity, virulence factors, host/parasite relationships, host defences, prevention of disease, and antibiotic types, functions, and resistance. Lecture topics in other areas include Food (preservation, spoilage, poisoning, industrial context), Industrial (fermentation, traditional and recombinant products, bioprospecting), Environmental (nutrient cycles, atmosphere, wastewater, pollution, biodegradation) and Agricultural (nitrogen fixation, plant pathogens, biocontrols). The laboratory sessions are integrated with the lecture series and are designed to give students practical experience in isolating, identifying and manipulating microorganisms. BSc or BSc (Advanced) students who have completed MICR2021/2921 and MICR2022/2922 may be offered the opportunity to undertake work experience for approx one month in a local microbiology laboratory (hospital, industrial, university etc) subject to availability of places.

Textbooks

Willey et al. (2007) Prescott, Harley and Klein's Microbiology. 7th ed, WCB/McGraw-Hill.

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:** 6 credit points of a Junior unit of study **Prohibitions:** PLNT2902 **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, and the construction of student herbaria. The practical sessions and interactions with staff encourage students to develop their own learning style and enhance a strong sense of self-reliance. Critical thinking, effective communication and other vocational and generic skills are emphasized. The content is well suited to students with interests in botany, plant science and ecology, and is often combined with units of study offered through the School of Biological Sciences and the Faculty of Agriculture, Food and Natural Resources. This unit of study also complements a wide range of units of study from: science (e.g. plant science, earth and environmental science, animal science, bioinformatics, molecular and cell biology, genetics and biotechnology); agriculture (e.g. horticulture, land and water science, and natural resources); and broader disciplines (e.g. education, arts, and environmental law).

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 Robyn Overall, Dr Lindsay Campbell **Session:** Semester 2 **Classes:** 24 lectures; 10 tutorials; 8 x 2 hr and 2x3hr labs; 2x6 hr field trips **Prohibitions:** PLNT2903, BIOL2003, BIOL2903, CROP2001 **Assumed knowledge:** 12 credit points of Junior Biology, or equivalent eg BIOL (1001 or 1101 or 1901 or 1911) and BIOL (1002 or 1902 or 1003 or 1903) **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 Plant Biochemistry and Molecular Biology, 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 (2006) Plant Physiology 4th ed. Sunderland, Mass Sinauer
Recommended reading:

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

Buchanan BB, Grussem 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:** A/Prof Balwant Singh (Coordinator), Prof Alex McBratney, Dr Stephen Cattle **Session:** Semester 1 **Classes:** (3 lec & 3hr prac)/wk **Assessment:** Prac book and fieldtrip report (15%), 3 Quizzes (15%), essay (5%), practical exam (25%), written exam (40%).

This unit of study is designed to introduce students to the fundamental concepts within pedology, soil physics and soil chemistry. These concepts are part of the grounding principles that underpin crop and animal production, nutrient and water cycling, and environmental sustainability taught by other units of study in the Faculty. Students will participate in a two-day field excursion in the first week of semester to examine some common soils of the Sydney Basin, they will also learn to describe soil, and measure soil chemical and physical properties in the field. Referring to common soil profiles of the Sydney Basin, students will concentrate on factors affecting soil formation, the rudiments of soil description, and analysis of soil properties that are used in soil classification. Students will also develop knowledge of the physics of water and gas movement, soil strength, soil chemical properties, inorganic and organic components, nutrient cycles and soil acidity in an agricultural context. At the end of this unit students will become familiar with the factors that determine a soil's composition and behaviour, and will have an understanding of the most important soil physical and chemical properties. Students will develop communication skills through essay, report and practical exercises. The final report and laboratory exercise questions are designed to develop team work and collaborative efforts.

Textbooks

Campbell, K.O. & Bowyer, J.W. (eds) (1988). The Scientific Basis of Modern Agriculture. Sydney University Press.

White, R.E. (2006). Principles and Practice of Soil Science: the Soil as a Natural Resource. 4th ed., Blackwell Science, Oxford.

3. Units of study

Charman, P.E.V. & Murphy, B.W. (2000). Soils: Their properties and management. 2nd ed. Oxford University Press, Melbourne.

Year 4

Year 4 has the following 48 credit point structure, consisting of a research component, core and elective units of study:

Research Project

Students will enrol in either Research Project B1 and B2 (AVBS4013 and AVBS4014) OR Research Project A1, A2, A3 and A4 (AVBS4015, AVBS4016, AVBS4017 and AVBS4018).

Research Project Units

AVBS4013

Research Project B1

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 of course work time will be allocated each week to this unit of study. **Prerequisites:** Animal and Veterinary Bioscience years 1-3 OR Bachelor of Science in Agriculture years 1-3 **Corequisites:** AVBS4014 **Prohibitions:** AVBS4015, AVBS4016, AVBS4017, AVBS4018 **Assessment:** Submit a written literature review on a research topic and give an oral presentation on some aspect of this topic

Research Project B is composed of 12 credit points and consists of units 4013 (Research Project B1) and 4014 (Research project B2). Both units can be taken in the same semester or Unit AVBS4013 in semester 1 and unit AVBS4014 in semester 2. In this unit, students, after consultation with academic(s) and/or researcher(s) choose an area of research interest and investigate various sources of information to produce a written literature review in the chosen research area. Students will also be required to give an oral presentation on some aspect of the research area chosen. In most cases there will be strong alignment between this unit and the activities undertaken in unit AVBS4014.

At the end of this Unit of Study, students will:

Identify a research area, define a problem that impacts on animals and analysed this problem using information from various sources; critically evaluate current research (experimental design, statistical analysis, technical limitations) and identify where the present knowledge is 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; produce a written review, after effectively resourcing the appropriate information, that is clearly written and which abides to accepted principles of scientific writing; develop competency at structuring and delivering an oral presentation on some research topic; apply the range of interpersonal skills necessary to work with peers and researchers.

AVBS4014

Research Project B2

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 of course work time will be allocated each week to this unit of study. **Prerequisites:** Animal and Veterinary Bioscience years 1-3 OR Bachelor of Science in Agriculture years 1-3 **Corequisites:** AVBS4013 **Prohibitions:** AVBS4015, AVBS4016, AVBS4017, AVBS4018 **Assessment:** The students will be assessed on their research capabilities and will submit a report (Written/poster/oral)

Research Project B is composed of 12 credit points and consists of units 4013 (Research Project B1) and 4014 (Research Project B2). Both units can be taken in the same semester or Unit 4013 in semester 1 and unit 4014 in semester 2. In this unit, students, after consultation with an academic(s) and/or researcher(s) choose to:

Undertake the evaluation and analysis of existing experimental data and produce a report (written/poster/oral); in conjunction with a student undertaking units of study in Research Project A, participate in a defined component of this project and produce a report (written/poster/oral); undertake a laboratory project and produce a suitable report (written/poster/oral); produce a desktop review of an

animal industry problem or issue; participate in a group project with other students undertaking Unit 4014 and produce a report (written/poster/oral); undertake some other activity that meets the learning outcomes for this unit of study and produce a report (written/poster/oral). This activity will need to be sanctioned by the Program Coordinator and the year 4 coordinators of the BAnVetBioSc course as well as supervising academic(s)/researcher(s).

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 need to have obtained a second/third year WAM commensurate with obtaining a first class honours 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.

Note: Department permission required for enrolment.

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 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.

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 need to have obtained a second/third year WAM commensurate with obtaining a first class honours 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 is 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.

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 need to have obtained

a second/third year WAM commensurate with obtaining a first class honours grade. **Corequisites:** AVBS4015, AVBS4016, AVBS4018 **Prohibitions:** AVBS4013, AVBS4014 **Assessment:** See AVBS4015

See under AVBS4015 and AVBS4016.

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:** AVBS4015, Animal and Veterinary Bioscience years 1-3. Students need to have obtained a second/third year WAM commensurate with obtaining a first class honours grade. **Corequisites:** AVBS4016, AVBS4017 **Prohibitions:** AVBS4013, AVBS4014 **Assessment:** See AVBS4015

See under AVBS4015 and AVBS4016.

Core units

Animal Genetics area of interest:

AVBS4003

Wildlife and Evolutionary Genetics

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) of lectures, tutorials and practical classes **Prerequisites:** Animal and Veterinary Bioscience years 1-3 OR Bachelor of Science (Agriculture) years 1-3 **Corequisites:** AVBS4001 or (BIOL3018 and BIOL3027) **Assessment:** written and oral assignment (30%), practical reports/class contribution (20%), final written exam (50%)

This unit of study focuses on the role of animal and veterinary biosciences in the field of wildlife management. The unit encourages an approach that spans management, wildlife biology and laboratory sciences. In recognition of the power of genetics as a tool in wildlife management and research, a large component of 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: Important issues in wildlife management in Australia and the Asia-Pacific region; project management as it applies to multifaceted wildlife research and management issues; application of a range of genetic and physiological methods to the study of ecological issues; the use of appropriate analytical methods and molecular markers in wildlife conservation and management; the underlying genetic structural design of the natural world and how this reflects and influences evolutionary processes in healthy and diseased populations; 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.

Students are expected to immerse themselves into the field of conservation, evolutionary genetics and wildlife 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.

Textbooks

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, Ballou, JD & Briscoe, DA 2002, Introduction to Conservation Genetics, Cambridge University Press, Cambridge

Avise, JC 2000, Phylogeography, the history and formation of species, Harvard University Press

Hoelzel, AR 1988, Molecular genetic analysis of populations: a practical approach, 2nd edn, Oxford University Press

Hedrick, PW 2000, Genetics of populations, 2nd edn, Jones and Bartlett Publishers, Sudbury, Massachusetts

BIOL3018

Applications of Recombinant DNA Tech

Credit points: 6 **Teacher/Coordinator:** Dr B Lyon **Session:** Semester 1 **Classes:** Two 1 hour lectures per week; up to 4 hours laboratory per week. **Prerequisites:** 12 credit points from MBLG (2071/297), MBLG (2072/2972) and Intermediate Biology units. For BMedSc students: 36 credit points of Intermediate BMED units including BMED 2802. **Prohibitions:** BIOL3918 **Assessment:** One 2 hour exam, practical reports, assignment/seminar

A unit of study with lectures, practicals and tutorials on the application of recombinant DNA technology and the genetic manipulation of prokaryotic and eukaryotic organisms. Lectures cover the applications of molecular genetics in biotechnology and consider the impact and implications of genetic engineering. Topics include the cloning and expression of foreign genes in bacteria, yeast, animal and plant cells, novel human and animal therapeutics and vaccines including human gene therapy, new diagnostic techniques for human and veterinary disease, the transformation of animal and plant cells, the genetic engineering of animals and plants, and the environmental release of genetically-modified (transgenic) organisms. Practical work may include nucleic acid isolation and manipulation, gene cloning and PCR amplification, DNA sequencing and computer analysis of gene sequences, immunological detection of proteins, and the genetic transformation and assay of plants.

BIOL3027

Bioinformatics and Genomics

Credit points: 6 **Teacher/Coordinator:** Dr Firth **Session:** Semester 1 **Classes:** Two 1 hour lectures and up to 3 hours laboratory per week. **Prerequisites:** 12 credit points from MBLG (2071/2971), MBLG (2072/2972) and Intermediate Biology units. For BMedSc students: 36 credit points of Intermediate BMED units including BMED 2802. **Prohibitions:** BIOL3927 **Assessment:** One 2 hour exam, assignments

A unit of study comprising lectures, practical assignments and tutorials on the application of bioinformatics to the storage, retrieval and analysis of biological information, principally in the form of nucleotide and amino acid sequences. Although the main emphasis is on sequence data, other forms of biological information are considered. The unit begins with the assembly and management of nucleotide sequence data and an introduction to the databases that are normally used for the storage and retrieval of biological data, and continues with signal detection and analysis of deduced products, sequence alignment, and database search methods. Phylogenetic reconstruction based on distance-based methods, parsimony methods and maximum-likelihood methods is described and students are introduced to the idea of tree-space, phylogenetic uncertainty, and taught to evaluate phylogenetic trees and identify factors that will confound phylogenetic inference. Finally, whole genome analysis and comparative genomics are considered. The unit gives students an appreciation of the significance of bioinformatics in contemporary biological science by equipping them with skills in the use of a core set of programs and databases for "in silico" biology, and an awareness of the breadth of bioinformatics resources and applications.

GENE4011

Plant Cytogenetics

Credit points: 6 **Teacher/Coordinator:** Dr Norm Darvey **Session:** Semester 2 **Classes:** (2 lec, 2 seminars/workshops, 1 lab)/wk **Prerequisites:** BIOM2001, GENE2001. **Assessment:** 2hr exam, assignments, practical reports, presentation.

Lectures in cytology and cytogenetics, with special emphasis on cereals and the application of chromosome engineering to plant breeding. The laboratory unit includes routine cytological procedures and tissue culture technology.

Animal Production area of interest:

AVBS4001

Animal Health and Disease

Credit points: 6 **Teacher/Coordinator:** Dr Wendy Muir **Session:** Semester 1 **Classes:** 3.5 hrs/wk lectures, 0.5 hr/wk tutorials, 2 hrs/wk practical (on average) **Prerequisites:** ANSC3104, (Animal and Veterinary Bioscience years 1-3 OR Bachelor of Science in Agriculture years 1-3) **Assessment:** participation in field trips (10%), oral presentations (15%), assignments (15%), 2 hr exam (60%) **Practical field work:** 2 day field trip to Arthursleigh farm

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 minimise 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

Elective units available in 2009

Students select their remaining units from the following (to a total of 48 credit points): 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:** Dr Yani Garcia **Session:** Semester 2 **Classes:** lectures 2 hrs/wk, practicals 3 hrs/wk **Prerequisites:** ANSC3101, (Animal and Veterinary Bioscience years 1-3 OR Bachelor of Science (Agriculture) years 1-3) **Assumed knowledge:** Enrolled students are expected to have some understanding of key components of the dairy production system, including basic knowledge of animal physiology and nutrition. **Assessment:** Whole farm professional report (30%), pracs assessments, (20%), 2 hr exam (50%) **Practical field work:** Two or three visits to commercial dairy farms in NSW

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. Instead, focus is placed on integrating knowledge to gain understanding on the system of production as a whole.

At the end of this unit of study, students will demonstrate a solid understanding of: the characteristics of the dairy industry in Australia and in a world wide context; the key components of pasture-based dairy systems; principles and practices of pasture and feeding management; the application of new technologies to improve efficiency and productivity, (particularly automatic milking).

In addition, students will demonstrate an appreciation of key aspects of reproduction and lactation physiology; 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; the economics of the dairy farm business.

Textbooks

There is no single text that adequately covers the course content and for this reason no formal text is required. However, the following books can be used as basic bibliography for consultation during the course:
Milk Production from Pasture (CW Holmes et al 2002)
Feeding the dairy cow (Chamberlain and Wilkinson 1996)
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 Jaime Gongora **Session:** Semester 2 **Classes:** variable consisting of up to 6hrs/week (students advised to consult weekly timetable) of lectures, tutorials and practical classes **Prerequisites:** Animal and Veterinary Bioscience years 1-3 OR Bachelor of Science (Agriculture) years 1-3 **Corequisites:** AVBS4001 or (BIOL3018 and BIOL3027) **Assessment:** written and oral assignment (30%), practical reports/class contribution (20%), final written exam (50%)

This unit of study focuses on the role and animal and veterinary biosciences in the field of wildlife management. The unit encourages an approach that spans management, wildlife biology and laboratory sciences. In recognition of the power of genetics as a tool in wildlife management and research, a large component of 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: Important issues in wildlife management in Australia and the Asia-pacific region; project management as it applies to multifaceted wildlife research and management issues; application of a range of genetic and physiological methods to the study of ecological issues; the use of appropriate analytical methods and molecular markers in wildlife conservation and management; the underlying genetic structural design of the natural world and how this reflects and influences evolutionary processes in healthy and diseased populations; 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.

Students are expected to immerse themselves into the field of conservation, evolutionary genetics and wildlife 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.

Textbooks

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, Ballou, JD & Briscoe, DA 2002, Introduction to Conservation Genetics, Cambridge University Press, Cambridge

Avise, JC 2000, Phylogeography, the history and formation of species, Harvard University Press

Hoelzel, AR 1988, Molecular genetic analysis of populations: a practical approach, 2nd edn, Oxford University Press

Hedrick, PW 2000, Genetics of populations, 2nd edn, Jones and Bartlett Publishers, Sudbury, Massachusetts

AVBS4004

Food Safety Assessment and Management

Credit points: 6 **Teacher/Coordinator:** Dr Gary Muscatello **Session:** Semester 2 **Classes:** lectures 3hrs/wk, tutorials/practicals 2hrs/wk **Prerequisites:** ANSC3101, ANSC3102, ANSC3103, Animal and Veterinary Bioscience years 1-3 **Corequisites:** AVBS4001 **Assessment:** 1000wd individual report (20%), 1000wd group assignment (25%), 2hr exam (50%), MCQ (5%) **Practical field work:** Field trips 16 hrs in total

This Unit of Study focuses on the issues and practices in the animal industry relevant to food safety and zoonotic disease. This unit will

cover general food safety issues, including risk assessment and hazard analysis of microbes and chemicals. Food-borne diseases of animal origin and their impact on public health will be explored through the examination of zoonotic diseases in scenario-based learning activities. In these processes diagnostic and strategic methods of investigating, controlling and preventing food-borne disease outbreaks will be explored. Students will be introduced to national and international animal and human health policy pertaining to food safety regulations and surveillance initiatives and strategies that underpin these policies. Students in this unit will be introduced to the issues regarding emerging food-borne pathogens and current industry driven topics. By the end of the unit, students should have global and local perspective on the major food-borne diseases, surveillance and control programs.

Textbooks

Torrence ME & Isaacson RE (eds) 2003, Microbial food safety in animal agriculture current topics, Iowa State Press, Ames, Iowa
D'Mello JPF (ed.) 2003, Food safety: contaminants and toxins, CABI Publishing, Wallingford
Palmer SR, Soulsby, E.J.L., Simpson, DIH (eds) 1998, Zoonoses: biology, clinical practice, and public health control, Oxford University Press, Oxford
Jay JM, Loessner MJ, Golden DA 2005, Modern Food Microbiology, 7th edn, Springer, New York
Colville J, Berryhill, D 2007, Handbook of Zoonoses: Identification and Prevention, Elsevier Mosby, St.Louis, MO USA

AVBS4005

Feed Technology

Credit points: 6 **Teacher/Coordinator:** Dr Russell Bush **Session:** Semester 1 **Classes:** lectures 3 hrs/wk **Prerequisites:** ANSC3101, (Animal and Veterinary Bioscience years 1-3 OR Bachelor of Science in Agriculture years 1-3) **Assessment:** poster (15%), oral presentation (10%), assignment (35%), two hour written exam (40%) **Practical field work:** Practicals/field work 3hrs/wk

Feed accounts for approximately 70% of the input costs associated with animal industries, including both monogastric (poultry and pigs, laboratory animals) ruminants (feedlot cattle and sheep) and caecal fermenters (horses, rabbits). The "feed industry" is described as the largest supporting industry for animal agriculture and is a major employer of graduates (undergraduate and postgraduate). Feed manufacturing is a vital part in enabling our animal industry to add value to nutrient sources that are routinely not consumed by humans and are an integral part in improving the overall sustainability of agriculture and food production. The course will provide in-depth understanding of the feed industry, our understanding of factors influencing ingredient variability and availability (physical and economical), methods and applications of processing of ingredients to increase nutrient intake, availability (digestibility), retention and reduce excretion. All facets of the production and regulation of feed production will be discussed relative to their importance in animal agriculture and food production.

Textbooks

There is no textbook for this unit of study. Students should refer to trade information (the library subscribes to several; several specific feed resource web-sites; equipment web-sites) and scientific journals as resources

AVBS4008

Intensive Animal Industries

Credit points: 6 **Teacher/Coordinator:** Dr Jeff Downing **Session:** Semester 2 **Classes:** Lectures 3 hrs/week, practicals 3 hrs/week **Prerequisites:** ANSC3101, ANSC3102, ANSC3103, (Animal and Veterinary Bioscience years 1-3) OR (Bachelor of Science in Agriculture years 1-3) **Prohibitions:** AVBS4006, AVBS4007 **Assessment:** Farm report and in course evaluations (25% pigs), participation and broiler growth study (25% poultry), written exam (50%: poultry and pigs 50:50) **Practical field work:** Visits to an intensive pig farm, feed mill and poultry production and processing units.

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 breeder management guides and product expectations; equipment web-sites, etc) and scientific journals as resources.

AVBS4009

Aquaculture

Credit points: 6 **Teacher/Coordinator:** Dr Joy Becker **Session:** Semester 1 **Classes:** Lectures 2hrs/wk, tutorials 1hr/wk, practicals 3hrs/wk **Prerequisites:** ANSC3101, ANSC3102, ANSC3103, ANSC3104, ANSC3107, Animal and Veterinary Bioscience years 1-3 **Corequisites:** AVBS4001 **Assessment:** written and/or oral assignments (40%), written practical report (25%), exam 2 hrs (35%)

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.

AVBS4012

Extensive Animal Industries

Credit points: 6 **Teacher/Coordinator:** Dr Russell Bush **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 OR Bachelor of Science in Agriculture years 1-3 **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, basic nutrition 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 5 day study tour to the Riverina to evaluate different commercial production systems, 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, RA 1980, 1981, Developments in meat science, vols 1&2, Applied Science Publishers
Lawrie, RA 1985, 1988, 1991, Developments in meat science, vols 3-5, Elsevier Applied Science
Ensminger, ME & Perry RC 1997, Beef cattle science, Interstate Publishers

Temple, G 2000, 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 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 classes. **Prerequisites:** VETS4042 **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:** 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: 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 Ashley Hill **Session:** Semester 1 **Classes:** Online (Sem 1, weeks 1 - 7) **Prerequisites:** VETS7004 Veterinary Epidemiology I **Assessment:** Participation of the student in the weekly online 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:** Semester 1b **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: 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:** Semester 2b **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 (Concepts in the Social Sciences series)

VETS7011**Data Analysis for Policy Making**

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor: TBA **Session:** Semester 1b **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

Thrusfield M. Veterinary Epidemiology. 3rd edn. 1997
Sergeant ESG, Cameron A, Baldock FC. Epidemiological Problem Solving. 2004

VETS7012**Wildlife Epidemiology**

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor: Dr Hume Field **Session:** Semester 1b **Classes:** Online **Prerequisites:** VETS7004 **Assessment:** Participation in weekly online discussions and learning activities; group assignment; individual assignment.

Note: Elective Units of Study offered online will not normally be run with less than 6 participants. All units offered are subject to class size limitations. 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:** Semester 2b **Classes:** Online **Assessment:** Participation in weekly online discussions and learning activities; group assignment; individual assignment.

Note: Department permission required for enrolment. Note: This is a core 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.

VETS7015**Surveillance, Preparedness & Response**

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

Note: Department permission required for enrolment. Note: This is a core 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

VETS7017**Food Safety**

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

Note: Department permission required for enrolment. Note: This is an elective unit in the Veterinary Public Health and Veterinary Public Health Management programs.

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

3. Units of study

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: Iowa State Press. 2003

VETS7018

Research Paper A

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

Note: Department permission required for enrolment. Note: This is an elective 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 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: Prof Ian Gardner **Session:** Semester 2b **Classes:** Online **Prerequisites:** VETS7005 Veterinary Epidemiology 2 **Assessment:** Participation in online class; Group assignment; Individual assignment.

Note: Department permission required for enrolment. 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.

Textbooks

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

VETS7021

Data Analysis for Epidemiology Research

Credit points: 3 **Teacher/Coordinator:** Dr Navneet Dhand **Session:** Semester 2b **Classes:** Online **Assessment:** Participation in online discussions, online quizzes, assignment

Note: Department permission required for enrolment. Note: This is an elective unit in the Veterinary Public Health and Veterinary Public Health Management programs.

This Unit of Study, delivered by distance education using an online classroom, will using four case studies introduce students to the application of three statistical procedures (linear regression, logistic regression, survival analysis) in epidemiological research for animal health and public health. Approaches to account for the impact of confounding, effect modification and clustering suitable for these statistical procedures will be discussed.

Textbooks

Petrie A, Watson P. Statistics for Veterinary and Animal Science. 2nd ed. Oxford: Blackwell. 2006
Dohoo I, Martin W, Stryhn H. Veterinary Epidemiologic Research. Charlottetown: AVC 2003

VETS7025

Leadership, People and Organisations

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor: Wendy Grusin and Greg Cartan **Session:** Semester 1 **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 and Veterinary Public Health 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: Shashanna Evans **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 and Veterinary Public Health Management programs.

This unit 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

Barbara Senior, Jocelyne Fleming. 2006 Organizational Change.

VETS7027

Project Management

Credit points: 6 **Teacher/Coordinator:** Juergen Oschadleus **Session:** Semester 2 **Classes:** Residential and Online. 3-day Residential session in July, 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 and Veterinary Public Health Management programs.

This unit of study is an introduction to project management for students whose main objective is to develop a range of skills in the field of Veterinary Public Health Management. The unit of study is limited to a 3-day residential and distance education, together totalling 150 hours. As a result not every area of project management can be covered in depth. The unit concentrates on the project management processes and deliverables in order to give the student a solid grounding in project management. Obviously project management also involves other areas such as leadership, "soft skills" and the strategic aspects of projects. While some soft skills specific to project management are covered, other leadership and team management aspects are not covered in this unit of study. They are however

covered in the Leadership units of study that are core to the Veterinary Public Health Management Program.

Textbooks

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

VETS7028

Leadership Skills

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Professor Chris Moran Instructor(s): Shashanna Evans **Session:** Semester 1b **Classes:** Online Semester 2 weeks 8 - 14 **Assessment:** Online participation (15%); individual assignments (85%)

Note: *Note: This unit is core in the Animal Breeding Management stream of the Postgraduate Program in Animal Science. It is elective in most other programs.*

This unit of study seeks to enable the development of key managerial skills. Topic areas include strategic planning, management systems, organisational design, human resources, finance, budgets, marketing, self-management, career planning and stakeholder management. By the end of this unit of study you should be able to: design and maintain a successful management system, based on a knowledge of organisational systems that support effective managerial practice; plan, implement, communicate and manage medium and long term strategy; recruit, manage and participate in an effective team; analyse, evaluate and communicate the financial status of an organisation; prepare, manage and report on transparent and accurate budgets; plan and implement marketing objectives; identify and reflect on your own managerial strengths and plan for your future; identify key stakeholders and plan management strategies to address their concerns, practise effective negotiation skills, as part of effective stakeholder management, develop communication skills in order to effectively communicate technical, scientific, financial and commercial information to separate stakeholders.

VETS7038

Research Paper C

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor(s): Supervisors on arrangement **Session:** S1 Intensive, S2 Intensive **Classes:** Supervision **Corequisites:** VETS7018 and Departmental Permission Required **Assessment:** Dissertation/treatise; Progress Reports

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:** Program Academic Supervisor: Dr Jenny-Ann Toribio Instructor(s): Supervisors on arrangement **Session:** S1 Intensive, S2 Intensive **Classes:** Supervision **Corequisites:** VETS7038 and Departmental Permission Required **Assessment:** Dissertation/treatise; Progress Reports

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: Prof Chris Moran Instructor: Assoc Prof Julius van der Werf **Session:** Semester 2 **Classes:** Residential and Online **Prerequisites:** VETS8004 **Corequisites:** Departmental Permission Required **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
Kinghorn BP, Van Der Werf J, Ryan M. Animal Breeding: use of new technologies. Post Graduate Foundation, Veterinary Science, 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

VETS8003

Advanced Applications of Animal Breeding

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Chris Moran Instructor: Assoc Prof Julius van der Werf **Session:** Semester 1 **Classes:** Mode: Residential and online **Prerequisites:** VETS8004 **Assessment:** Online participation, 5,000 - 6,000 words of formal written assignments

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

By completing this unit of study, students should be able to: apply skills in quantitative genetics in simulated cases based in each of the major industry groupings; develop optimal breeding objectives and design effective breeding programs, both within and across farming units.

VETS8004

Advanced Animal Genetics

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Professor Chris Moran Instructor(s): Professor Chris Moran, Dr Sally Isberg **Session:** Semester 1, Semester 2 **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: *Department permission required for enrolment in the following sessions: Semester 1.*

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: Prof Chris Moran Instructor: Prof Chris Moran, Dr Imke Tammen and Dr Kathy Below **Session:** Semester 1, Semester 2 **Classes:** Mode: On-campus or online. On-campus **Classes:** Lectures, practical classes. Online classes: Online learning activities. **Prohibitions:** ANSC3005 **Assessment:** Examination, assignments. Online: online participation, quiz, assignments.

Note: *This unit is core in the Animal Genetics and Reproduction streams of the Postgraduate Program in Animal Science. It is an elective in Animal Breeding Management.*

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: Prof 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: Prof Chris Moran Instructor(s): Prof Gareth Evans, Prof Chis Maxwell **Session:** Semester 1 **Classes:** On-campus lectures, tutorials, laboratory sessions and field work. **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.

VETS8013

Special Topics in Animal Science

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Chris Moran Instructor(s): Supervisors on arrangement. **Session:** Semester 1, Semester 2 **Classes:** Supervised. Tutorials, seminars, essays and directed reading. **Corequisites:** Departmental Permission Required **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: Prof Chris Moran Instructor(s): Assoc Prof Rosanne Taylor, Prof David Fraser, Assoc Prof David Evans, Dr Melanie Collier, Dr 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.

VETS8017

Technologies of Animal Reproduction

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Chris Moran Instructor: Prof 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: Prof Chris Moran Instructor(s): Dr Melanie Collier, Assoc Prof Rosanne Taylor, Assoc Prof Paul McGreevy, Prof David Fraser, Dr 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:** Program Academic Supervisor: Prof Chris Moran **Instructor(s):** Supervisors on arrangement **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:** Program Academic Supervisor: Prof Chris Moran **Instructor(s):** Supervisors on arrangement **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:** Program Academic Supervisor: Prof Chris Moran **Instructor(s):** Supervisors on arrangement **Session:** Semester 1, Semester 2 **Classes:** By supervision **Corequisites:** VETS8022 **Assessment:** Dissertation, progress reports.

Note: This unit is an elective 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:** Program Academic Supervisor: Prof Chris Moran **Instructor(s):** Supervisors on arrangement **Session:** Semester 1, Semester 2 **Classes:** By supervision **Corequisites:** VETS8023 **Assessment:** Dissertation, progress reports.

Note: This unit is an elective 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.

VETS8031

Animal Health and Disease Advanced

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Chris Moran **Instructors:** Dr Wendy Muir, Dr Jenny-Ann Toribio, Dr Robert Dixon, Dr Trish Holyoake, Assoc Prof Peter Windsor, Dr John House **Session:** Semester 1 **Classes:** On-campus lectures, tutorials **Assumed knowledge:** All core Units of Study in Years 1, 2 and 3 of BAnVetBioSc degree or equivalent **Assessment:** examination, assignments, oral presentation, compulsory 2 day excursion

Note: Department permission required for enrolment. Note: 71 This unit is an elective in the Postgraduate Program in Animal Science

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.

Textbooks

Students are advised to consult lecturers for recommended texts

VETS8032

Advanced Dairy Production & Technology

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Chris Moran **Instructor(s):** Prof WJ Fulkerson, Dr Yani Garcia, Dr Pietro Celi, Mr Tony Dowman, Mr Kim McKean **Session:** Semester 1 **Classes:** on-campus lectures, tutorials **Assumed knowledge:** All core Units of Study in Years 1, 2 and 3 of BAnVetBioSc degree or equivalent. **Assessment:** examination, practical report, milking and Ha cap report

Note: Department permission required for enrolment. Note: 0

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.

Textbooks

Where appropriate, relevant reference material will be identified for specific areas of the course

VETS8034

Food Safety Assessment and Management

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Chris Moran **Instructor(s):** Dr Jenny-Ann Toribio, Dr Robert Dixon, Dr Russell Bush, Dr Michelle Hyde **Session:** Semester 1 **Classes:** lectures, tutorials, seminars /workshops, field trips **Assumed knowledge:** All core Units of Study in Years 1, 2 and 3 of BAnVetBioSc degree or equivalent. **Assessment:** individual report, group assignment, written examination

Note: Department permission required for enrolment. Note: 71 This unit is an elective in the Postgraduate Program in Animal Science.

This Unit of Study focuses on the hazards to human and animal health associated with food safety. General food safety issues will be covered, including assessing the risk of microbial and chemical contamination. Zoonotic diseases and the concept of food of animal origin being the source of chemical and biological agents will be explored. Students will also be introduced to the key elements in food safety risk assessment and management, national and international animal and human health policy and surveillance initiatives and by the end of the unit have an awareness of the global situation for major food-borne diseases, surveillance and control programs.

Textbooks

Torrence ME, Isaacson RE. eds. Microbial Food Safety in Animal Agriculture Current Topics. Ames: Iowa Stat Press. 2003

D'Mello JPF. ed. Food safety. Contaminants and toxins. Wallingford: CABI Publishing 2003

Palmer SR, Soulsby E.J.L. Simpson D.H. eds. Zoonoses. Biology, Clinical Practice, and Public Health Control, Oxford: Oxford University Press 1998

VETS8035

Feed Technology

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Chris Moran **Instructor:** Dr Russell Bush **Session:** Semester 1 **Classes:** lectures, tutorials, seminars /workshops, laboratories, field work **Assumed knowledge:** All core Units of Study in Years 1, 2 and 3 of BAnVetBioSc degree or equivalent. **Assessment:** Attendance and participation; written class assignments; final exam

Note: Department permission required for enrolment. Note: 88 This unit is core in the nutrition stream of the Postgraduate Program in Animal Science.

Feed accounts for approximately 70% of the input costs associated with animal industries, including both monogastric (poultry and pigs, laboratory animals) ruminants (feedlot cattle and sheep) and caecal fermenters (horses, rabbits). The "feed industry" is described as the largest supporting industry for animal agriculture and is a major employer of graduates (undergraduate and postgraduate). Feed manufacturing is a vital part in enabling our animal industry to add value to nutrient sources that are routinely not consumed by humans and are an integral part in improving the overall sustainability of agriculture and food production. The course will provide in-depth understanding of the feed industry, our understanding of factors influencing ingredient variability and availability (physical and economical), methods and applications of processing of ingredients to increase nutrient intake, availability (digestibility), retention and

3. Units of study

reduce excretion. All facets of the production and regulation of feed production will be discussed relative to their importance in animal agriculture and food production

Textbooks

There is no textbook for this unit of study. Students should refer to trade information (the library subscribes to several; several specific feed resource web-sites; equipment web-sites) and scientific journals as resources.

VETS8036

Advanced Pig Production & Technology

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Chris Moran Instructor(s): Dr Jeff Downing, Dr Trish Holyoake **Session:** Semester 2 **Classes:** Lectures, practical **Assumed knowledge:** All core Units of Study in Years 1, 2 and 3 of BAnVetBioSc degree or equivalent. **Assessment:** written exam, field report, in-course evaluations (quizzes etc), case study (group work)

Note: Department permission required for enrolment. Note: 71This unit is an elective in the Postgraduate Program in Animal Science.

This unit of study is composed of two parts, a core component and an advanced component. The core component examines various aspects of pig production systems important in maintaining efficiency and profitability. It investigates aspects of breeding, nutrition, housing, growth performance, health, welfare, reproductive capability, waste management and marketing. This component will expand on aspects of previous year 3 units of study in nutrition and reproduction. The advanced component will expand on some aspects of the core component and will introduce new areas related to important industry issues. In this component there will be an emphasis on the use of information from various sources, but especially research, to formulate solutions to sub-optimal performance and other industry related problems and issues. It will also investigate some new technologies pertinent to the Pig production and research associated with the industry.

Textbooks

Where appropriate, relevant reference material will be identified for specific areas of the course.

VETS8037

Advanced Poultry Production & Technology

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Chris Moran Instructor(s): Dr Wendy Muir, Dr Jeff Downing **Session:** Semester 2 **Classes:** lectures, tutorials, seminars/ workshops, laboratories, field work **Assumed knowledge:** All core Units of Study in Years 1, 2 and 3 of BAnVetBioSc degree or equivalent. **Assessment:** Attendance and participation; Written class assignments; Final exam

Note: Department permission required for enrolment. Note: 71This unit is an elective in the Postgraduate Program in Animal Science.

The course will be designed to provide 3 credits of core study components and 3 credits of advanced information. The core components of study will describe the evolution of the poultry industry and key facets of the modern commercial industry with respect to breeding, nutrition, housing and management necessary to obtain maximum production and efficiency while maintaining a balance with product quality and safety, animal health and wellbeing, and environment and industry sustainability.

The advanced components will provide in-depth biological and research aspects associated with the key facets described for core components. The advanced component will also be provided with more interactive time with the industry (site visits, personnel interactions). The students will become familiar with the degree of integration for specific poultry industries and an appreciation for the importance of technology transfer and application.

VETS8040

Advanced Beef Production & Technology

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Chris Moran Instructors: Dr Pietro Celi, Ms Kaylene Scrimgeour **Session:** Semester 2 **Classes:** Lectures, tutorials, Seminars /workshops, laboratories, Field work **Assumed knowledge:** All core Units of Study in Years 1, 2 and 3 of BAnVetBioSc degree or equivalent. **Assessment:** written assignment, practical report and written exam

Note: Department permission required for enrolment. Note: 71This unit is an elective in the Postgraduate Program in Animal Science.

This unit of study covers aspects of beef cattle, management and production. The emphasis of the course is on the development and structure of the beef cattle industry in Australia, beef cattle production systems (management and husbandry) and associated issues including welfare, sustainability and marketing. The course is designed to provide adequate information to understand production factors that influence beef meat quantity and quality. The development of carcass/meat grading systems for the marketing of product will be an important aspect of this UoS. Meat production from alternative species will also be addressed. Concepts discussed in lectures are reinforced by practical classes held in the laboratory and on-farm at Camden and Arthursleigh.

Textbooks

Anderson RS, Edney ATB. Practical Animal Handling. Pergamon Press 1991
Battaglia RA. Handbook of Livestock Management. Prentice Hall 2001
Lawrie RA. Developments in Meat Science No.s 1-2. Applied Science Publishers 1980, 1981
Lawrie RA. Developments in Meat Science No.s 3-5. Elsevier Applied Science 1985, 1988, 1991
Ensminger ME, Perry RC. Beef cattle science. Interstate Publishers 1997
Temple G. Beef cattle handling and facilities design. Fort Collins, Colo: Grandin Livestock Systems, c2000

VETS8041

Advanced Sheep Production & Technology

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Prof Chris Moran Instructors: Dr Pietro Celi, Ms Kaylene Scrimgeour, Mr Byron Biffin, Mr Keith Tribe **Session:** Semester 1 **Classes:** lectures, tutorials, seminars /workshops, laboratories, field work **Assumed knowledge:** Assumed knowledge All core Units of Study in Years 1, 2 and 3 of BAnVetBioSc degree or equivalent. **Assessment:** written assignment, practical report and written examination

Note: Department permission required for enrolment. Note: 71This unit is an elective in the Postgraduate Program in Animal Science.

This unit introduces the concepts of sheep production in the Australian environment within the context of world 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 the wool and sheep meats industries and then describes each of the production systems designed to meet the demand for these products. These will cover extensive grazing systems, shedded animals for super-fine wool production and the use of feedlots to grow prime lambs. 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. Wool measurement practices will be reviewed in detail. The concepts of early and late stage processing of fibre products will be presented. Apparel fibres obtained from other species including goats and alpacas will be compared with wool.

The properties of wool will be assessed against the latest products emanating from synthetic fibre manufacturers.

Textbooks

Anderson RS, Edney ATB. Practical Animal Handling. Pergamon Press 1991
Battaglia RA. Handbook of Livestock Management. Prentice Hall 2001
Cottle DJ. Australian sheep and wool handbook WRONZ Developments. Christchurch 2000
Massy C. The Australian Merino. Viking O'Neil 1990

VETS9001

MVetStud Research Project A

Credit points: 6 **Teacher/Coordinator:** 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 Master of Veterinary Studies

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:** 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 Master of Veterinary Studies

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: Dr Merran Govendir **Instructor(s):** Supervisor(s) in relevant discipline. **Session:** Semester 1, Semester 2 **Classes:** Supervised **Corequisites:** VETS9001 **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 Associate Dean for Postgraduate Studies by the census date of the relevant semester.

Learning outcomes: 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: Dr 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%).

Note: This unit is core to the MVetStud (Small Animal Clinical Studies). Employment in the University Veterinary Teaching Hospital would normally be

a condition of enrolment. Students must possess a veterinary qualification registrable in NSW.

Veterinary interns will be rostered to consult with the University Veterinary Teaching Hospital, Sydney (UVTHS) 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. Missouri: Elsevier Saunders 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 (50% 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%).

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

Veterinary interns will be rostered to consult with the University Veterinary Teaching Hospital, Sydney (UVTHS) 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. Missouri: Elsevier Saunders 2005

VETS9007

Veterinary Surgery

Credit points: 6 **Teacher/Coordinator:** Program Academic Supervisor: Dr Vanessa Barrs Instructor(s): Assoc Prof Geraldine Hunt **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%).

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

Veterinary interns will participate in second opinion, referral, in-house and primary accession consultations with the University Veterinary Teaching Hospital, 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%).

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

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 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

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

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

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

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

VETS9009

Veterinary Diagnostic Imaging

Credit points: 3 **Teacher/Coordinator:** Program Academic Supervisor: Dr Vanessa Barrs Instructor: Prof Robery Wrigley **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 (10%).

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

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.

Postgraduate Coursework in Wildlife and Population Management

Units offered through Wildlife Health & Population Management - a program co-taught by the Faculty of Veterinary Science and the School of Biological Sciences, administered by the Faculty of Science:

WILD5001

Australasian Wildlife: Introduction

Credit points: 6 **Teacher/Coordinator:** Professor Chris Dickman **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

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 **Teacher/Coordinator:** Professor Chris Dickman **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

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:** Assoc Prof DN Phalen **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:** Tony Buckmaster **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 3000 words (20%) and 5000 words (40%) respectively.

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:** Professor Chris Dickman **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

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:** Assoc Prof DN Phalen **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 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.

WILD5009

Research Project

Credit points: 12 **Session:** Semester 1, Semester 2 **Classes:** meetings throughout semester to be arranged with supervisor. **Assessment:** independent research project

Note: Core for the Masters program

A valuable opportunity to apply some of the knowledge gained from earlier coursework, WILD5009 comprises a research project on a topic with significant emphasis on wildlife health and/or population management, as arranged between the student and an appropriate supervisor. This research experience is highly valued by prospective employers as it shows a willingness and ability to undertake guided

but independent research. The project is not conducted by way of contact hours per week for a semester. Instead the student is expected to work on the project full-time and in a continuous manner for the semester. This unit of study is available only to students enrolled in the Master of Applied Science (Wildlife Health and Population Management).

Units offered through the Sydney Bioethics Program:

BETH5000

Core Concepts in Bioethics

Credit points: 6 **Session:** Semester 1 **Classes:** The equivalent of two hours of seminars per week and up to 4 hours per week spent on online learning tasks, small group sessions, project work, and consultation with lecturers. **Assumed knowledge:** A three-year undergraduate degree in science, medicine, nursing, allied health sciences, philosophy/ethics, sociology/anthropology, history, or other relevant field, or by special permission. **Assessment:** Essays; short written assignments; research project/presentation.

Note: A limited number of students may be granted permission to take this unit during their honours year.

This unit of study provides a broad overview of the primary issues in, and theoretical approaches to, bioethics. Following an introduction to the history of bioethics and review of the major theoretical approaches to applied ethics, central debates in bioethics surrounding doctor-patient relationships, informed consent, privacy/confidentiality, research ethics, abortion, euthanasia, genetics, cloning, stem cell research, justice and distribution of health care resources, etc., are examined. In addition to classical cases and traditional theoretical perspectives, emerging topics and alternative perspectives are explored. The unit concludes with the topic of global public health and socio-political critique(s) of the discipline of bioethics itself. Learning activities will include seminars, small group sessions, and project work. It is recommended, but not required, that BETH5000 is taken during students' first semester in the program.

BETH5202

Human and Animal Research Ethics

Credit points: 6 **Teacher/Coordinator:** Dr Karolyn White **Session:** Semester 2 **Classes:** The equivalent of one 2-hour seminar per week presented in flexible mode incorporating seminars and an intensive format. In addition, students will spend up to four hours per week on online learning tasks, small group sessions, project work and consultation. **Assumed knowledge:** A three-year undergraduate degree in science, medicine, nursing, allied health sciences, philosophy/ethics, sociology/anthropology, history, or other relevant field, or by special permission. **Assessment:** Essays, short written assignments, projects/presentations.

Note: A limited number of students may be granted permission to take this unit during their honours year.

This unit introduces students to research ethics in its social context. Students will first analyse the philosophical underpinnings of the research endeavour, including the justifications for engaging in research, research priorities and research integrity. The unit will then review the history of research and research abuses, the evolution of research ethics and the regulation of research in Australia. The second part of the unit will focus on issues arising in the conduct of research including; the protection of research subjects (both human and animal), consent, confidentiality and risk/benefit analysis.

BETH5203

Ethics and Public Health

Credit points: 6 **Session:** Semester 2 **Classes:** The equivalent of one 2-hour seminar per week will be presented in an intensive format. In addition, students will spend up to four hours per week on online learning tasks, small group sessions, project work and consultation with lecturers over the course. **Assumed knowledge:** A three-year undergraduate degree in science, medicine, nursing, allied health sciences, philosophy/ethics, sociology/anthropology, history, or other relevant field, or by special permission. **Assessment:** Essays, short written assignments.

Note: A limited number of students may be granted permission to take this unit during their honours year.

This unit will provide students with an overview of the broader philosophical, ethical, sociopolitical and cultural issues that underlie public health and public health research. Students will first review the history of public health and examine the values that underpin health promotion and disease prevention. The second part of the unit will critique the place of facts and values in public health and the construction and use of information, with particular reference to evidence-based-medicine. The third part of the unit will examine the cultural, moral and social context of public health including the social determinants of health, the construction of health services, the determination of research priorities and issues relating to human rights and global health. Learning activities will include 2-hour weekly seminars and readings. Assessment tasks will consist of essays and a presentation/project.

Unit offered through the Master of Public Health:

PUBH5018

Introductory Biostatistics

Credit points: 6 **Teacher/Coordinator:** Associate Professor Petra Macaskill, Dr Timothy Dobbins **Session:** Semester 1 **Classes:** 2x2hr lecture, 10x1hr lectures, 11x2hr tutorials, 2x1hr and 8x0.5hr 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 descriptive analyses to summarise and display data; concepts underlying statistical inference; basic statistical methods for the analysis of continuous and binary data; and statistical aspects of study design. Specific topics include: sampling; probability distributions; sampling distribution of the mean; confidence interval and significance tests for one-sample, two paired samples and two independent samples for continuous data and also binary data; correlation and simple linear regression; distribution-free methods for two paired samples, two independent samples and correlation; power and sample size estimation for simple studies; statistical aspects of study design and analysis. Students will be required to perform analyses using a calculator and will also be required to conduct analyses using statistical software (SPSS). It is expected that students spend an additional 2 hours per week 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.

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			
VETS1030 Animal Husbandry 1A	6		Semester 1
VETS1033 Animal Husbandry 1B	6	A A basic understanding of biological principles P VETS1030 or VETS1006	Semester 2
VETS1032 Cell Biology 1A	6	A HSC level chemistry and/or biology would be an advantage	Semester 1
VETS1018 Cell Biology 1B	6	P VETS1032 or VETS1013	Semester 2
CHEM1405 Chemistry	6	A HSC Chemistry	Semester 1
VETS1031 Professional Practice 1	6		Semester 2
VETS1014 Veterinary Anatomy and Physiology 1A	6		Semester 1
VETS1034 Veterinary Anatomy and Physiology 1B	6	A VETS1032 or VETS1013 P VETS1014	Semester 2
Year 2			
VETS2010 Animal Digestion and Nutrition	7	A VETS1014, VETS1034	Semester 1
VETS2012 Equine Anatomy	4	P VETS1014, VETS1034, VETS2011, VETS2010	Semester 2
VETS2009 Genetics and Biometry	6	A HSC Mathematics, VETS1018	Semester 1
VETS2013 Principles of Disease	8	A Veterinary Science Year 1 (Semesters 1 and 2) and Year 2 (Semester 1 only)	Semester 2
VETS2008 Professional Practice 2	4	P Either VETS1031 or both VETS1021 and VETS1017	Semester 1
VETS2011 Veterinary Anatomy and Physiology 2A	7	A Veterinary Science Year 1, VETS2010	Semester 1
VETS2016 Veterinary Anatomy and Physiology 2B	8	A VETS1014, VETS1034, VETS2010 P VETS2011	Semester 2
VETS2015 Veterinary Conservation Biology	4		Semester 2
Year 3			
VETS3018 Animal Behaviour and Animal Welfare Sci	3	A Veterinary Science Years 1 - 2	Semester 1
VETS3242 Animal Disease	8	A Veterinary Science Years 1 - 2, Semester 1 Year 3 N VETS3020, VETS3038	Semester 2
VETS3039 Professional Practice 3	4	A VETS1021, VETS1017, VETS2008	Semester 2



4. Tables of units of study

Unit of study	Credit points	A: Assumed knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
VETS3244 Small Animal Medicine and Therapeutics 1	8	A Semesters 1 to 5 of the BVSc P Semesters 1 to 5 of the BVSc	Semester 2
VETS3243 Veterinary Clinical Pathology	4	A Semesters 1 to 5 of the BVSc. P Veterinary Science Years 1 - 2, Semester 1 Year 3. N VETS3025	Semester 2
VETS3040 Veterinary Microbiology	5	A Veterinary Science Years 1 - 2 P VETS2013	Semester 1
VETS3041 Veterinary Parasitology	5	A Veterinary Science Years 1 - 2	Semester 1
VETS3011 Veterinary Pathology	7	A Veterinary Science Years 1 - 2 P VETS2013	Semester 1
VETS3013 Veterinary Pharmacology and Toxicology	4	A Veterinary Science Years 1 - 2 P VETS2013	Semester 1
Year 4			
VETS4331 Animal Husbandry Practical Report	2	A Veterinary Science Years 1-2 before extramural placements commence	Semester 1
VETS4221 Bird Health and Production	4	P Veterinary Science Years 1 - 3	Semester 2
VETS4222 Horse Medicine and Surgery	6	P Veterinary Science Years 1 - 3	Semester 2
VETS4223 Pig Health and Production	4	P Veterinary Science Years 1 - 3	Semester 2
VETS4224 Ruminant Health and Production	10	P Veterinary Science Years 1 - 3	Semester 2
VETS4111 Veterinary Anaesthesia	4	P Veterinary Science Years 1 - 3	Semester 1
VETS4112 Veterinary Medicine & Clinical Pathology	8	P Veterinary Science Years 1 - 3	Semester 1
VETS4113 Veterinary Radiology	4	P Veterinary Science Years 1 - 3	Semester 1
VETS4114 Veterinary Surgery	6	P Veterinary Science Years 1 - 3	Semester 1
Year 5			
VETS5347 Anaesthesia and Intensive Care (UVTHS)	4	P Veterinary Sciences Years 1-4	Semester 1 Semester 2
VETS5350 Elective Rotation 1	5	P Veterinary Sciences Years 1-4	Semester 1 Semester 2
VETS5351 Elective Rotation 2	5	P Veterinary Sciences Years 1-4	Semester 1 Semester 2
VETS5331 Preparation Veterinary Practice	2	P Veterinary Science Years 1 - 4 completed.	Semester 1 Semester 2
VETS5345 Primary Accession Med & Surgery (UVTHS)	4	P Veterinary Sciences Years 1-4	Semester 1 Semester 2
VETS5346 Referral Medicine (UVTHS)	4	P Veterinary Sciences Years 1-4	Semester 1 Semester 2
VETS5357 Rural Mixed Practice Extramural	3	P Veterinary Science Years 1 - 4 completed. N VETS5337	Semester 1 Semester 2
VETS5356 Rural Mixed Practice Intramural	10	P Veterinary Science Years 1 - 4 completed N VETS4336	Semester 1 Semester 2
VETS5358 Rural Public Practice Extramural	4	P Veterinary Sciences Years 1-4 N VETS5349	Semester 1 Semester 2
VETS5359 Small Animal Practice Extramural	3	P Veterinary Science Years 1 - 4 N VETS5335	Semester 1 Semester 2
VETS5348 Small Animal Surgery (UVTHS)	4	P Veterinary Sciences Years 1-4	Semester 1 Semester 2
Honours Elective			
VETS5355 Honours Elective	10	P Veterinary Sciences Years 1-4 VETS5331 Preparation for Veterinary Practice. WAM => 70 C Permission from Faculty to Enrol. <i>Note: Department permission required for enrolment</i>	Semester 1 Semester 2
Bachelor of Animal and Veterinary Bioscience			
Year 1			
Year 1 has the following 48 credit point structure:			
AFNR1001 The Rural Environment	6		Semester 1

Unit of study	Credit points	A: Assumed knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
AFNR1002 Climate and the Environment	6		Semester 2
AVBS1002 Concepts of Animal Management	6	P 6 credit points of junior Biology	Semester 2
BIOL1001 Concepts in Biology	6	A None. However, students who have not completed HSC Biology (or equivalent) are strongly advised to take the Biology Bridging Course (in February). N BIOL(1911 or 1101 or 1901) <i>It is recommended that BIOL (1001 or 1911) be taken concurrently with all other Junior units of study in Biology. Students who have completed HSC Biology and scored 80+ should enrol in BIOL1911. Students who lack 80+ in HSC Biology but have a UAI of at least 93 may enrol in BIOL1911 with permission from the UEO. The completion of MBLG 1001 is highly recommended.</i>	Semester 1 Summer Main
OR			
BIOL1911 Concepts in Biology (Advanced)	6	P 80+ in HSC 2-unit Biology (or equivalent) or Distinction or better in a University level Biology unit, or by invitation. N BIOL (1001, 1101, 1901). <i>Note: Department permission required for enrolment</i> <i>It is recommended that BIOL (1001 or 1911) be taken concurrently with all other Junior units of study in Biology. The completion of MBLG1001 is highly recommended.</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 <i>It is recommended that BIOL (1001 or 1911) be taken before this unit of study. This unit of study, together with BIOL (1001 or 1911) provides entry to all Intermediate units of study in biology in the School of Biological Sciences.</i>	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
CHEM1001 Fundamentals of Chemistry 1A	6	A There is no assumed knowledge of chemistry for this unit of study, but students who have not undertaken an HSC chemistry course are strongly advised to complete a chemistry bridging course before lectures commence. N CHEM1101, CHEM1901, CHEM1109, CHEM1903	Semester 1
OR			
CHEM1101 Chemistry 1A	6	A HSC Chemistry and Mathematics C Recommended concurrent units of study: 6 credit points of Junior Mathematics N CHEM1001, CHEM1109, CHEM1901, CHEM1903	Semester 1 Semester 2 Summer Main
CHEM1002 Fundamentals of Chemistry 1B	6	P CHEM (1001 or 1101) or equivalent N CHEM1102, CHEM1108, CHEM1902, CHEM1904	Semester 2
OR			
CHEM1102 Chemistry 1B	6	P CHEM (1101 or 1901) or a Distinction in CHEM1001 or equivalent C Recommended concurrent units of study: 6 credit points of Junior Mathematics N CHEM1002, CHEM1108, CHEM1902, CHEM1904	Semester 1 Semester 2 Summer Main
MATH1011 Life Sciences Calculus	3	A HSC Mathematics N MATH1111, MATH1001, MATH1901, MATH1906, BIOM1003	Semester 1 Summer Main
MATH1015 Biostatistics	3	A HSC Mathematics N MATH1005, MATH1905, STAT1021, STAT1022, ECMT1010, BIOM1003	Semester 1
Year 2			
Year 2 has the following 48 credit point structure:			
AGEC1006 Economic Environment of Agriculture	6	A HSC Mathematics N AGEC1003, AGEC1004	Semester 2
AGCH2004 Agricultural Chemistry	6	P 12 junior credit points of Chemistry N AGCH2003	Semester 1
ANSC2004 Animal Conservation Biology	6	N VETS2015	Semester 2
AVBS2001 Introductory Veterinary Pathogenesis	6	P BIOL1001 and BIOL1002 and (CHEM1101 or CHEM1001) and (CHEM1102 or CHEM1002) C ANSC3103 C ANSC3104	Semester 2
BIOM2001 Biometry 2	6	P BIOM1003 or (MATH1011 and MATH1015)	Semester 1
GENE2001 Agricultural Genetics 2	6	P At least one of (BIOL1001, BIOL1002, BIOL1101, BIOL1901, BIOL1911)	Semester 1
ANSC3103 Animal Structure and Function A	6	A ANSC2002 or AVBS1002 P 12 credit points of junior biology	Semester 1
ANSC3104 Animal Structure and Function B	6	A ANSC2002 or AVBS1002 P ANSC3103	Semester 2
Year 3			
Core units			
ANSC3101 Animal Nutrition 3	6	P ANSC2002 or AVBS1002	Semester 2
ANSC3102 Animal Reproduction	6	P ANSC2002 or AVBS1002	Semester 1
ANSC3107 Animal Genetics 3	6	P GENE2001 or MBLG2072 or MBLG2972	Semester 2

4. Tables of units of study

Unit of study	Credit points	A: Assumed knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
AVBS3000 Professional Development	6		Semester 1 Semester 2
Elective units available in 2009			
Enrolment in elective units is subject to prerequisite and corequisite requirements, prohibitions and timetabling constraints. Special permission may be required to enrol in some units.			
AGCH3025 Chemistry and Biochemistry of Foods	6	P AGCH2003 or AGCH2004 or PLNT2001 or PLNT2901 or BCHM2071 or BCHM2072 or 6 credit points of Intermediate units in Chemistry N AFNR5102	Semester 1
AGCH3032 Land and Water Ecochemistry	6	P AGCH2003 or AGCH2004 or PLNT2001 or CHEM24XX or BCHM2XXX or ENVI2001 N AGCH3030, AGCH3031	Semester 2
AGEC2101 Market and Price Analysis	6	P ECON1001 or AGECE1006 or (AGEC1003 and AGECE1004) or RSEC1031 N AGECE2001	Semester 2
AGEC2102 Agribusiness Marketing	6	P AGECE1006 or (AGEC1003 and AGECE1004) or AGECE1002 or AGECE1102 or RSEC1031 or AGECE1031	Semester 1
AGEC2103 Production Economics	6	P ECON1001 or AGECE1006 or (AGEC1003 and AGECE1004) or RSEC1031 N AGECE2003	Semester 1
AGEC3101 Agribusiness Management	6	P AGECE2103 or AGECE2003 or AGECE1006 or (AGEC1003 and AGECE1004) N AGECE1102; AGECE3103; AGECE3001	Semester 2
AGRO3004 Managing Agro-Ecosystems	6	A AFNR1001 and AFNR1002 P PLNT2003 or PLNT2903	Semester 2
ANSC3105 Animal Biotechnology	6	P (ANSC2002 or AVBS1002) and GENE 2001	Semester 2
ANSC3106 Animal Behaviour and Welfare Science 3	6	P ANSC2002 or AVBS1002 N VETS3018	Semester 1
BIOL3007 Ecology	6	A Although not prerequisites, knowledge obtained from BIOL3006/3906, and BIOL3008/3908 and/or BIOL3009/3909, is strongly recommended. P 12 credit points of Intermediate Biology; or 6 credit points of Intermediate BIOL, and ENVI2111 or MARS2006 ; or 12 credit points of MARS units, including MARS2006 N BIOL3907, MARS3102	Semester 2
BIOL3009 Terrestrial Field Ecology	6	A BIOL (3006 or 3906). Prior completion of one of these units is very strongly recommended. P 12 credit points of Intermediate Biology or ANSC2004 and BIOM2001. N BIOL3909 <i>One 6 day field trip held in the pre-semester break (19 - 24 July 2009) and 4 practical classes during weeks 1-4 in Semester 2.</i>	S2 Intensive
BIOL3010 Tropical Wildlife Biology and Management	6	A None, although BIOL2011/2911 would be useful. P 12 credit points of Intermediate Biology (BIOL/ENVI/PLNT). N BIOL3910 <i>Dates: 15 February - 20 February 2009 Northern Territory, followed by tutorials and practical classes at the University of Sydney 23 February - 27 February 2009.</i>	S1 Intensive
BIOM3006 Statistics for the Natural Sciences	6	P BIOM2001 or STAT2012 or STAT2912	Semester 2
ENVI3111 Environmental Law and Ethics	6	A Intermediate Environmental Science. P 12 credit points of Intermediate Science or Agriculture units. N ENVI3001, ENVI3003.	Semester 1
ENVI3112 Environmental Assessment	6	A Intermediate Environmental Science. P 12 credit points of Intermediate Science or Agriculture units. N ENVI3002, ENVI3004.	Semester 2
ENTO2001 Agricultural Entomology	6		Semester 2
MICR2022 Microbes in Society	6	A MICR (2021 or 2921 or 2024 or 2026) P 6 of Junior Biology and (6 of MBLG (1001 or 1901) or PLNT2001 or PLNT2911) and 6 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 MBLG (1001 or 1901) or PLNT (2001 or 2901).</i>	Semester 2
PLNT2002 Aust Flora: Ecology and Conservation	6	P 6 credit points of a Junior unit of study N PLNT2902	Semester 1
PLNT2003 Plant Form and Function	6	A 12 credit points of Junior Biology, or equivalent eg BIOL (1001 or 1101 or 1901 or 1911) and BIOL (1002 or 1902 or 1003 or 1903) 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, consisting of a research component, core and elective units of study:			
Research project			
<i>Research project units</i>			
AVBS4013 Research Project B1	6	P Animal and Veterinary Bioscience years 1-3 OR Bachelor of Science in Agriculture years 1-3 C AVBS4014 N AVBS4015, AVBS4016, AVBS4017, AVBS4018	Semester 1 Semester 2

Unit of study	Credit points	A: Assumed knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
AVBS4014 Research Project B2	6	P Animal and Veterinary Bioscience years 1-3 OR Bachelor of Science in Agriculture years 1-3 C AVBS4013 N AVBS4015, AVBS4016, AVBS4017, AVBS4018	Semester 1 Semester 2
AVBS4015 Research Project A1	6	P Animal and Veterinary Bioscience years 1-3. Students need to have obtained a second/third year WAM commensurate with obtaining a first class honours grade. C AVBS4016, AVBS4017, AVBS4018 N AVBS4013, AVBS4014 <i>Note: Department permission required for enrolment</i>	Semester 1 Semester 2
AVBS4016 Research Project A2	6	P Animal and Veterinary Bioscience years 1-3. Students need to have obtained a second/third year WAM commensurate with obtaining a first class honours 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 need to have obtained a second/third year WAM commensurate with obtaining a first class honours grade. C AVBS4015, AVBS4016, AVBS4018 N AVBS4013, AVBS4014	Semester 1 Semester 2
AVBS4018 Research Project A4	6	P AVBS4015, Animal and Veterinary Bioscience years 1-3. Students need to have obtained a second/third year WAM commensurate with obtaining a first class honours grade. C AVBS4016, AVBS4017 N AVBS4013, AVBS4014	Semester 1 Semester 2
Core units			
<i>Animal Genetics area of interest:</i>			
AVBS4003 Wildlife and Evolutionary Genetics	6	P Animal and Veterinary Bioscience years 1-3 OR Bachelor of Science (Agriculture) years 1-3 C AVBS4001 or (BIOL3018 and BIOL3027)	Semester 2
BIOL3018 Applications of Recombinant DNA Tech	6	P 12 credit points from MBLG (2071/297), MBLG (2072/2972) and Intermediate Biology units. For BMedSc students: 36 credit points of Intermediate BMED units including BMED 2802. N BIOL3918	Semester 1
BIOL3027 Bioinformatics and Genomics	6	P 12 credit points from MBLG (2071/2971), MBLG (2072/2972) and Intermediate Biology units. For BMedSc students: 36 credit points of Intermediate BMED units including BMED 2802. N BIOL3927	Semester 1
GENE4011 Plant Cytogenetics	6	P BIOM2001, GENE2001.	Semester 2
<i>Animal Production area of interest:</i>			
AVBS4001 Animal Health and Disease	6	P ANSC3104, (Animal and Veterinary Bioscience years 1-3 OR Bachelor of Science in Agriculture years 1-3)	Semester 1
Elective units available in 2009			
Enrolment in elective units is subject to prerequisite and corequisite requirements, prohibitions and timetabling constraints.			
AVBS4002 Dairy Production and Technology	6	A Enrolled students are expected to have some understanding of key components of the dairy production system, including basic knowledge of animal physiology and nutrition. P ANSC3101, (Animal and Veterinary Bioscience years 1-3 OR Bachelor of Science (Agriculture) years 1-3)	Semester 2
AVBS4003 Wildlife and Evolutionary Genetics	6	P Animal and Veterinary Bioscience years 1-3 OR Bachelor of Science (Agriculture) years 1-3 C AVBS4001 or (BIOL3018 and BIOL3027)	Semester 2
AVBS4004 Food Safety Assessment and Management	6	P ANSC3101, ANSC3102, ANSC3103, Animal and Veterinary Bioscience years 1-3 C AVBS4001	Semester 2
AVBS4005 Feed Technology	6	P ANSC3101, (Animal and Veterinary Bioscience years 1-3 OR Bachelor of Science in Agriculture years 1-3)	Semester 1
AVBS4008 Intensive Animal Industries	6	P ANSC3101, ANSC3102, ANSC3103, (Animal and Veterinary Bioscience years 1-3) OR (Bachelor of Science in Agriculture years 1-3) N AVBS4006, AVBS4007	Semester 2
AVBS4009 Aquaculture	6	P ANSC3101, ANSC3102, ANSC3103, ANSC3104, ANSC3107, Animal and Veterinary Bioscience years 1-3 C AVBS4001	Semester 1
AVBS4012 Extensive Animal Industries	6	P Animal and Veterinary Bioscience years 1-3 OR Bachelor of Science in Agriculture years 1-3 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 <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>This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	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

4. Tables of units of study

Unit of study	Credit points	A: Assumed knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
VETS7009 Animal Health Economics	3	<i>This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	Semester 1b
VETS7010 Animal Health Policy Development	3	<i>This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	Semester 2b
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>	Semester 1b
VETS7012 Wildlife Epidemiology	3	P VETS7004 <i>Elective Units of Study offered online will not normally be run with less than 6 participants. All units offered are subject to class size limitations. This is an elective unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	Semester 1b
VETS7013 Risk Analysis	3	<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>	Semester 2b
VETS7015 Surveillance, Preparedness & Response	3	<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>	Semester 2
VETS7017 Food Safety	3	<i>Note: Department permission required for enrolment</i> <i>This is an elective unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	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 and Veterinary Public Health Management programs.</i>	S1 Intensive S2 Intensive
VETS7020 Diagnostic Tests	3	P VETS7005 Veterinary Epidemiology 2 <i>Note: Department permission required for enrolment</i> <i>This is an elective unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	Semester 2b
VETS7021 Data Analysis for Epidemiology Research	3	<i>Note: Department permission required for enrolment</i> <i>This is an elective unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	Semester 2b
VETS7025 Leadership, People and Organisations	6	<i>This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	Semester 1
VETS7026 Leadership: Managing Change	3	P VETS7025 or VETS7002 <i>This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	Semester 1
VETS7027 Project Management	6	<i>This is a core unit in the Veterinary Public Health and Veterinary Public Health Management programs.</i>	Semester 2
VETS7028 Leadership Skills	3	<i>Note: This unit is core in the Animal Breeding Management stream of the Postgraduate Program in Animal Science. It is elective in most other programs.</i>	Semester 1b
VETS7038 Research Paper C	6	C VETS7018 and Departmental Permission Required <i>Note: Department permission required for enrolment</i>	S1 Intensive S2 Intensive
VETS7039 Research Paper D	6	C VETS7038 and Departmental Permission Required <i>Note: Department permission required for enrolment</i>	S1 Intensive S2 Intensive
VETS8002 Genetic Evaluation and Breeding	6	P VETS8004 C Departmental Permission Required <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
VETS8003 Advanced Applications of Animal Breeding	6	P VETS8004 <i>This Unit of Study is core in the Animal Breeding Management stream of the Postgraduate Program in Animal Science.</i>	Semester 1
VETS8004 Advanced Animal Genetics	6	N ANSC5002 <i>Note: Department permission required for enrolment in the following sessions: Semester 1</i> <i>This unit is core in the Animal Genetics and Animal Breeding Management streams of the Postgraduate Program in Animal Science.</i>	Semester 1 Semester 2
VETS8005 Advanced Animal Biotechnology	6	N ANSC3005 <i>This unit is core in the Animal Genetics and Reproduction streams of the Postgraduate Program in Animal Science. It is an elective in Animal Breeding Management.</i>	Semester 1 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
VETS8013 Special Topics in Animal Science	6	C Departmental Permission Required <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
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

Unit of study	Credit points	A: Assumed knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
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 an elective 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 an elective in the Postgraduate Program in Animal Science.</i>	Semester 1 Semester 2
VETS8031 Animal Health and Disease Advanced	6	A All core Units of Study in Years 1, 2 and 3 of BAnVetBioSc degree or equivalent <i>Note: Department permission required for enrolment Department permission required for enrolment. This unit is an elective in the Postgraduate Program in Animal Science</i>	Semester 1
VETS8032 Advanced Dairy Production & Technology	6	A All core Units of Study in Years 1, 2 and 3 of BAnVetBioSc degree or equivalent. <i>Note: Department permission required for enrolment Department permission required for enrolment.. This unit is an elective in the Postgraduate Program in Animal Science.</i>	Semester 1
VETS8034 Food Safety Assessment and Management	6	A All core Units of Study in Years 1, 2 and 3 of BAnVetBioSc degree or equivalent. <i>Note: Department permission required for enrolment Department permission required for enrolment. This unit is an elective in the Postgraduate Program in Animal Science.</i>	Semester 1
VETS8035 Feed Technology	6	A All core Units of Study in Years 1, 2 and 3 of BAnVetBioSc degree or equivalent. <i>Note: Department permission required for enrolment Department permission required for enrolment. This unit is core in the nutrition stream of the Postgraduate Program in Animal Science.</i>	Semester 1
VETS8036 Advanced Pig Production & Technology	6	A All core Units of Study in Years 1, 2 and 3 of BAnVetBioSc degree or equivalent. <i>Note: Department permission required for enrolment Department permission required for enrolment. This unit is an elective in the Postgraduate Program in Animal Science.</i>	Semester 2
VETS8037 Advanced Poultry Production & Technology	6	A All core Units of Study in Years 1, 2 and 3 of BAnVetBioSc degree or equivalent. <i>Note: Department permission required for enrolment Department permission required for enrolment. This unit is an elective in the Postgraduate Program in Animal Science.</i>	Semester 2
VETS8040 Advanced Beef Production & Technology	6	A All core Units of Study in Years 1, 2 and 3 of BAnVetBioSc degree or equivalent. <i>Note: Department permission required for enrolment Department permission required for enrolment. This unit is an elective in the Postgraduate Program in Animal Science.</i>	Semester 2
VETS8041 Advanced Sheep Production & Technology	6	A Assumed knowledgeAll core Units of Study in Years 1, 2 and 3 of BAnVetBioSc degree or equivalent. <i>Note: Department permission required for enrolment Department permission required for enrolment. This unit is an elective in the Postgraduate Program in Animal Science.</i>	Semester 1
VETS9001 MVetStud Research Project A	6	<i>This unit is core to the Master of Veterinary Studies</i>	Semester 1 Semester 2
VETS9002 MVetStud Research Project B	6	C VETS9001 <i>This unit is core to the Master of 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
VETS9003 Special Topics in Veterinary Studies	6	C VETS9001 <i>This unit is an elective in the Postgraduate Program in Veterinary 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 core to the MVetStud (Small Animal Clinical Studies). Employment in the University Veterinary Teaching Hospital would normally be a condition of enrolment. Students must possess a veterinary qualification registrable in NSW.</i>	Semester 1 Semester 2
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 core to the MVetStud (Small Animal Clinical Studies). Employment in the University Veterinary Teaching Hospital would normally be a condition of enrolment. Students must possess a veterinary qualification registrable in NSW.</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>This unit is core to the MVetStud (Small Animal Clinical Studies). Employment in the University Veterinary Teaching Hospital would normally be a condition of enrolment. Students must possess a veterinary qualification registrable in NSW.</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>This unit is core to the MVetStud (Small Animal Clinical Studies). Employment in the University Veterinary Teaching Hospital would normally be a condition of enrolment. Students must possess a veterinary qualification registrable in NSW.</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 core to the MVetStud (Small Animal Clinical Studies). Employment in the University Veterinary Teaching Hospital would normally be a condition of enrolment. Students must possess a veterinary qualification registrable in NSW.</i>	Semester 1 Semester 2
PUBH5018 Introductory Biostatistics	6		Semester 1
BETH5000 Core Concepts in Bioethics	6	A A three-year undergraduate degree in science, medicine, nursing, allied health sciences, philosophy/ethics, sociology/anthropology, history, or other relevant field, or by special permission. <i>A limited number of students may be granted permission to take this unit during their honours year.</i>	Semester 1

4. Tables of units of study

Unit of study	Credit points	A: Assumed knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
BETH5202 Human and Animal Research Ethics	6	A A three-year undergraduate degree in science, medicine, nursing, allied health sciences, philosophy/ethics, sociology/anthropology, history, or other relevant field, or by special permission. <i>A limited number of students may be granted permission to take this unit during their honours year.</i>	Semester 2
BETH5203 Ethics and Public Health	6	A A three-year undergraduate degree in science, medicine, nursing, allied health sciences, philosophy/ethics, sociology/anthropology, history, or other relevant field, or by special permission. <i>A limited number of students may be granted permission to take this unit during their honours year.</i>	Semester 2
WILD5001 Australasian Wildlife: Introduction	6		S1 Intensive
WILD5002 Australasian Wildlife: Field Studies	6		S1 Intensive
WILD5003 Wildlife Health	6		S1 Late Int
WILD5004 Vertebrate Pest Management	6		S2 Intensive
WILD5005 In Situ Wildlife Management	6		S1 Late Int
WILD5006 Ex Situ Wildlife Management	6		S2 Late Int
WILD5009 Research Project	12	<i>Core for the Masters program</i>	Semester 1 Semester 2

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

Course Rules

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 Development 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 Bioscience unless the candidate has completed the course in the minimum time.
- 5.1.3 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.
- 5.1.4 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	70	70	65
Second Class, Division 2	65	65	65

- 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.

Faculty Rules

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 Bioscience 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/Cwkw_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).
- 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 Development 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 Further details about the Professional Development Program can be found in the unit of study description for AVBS3000 in chapter 3, Units of Study.

Bachelor of Science (Veterinary), BSc(Vet)

Course Rules

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:

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.

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

Faculty Rules

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.

Bachelor of Veterinary Science, BVSc

Course Rules

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
 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 2-4 WAM required for entry into the Honours Elective unit of study in Year 5 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 2-4 WAM will benchmark the normalisation formula.

- 4.6.1 The Honours WAM will be calculated on the Years 2-5 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 dissertation of not more than 5,000 words in length in a format suitable for publication in a relevant journal.

- 4.7.2 The format of the dissertation 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 research 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 4.10, 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.

- 4.13 BVSc with merit shall be awarded to students who achieve a Years 2-5 WAM of 75 or greater but choose not to continue with an identifiable discipline specific honours stream in Year 5.

Faculty Rules

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 Student Centre 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 Sciences

Graduate Diploma in Veterinary Sciences

Please note: new students will not be accepted in the GradDipVetSc in 2008.

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 except with permission of the Dean.
 - 3.3.2 A candidate who does not obtain a WAM of 70 or above will be required to transfer candidature to the GradDipVPH except with permission of the Dean.
 - 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 except with permission of the Dean.
- 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 except with permission of the Dean.

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 (eg. minimum of 4 years work experience in a relevant field) with permission from the Dean.

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 (Animal Genetics, Animal Nutrition, Animal 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 (Animal Genetics, Animal Nutrition, Animal 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 (Animal Genetics, Animal Nutrition, Animal 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.
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 Distance Education 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

Graduate Certificate in Animal Science (GradCertAnimSc)

Graduate Certificate in Veterinary Public Health (GradCertVPH)

Graduate Certificate in Veterinary Public Health Management (GradCertVPHMgt)

Graduate Certificate in Veterinary Studies (GradCertVetStud)

Graduate Diploma in Animal Science (GradDipAnimSc)

Graduate Diploma in Veterinary Public Health (GradDipVPH)

Graduate Diploma in Veterinary Public Health Management (GradDipVPHMgt)

Graduate Diploma in Veterinary Studies (GradDipVetStud)

Master of Animal Science (MAnimSc)

Master of Veterinary Public Health (MVPH)

Master of Veterinary Public Health (Honours) (MVPH(Hons))

Master of Veterinary Public Health Management (MVPHMgt)

Master of Veterinary Public Health Management (Honours) (MVPHMgt(Hons))

Master of Veterinary Studies (MVetStud)

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 by the head of the department concerned 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 her or his 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 New South Wales Veterinary Practitioners Board, 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 her or him 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.

Intending applicants should note that this program is not a pathway to becoming a veterinarian.

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 strongly encouraged to contact the faculty and discuss study options.

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. Intending applicants should consider the list of the units of study available and identify the mode of study that will best suit them in consultation with faculty staff. 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.

A major may be taken subject to the availability of appropriate supervisors.

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. It is anticipated that the majority of students will enrol in the course without a major.

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.

Completion without a major

A candidate should first decide on their primary mode of study (distance, on-campus or supervised) and indicate their preferred units of study, developed in consultation with faculty staff. A candidate without a major will be allocated an academic supervisor for their program, based on the type of units of study selected. A candidate must complete all requirements for the award as outlined above.

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

A candidate for the GradDipVetStud in Small Animal Clinical Studies will also complete the following units in consultation with their supervisor(s):

VETS9003 Special Topics in Veterinary Studies
VETS9004 Case Report in Veterinary Studies

In addition, a candidate for the MVetStud in Small Animal Clinical Studies will complete:

VETS9001 MVetStud Research Project 1
VETS9002 MVetStud Research Project 2

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. Students are generally able to readily transfer their enrolment between the award levels.

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. Intending international on-campus applicants with an interest in Veterinary Public Health should apply for the Veterinary Studies program without a major. These applicants will be advised on selection of appropriate units of study.

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 3 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 the following, depending on availability in particular years:
VETS7012 Wildlife Epidemiology
VETS7013 Risk Analysis
VETS7014 Aquatic Wildlife Epidemiology
VETS7015 Surveillance, Preparedness & Response

VETS7016 Animal Health Data Management
 VETS7017 Food Safety
 VETS7020 Diagnostic Tests
 VETS7021 Data Analysis for Epidemiology Research
 VETS7028 Leadership Skills
 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, except with the permission of the Dean.

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 3 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 for 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 3–5 day residential sessions in Sydney or Armidale.

Graduate Certificate in Animal Science

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 Certificate in Animal Science. Persons with a minimum of 4 years work experience in a relevant discipline may apply for admission to candidature for the 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, which may include up to 24 credit points towards a supervised research project and must include at least 6 credit points of supervised research. Some streams require a minimum of 12 credit points of research.

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
 VETS8035 Feed Technology

And an additional 12 credit points of electives, which may include a research project.

In addition, a candidate for the GradDipAnimSc (Animal Nutrition) will complete:

A further 12 credit points of electives, which may include a research project.

In addition, a candidate for the MAnimSc (Animal Nutrition) will complete:

A further 12 credit points of research.

Animal Breeding Management

A candidate for the GradCertAnimSc (Animal Breeding Management) 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 Breeding Management) 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 (except with permission from the Dean) 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. Intending international on-campus applicants with an interest in Veterinary Public Health should apply for the Veterinary Studies program without a major. These applicants will be advised on selection of appropriate units of study.

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

PUBH5018 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

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. In addition to completing the requirements listed for the Graduate Certificate, the candidate will complete:

VETS7021 Data Analysis for Epidemiology Research

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 (except with permission from the Dean) may continue their candidature to complete the Master of Veterinary Public Health. A candidate for this degree shall satisfactorily complete units of study granting a minimum of 48 credit points by a combination of online distance units. In addition to completing the requirements listed for the Graduate Diploma, the candidate will complete:

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. A candidate for this degree shall satisfactorily complete units of study granting a minimum of 60 credit points by a combination of online distance units. In addition to completing the requirements listed for the Master's, the candidate will complete:

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.

Entry requires a bachelor's degree in science or veterinary science. All prospective students must contact the program chair:

Associate Professor David Phalen, +61 2 90367757, 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.

Entry requires a bachelor's degree in science or veterinary science. All prospective students must contact the program chair: Associate Professor David Phalen, +61 2 90367757, 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.

Entry requires a Graduate Certificate in Applied Science (Wildlife Health and Population Management) or a bachelor's degree in science or vet science. All prospective students must contact the program chair: Associate Professor David Phalen, +61 2 90367757, directly for detailed instructions concerning applications and advice about eligibility.

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 are typically on-campus 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 are 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 3–5 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)	\$20,057(2008 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

6. Postgraduate information

Scholarship	Value \$	Closing date	Qualifications
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 focused 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. 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 2009 Semester 1 study break will extend between Monday, 8 June to Friday, 12 June, 2009.

The Semester 2 break will begin on Monday, 2 November and continue through to Friday, 6 November 2009.

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, Carslaw 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 Counselling 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 and return it no later than 31 October 2008 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:

International Office G12
The 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 Fax +61 2 9565 7310
Email: info@standrewscollege.edu.au
Web: www.standrewscollege.edu.au

St John's College (men and women)
8A Missenden Rd, Camperdown 2050 (Catholic)
Phone: +61 2 9394 5200 Fax: +61 2 9550 6303
Email: admin@stjohns.usyd.edu.au
Web: www.stjohnscollege.edu.au

St Paul's College (men)
City Rd, Newtown 2042 (Anglican)
Phone: +61 2 9550 7444 Email: stpauls@usyd.edu.au
Web: www.stpauls.edu.au

Sancta Sophia College (women and postgraduate men)
8 Missenden Rd, Camperdown 2050
Phone: +61 2 9577 2100 Fax: +61 2 9577 2388
Email: sancta@mail.usyd.edu.au
Web: www.sanctasophiacollege.edu.au

Wesley College (men and women)
Western Avenue, University Grounds, Newtown 2042
Phone: +61 2 9565 3333 Fax: +61 2 9516 3829
Email: applications@wesley.usyd.edu.au
Web: www.wesley.usyd.edu.au

Women's College (women and postgraduate men)
Carillon Ave, Newtown 2042 (non-denominational)
Phone: +61 2 9517 5000 Fax: +61 2 9517 5006
Email: office@thewomenscollege.com.au
Web: www.thewomenscollege.com.au

Mandelbaum House (men and women)
385 Abercrombie Street, Darlington NSW 2008 (Jewish)
Phone: +61 2 9692 5200 Fax: +61 2 9692 5280
Email: admin@mandelbaum.usyd.edu.au
Web: www.mandelbaum.usyd.edu.au

Halls of residence

International House (men and women)
96 City Road, Chippendale NSW 2008 (Non-denominational)
Phone: +61 2 9950 9800 Fax: +61 2 9950 9804
Email: ihoffice@mail.usyd.edu.au
Web: www.usyd.edu.au/int-house

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

Phone: +61 2 9692 0382 (principally for postgraduate students)

Sydney University Village

90 Carillon Avenue, Newtown 2042

Phone: +61 2 9036 4000

Web: www.suv.com.au

Foundations

Centre for Veterinary Education (CVE)

The purpose of the CVE is to provide a comprehensive program of continuing veterinary education. The office is located on Level 2 of the Veterinary Science Conference Centre. The CVE 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 CVE are controlled by a Council elected by the members of the Centre and appointed by the Senate of the University.

Web: 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 8026.

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 Badgery's Creek, Bringelly and Cobbitty.

The University Veterinary Teaching Hospitals

The Faculty of Veterinary Science maintains teaching hospitals on both the Camperdown and Camden campuses, where students and veterinarians work together in a clinical teaching and learning environment. Referral and primary accession cases are seen at both sites, while the University Veterinary Teaching Hospital 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 excellent learning environment for veterinary students.

Wildlife Health Conservation Centre (WHCC)

THE WHCC was designed to facilitate top quality medical and surgical care for wildlife and client-owned exotic pets. It aims to provide: referral and primary care to non-traditional pet species including birds, reptiles, ferrets, rabbits, rodents, fish and zoo animals; to work with local rehabilitation organisations to provide primary and referral care to injured and diseased wildlife; to use the WHCC clinical service, in combination with courses in the curriculum, to provide a foundation in wildlife and exotic animal medicine and conservation biology to veterinary students.

University Farms at Camden

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 Camden campus 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 the University Veterinary Centre, Camden, Veterinary Bioscience Research, JL 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 Science. 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.

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.

Camden campus

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 Teaching Hospital, 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 Teaching Hospital, Camden
410 Werombi Road, Camden 2570
Phone: +61 2 9351 1777
Fax: +61 2 4655 1212

Wildlife Health and Conservation Centre
Werombi Road, Camden 2570 (CO1F)
Phone: +61 2 9036 7745
Fax: +61 2 9036 7762
Email: whcc@vetsci.usyd.edu.au

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

The University of Sydney Library is a network of 17 libraries located on nine campuses. The library website (www.library.usyd.edu.au) provides access to services and resources anywhere at any time. The specialist libraries for research in Veterinary Science are:

Badham Library – visit www.library.usyd.edu.au/libraries/badham/
and Camden Library – www.library.usyd.edu.au/libraries/camden/

The website provides access to the library catalogue (at <http://opac.library.usyd.edu.au>) and a range of research databases, which are used to find references to journal articles (see www.library.usyd.edu.au/databases/).

Library staff are available to assist students in their studies. 'Ask a Librarian' in person, or by email.

(www.library.usyd.edu.au/contacts/index.html)

Museum

Raymond Bullock Museum of Veterinary Anatomy

Established in honour of Raymond Bullock a Professional Officer in the Department of Veterinary Anatomy. The museum holds an extensive collection of anatomical specimens and also the historic T.W. Dadd horseshoe collection and a display of early surgical instruments fully restored.

Located on Level 3 in rooms 311 and 316 of the JD Stewart Building, the museum is open to Veterinary Science students between 8.30am and 4pm, Monday to Friday in semester. The museum is 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 by VetSoc.

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, Medicine 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.

Wildlife Society

The aims of the society include increasing awareness of many aspects of zoology, ecology, conservation (especially conservation of habitats and biodiversity), wildlife health, wildlife rehabilitation, captive breeding and more.

To achieve these aims the society holds educational events throughout the year including lectures, bush walks, zoo trips, field excursions, whale watching, bat colony watching and other activities that members may nominate.

Membership is free and open to all undergraduate and postgraduate students of the University of Sydney as well as University and Union staff and Life Members of the Union.

Veterinary Science Animal Welfare (VSAW)

VSAW aims to foster an understanding of and a respect for animal welfare among students and faculty.

The group provides current, relevant, good quality information and activities to students to further their education regarding animal welfare and endeavours to enhance the faculty's status as an agent for the welfare of animals.

VSAW meet fortnightly with guest speakers and annually holds lively debates and field trips.

VSAW offers a small animal first-aid course to members and is looking to form a committee to develop a large animal first aid course to be held at Camden.

Through VSAW, students will have the opportunity to get involved in various projects, including work experience, conferences and field work.

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. Since 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 Year 3.
Australian Small Animal Veterinary Association Prize in Medicine and Surgery	300 + 2yrs membership to ASAVA	Awarded for proficiency in small animal medicine and surgery in Year 4.
Australian Society for Parasitology Prize in Veterinary Parasitology	400.00	Awarded to the students who present the best project 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 per cent.
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 Veterinary Medicine & Clinical Pathology in Year 4.
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, is 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	200.00	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 Prize in Animal Science	400.00	Proficiency in 4th Year Animal Production with particular reference to dairy.
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 the Australian College of Veterinary Scientists Prize in Epidemiology	Testamur + \$100	Awarded for proficiency in Rural Public Practice Rotation and knowledge of Epidemiology, based on written reports submitted.
Equine Veterinarians Australia Prize in Horse Medicine and Surgery	First-year graduate' subscription to EVA + Set of Bain-Fallon Memorial Lectures	Awarded for proficiency in horse medicine and surgery in 4th Year.
Equine Veterinarians Australia Welfare Science Prize	400.00	Behaviour and Animal Welfare Science who demonstrates the greatest understanding of scientific developments relating to horse welfare in the Animal Welfare Science Essay.
FH Loxton Scholarship in BSc(Vet)	Equiv. To HECS fee Band 3	BSc(Vet) Students - by application only (restricted to male students).
Farr Memorial Prize in Animal Husbandry	500.00	Awarded for proficiency in 1st year horse husbandry.
Friends of the Brush-Tailed Rock Wallaby Scholarship	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.
Grahame Edgar Scholarship	2,000.00	BSc(Vet) Students - by application only.
HG Belschner Prize in Sheep and Wool	120.00	Awarded for proficiency in 1st year sheep and wool.
Hill's Pet Nutrition "Buddy" Award for excellence in Small Animal Clinical Nutrition	500.00	Awarded for proficiency in Small Animal Clinical Nutrition.
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	120.00	Awarded for proficiency in the 5th year Honours Elective Research Essay.
Jack Moran Prize in Veterinary Public Health	120.00	Awarded for proficiency in Veterinary Public Health

7. Other faculty information

Scholarships/Prize	Value \$	Criteria for award
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.
McGarvie Smith Fund Award for Excellence in Rural Public Practice	250.00	Awarded for proficiency in Rural Public Practice in the final year undergraduate class in Veterinary Science at the University of Sydney.
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	1,000.00	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	100.00	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	6,500.00	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	750.00	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	200.00	Awarded for proficiency in Veterinary Medicine in 4th year
The Jean and Ray Blencowe Scholarship	1,319.49 (in 2008)	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.
<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
Veterinary Science Foundation PhD Excellence Award	500.00	Awarded annually to a PhD student in the Faculty of Veterinary Science who is awarded a PhD without significant emendations and the examiners reports indicate excellence of work.
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	350.00	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	250.00	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	500.00	Awarded for proficiency in the 'Written Project' component of Veterinary Conservation Biology in Year 2 relating to Australian native wildlife.
Wollongong Veterinary Hospital Internship Award for Outstanding Achievement	1,500.00	Awarded to recognise and encourage final year vet students to develop and understand a broad range of skills required to succeed in veterinary practice.

The Sydney Summer and Winter Schools

2009	Dates
Summer School	December 2008 to February 2009
Winter School	29 June to 25 July 2009

The Summer School

The Summer School is a full fee-paying, intensive program offering high quality undergraduate and postgraduate subjects from nine faculties. These subjects 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 the first week of January; others in the third week and continue into February (including the exam week). Some subjects run for six weeks; others are shorter. Students can take a maximum of two subjects.

The Winter School

The Winter School is a smaller, more intensive program that runs for four weeks, including the exam week, during July.

Advantages

Attending classes at Sydney University during Summer and Winter School offers many advantages. You can:

- accelerate your academic career and finish your degree sooner
- devote your full attention to a single area of study
- take subjects that are outside your normal degree
- reduce your workload throughout the rest of the year
- repeat subjects in which you may have been unsuccessful
- combine study with a field trip in Australia or a tour overseas.

High school graduates can sample a university subject, and get an early start on their degree.

How to apply

Applications are only accepted online at www.summer.usyd.edu.au. Most subjects 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:

- 29 September 2008 (Summer School)
- 25 May 2009 (Winter School)

Applications close:
28 November 2008 (Session 1, Summer December)
12 December 2008 (Session 2, Summer Main)
9 January 2009 (Session 3, Summer Late)
12 June 2009 (Winter School)

Late application fees may apply after these dates.

Census dates

Students can withdraw from their subject without academic penalty and receive a full refund until the census date (based on when the class commences). However, a late withdrawal fee may apply.

There is one census date for the Winter School, and three for the Summer School, as classes start between December and February.

ID	Session name	Classes begin	Census date
42*	Summer December	8 December 2008	2 January 2009
43	Summer Main	5 January 2009	9 January 2009
44**	Summer Late	19 January 2009	5 February 2009
11	Winter School	29 June 2009	3 July 2009

* 42 Summer December: 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 Summer School classes starting in **December 2008**, students who withdraw from a subject between 29 November 2008 and the relevant census date will receive a refund of tuition fees but will be liable for a \$500 late withdrawal fee.
- For Summer School classes starting in **January 2009**, students who withdraw from a subject between 13 December 2008 and the relevant census date will receive a refund of tuition fees but will be liable for a \$500 late withdrawal fee.
- For Winter School classes starting on **29 June 2009**, students who withdraw from a subject between 27 June 2009 and the relevant census date will receive a refund of their tuition fees but will be liable for a \$500 late fee withdrawal.

Students may withdraw from their Summer or Winter School subject(s) up until 4pm on the last day of the teaching period for that particular subject. 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 who withdraw from a subject after 4pm on the relevant census date will receive no refund of their tuition fee.

Transferring between subjects

Students on a waiting list can transfer between subjects at any time prior to the commencement of class. For all other students, transfers should be completed a week before classes commence. **No** transfers will be allowed after commencement of the class.

Summer and Winter School scholarships

Merit scholarships

Three undergraduate merit scholarships and one postgraduate merit scholarship are available. These are automatically awarded to the top four students in their respective faculty (Arts, Science, or Economics and Business) for their Summer School subject.

Educational/Financial Disadvantage scholarships

Full Summer School scholarships are available to local undergraduate students who have 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. Scholarship applications close on 31 October 2008 (Summer School), and 10 June 2009 (Winter School).

For more information

Website: www.summer.usyd.edu.au

Email: info@summer.usyd.edu.au

Phone: +61 2 9351 5542 Fax: +61 2 9351 5888



General University information

For further information or advice, please call our toll-free helpline on **1300 362 006**.

This section includes information on the following:

Academic progression
 Accommodation Service
 Admissions Office
 Applying for a course
 Attendance
 Bus service
 Campuses
 Careers Centre
 Centre for Continuing Education (CCE)
 Centre for English Teaching (CET)
 Child Care Information Office
 The Co-op Bookshop
 Counselling Service
 Disability Services
 Employment opportunities for students
 Enrolment
 Environmental Policy
 Equity Support Services
 Examinations
 Fees
 Financial Assistance Office
 Freedom of Information
 Graduations Office
 Grievances and appeals
 HECS and Fees Office
 Information and Communications Technology
 International Office
 International Student Support Unit (ISSU)
 Koori Centre and Yooroang Garang
 Learning Centre
 Library
 Mathematics Learning Centre
 Museums and galleries
 MyUni Student Portal
 Orientation and O-Week
 Part-time, full-time attendance
 Policy online
 Printing Service (UPS)
 Privacy
 Research Office
 Scholarships for undergraduates
 Security Service
 Service Management, Information and Communications Technology (ICT)
 Staff and Student Equal Opportunity Unit (SSEOU)
 Student Administration and Support
 Student Centre
 Student identity cards
 Sydney Summer School
 Sydney Student Development
 Sydney Welcome Orientation and Transition Program (SWOT)
 The University of Sydney Foundation Program (USFP)
 Timetabling Unit
 University Health Service

Academic progression

The University requires students to maintain a minimum rate of progression throughout their candidature. Any student who does not satisfy progression requirements for their degree will be placed on a monitored academic progression program. This program requires students to consult an academic adviser in their faculty, to attend a support services information session, and fill in a survey. Students will be advised of the requirements of the program by their faculty.

Students who do not sustain the minimum academic progression requirements may be asked to show cause as to why they should not be excluded from their degree. For further information, please see www.usyd.edu.au/secretariat/students.

Student Affairs, Registrar's Division
 Quadrangle, A14
 The University of Sydney
 NSW 2006 Australia

Phone: +61 2 9351 3183
 Fax: +61 2 9351 3572
 Email: appeals@secretariat.usyd.edu.au

Accommodation Service

This service maintains an extensive database of off-campus accommodation, including shared, full-board and rental properties. Current students can access the online database through the accommodation website or MyUni student portal (myuni.usyd.edu.au).

Level 5, Jane Foss Russell Building, G02
 The University of Sydney
 NSW 2006 Australia

Phone: +61 2 9351 3312
 Fax: +61 2 9351 8262
 Email: accomm@stuserv.usyd.edu.au
 Website: www.usyd.edu.au/stuserv/accommodation

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 permanent resident with qualifications from a non-Australian institution, you can get more information by phoning +61 2 9351 4118.
- 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.

Admissions Office, Student Centre
 Level 3, Jane Foss Russell Building, G02
 The 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
 Website: www.usyd.edu.au/studentcentre/admissions



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 to an undergraduate course, you would generally apply through the Universities Admissions Centre (UAC).

The deadline for applications is the last working day in September in the year before enrolment. For more information see www.uac.edu.au.

Some faculties have additional application procedures, such as the Conservatorium of Music, Sydney College of the Arts and Pharmacy.

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 www.usyd.edu.au/studentcentre.

Note: some faculties use their own specially tailored application forms for admission into their courses. Check with 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 (www.usyd.edu.au/internationaloffice).

Attendance

In cases of illness or misadventure, students should complete an *Application for Special Consideration* form, accompanied by relevant documentation, such as medical certificates, and submit it to the relevant faculty office.

The forms are available at faculty offices, the Student Centre, and online at www.usyd.edu.au/studentcentre/forms.shtml.

Exemption from re-attendance

Although you may have attended certain lectures or practical classes before, exemption from re-attendance is granted only in exceptional circumstances. In any case, you are required to enrol in all units of study in which you propose to take examinations, whether or not you have been granted leave of absence (or exemption) from re-attendance at lectures and/or practical work. To obtain exemption from re-attendance, apply at your faculty office.

Bus service

A free bus service operates to, from and around Camperdown and Darlington campuses each weekday that Fisher Library is open (except for public holidays). The service commences at 4.15pm and concludes at Fisher Library closing time.

Two buses operate along the route, starting at Fisher Library and finishing at Redfern station. The buses leave at approximately 10 minute intervals during semester and in semester breaks.

The bus timetable/route guide can be collected from Security Administration or Campus Infrastructure Services reception.

Floor 2, Services Building G12
Corner of Codrington and Abercrombie Streets
Darlington Campus

The University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 4753
Fax: +61 2 9351 5699
Website: www.security.usyd.edu.au

Campuses

The University has ten different teaching campuses, located throughout the Sydney area. For information on each campus, including maps, contact details and parking information, see www.usyd.edu.au/about/campus/pub/campus.shtml.

Campus	Faculties
Camperdown and Darlington campuses	Faculty of Arts Faculty of Architecture, Design and Planning Faculty of Agriculture, Food and Natural Resources Faculty of Economics and Business Faculty of Education and Social Work Faculty of Engineering and Information Technologies Faculty of Medicine Faculty of Pharmacy Faculty of Science Faculty of Veterinary Science The Sydney Summer School
Cumberland Campus	Faculty of Health Sciences
St James Campus	Faculty of Law
Mallett Street Campus	Faculty of Nursing and Midwifery The Centre for English Teaching The NHMRC Clinical Trials Centre
Sydney Conservatorium of Music	The Sydney Conservatorium of Music
Sydney College of the Arts	Sydney College of the Arts (SCA)
Camden Campus	Faculty of Veterinary Science Faculty of Agriculture, Food and Natural Resources
Surry Hills Campus	Faculty of Dentistry
Burren Street Campus	Institute of Transport and Logistics Studies

Careers Centre

The University's Careers Centre can provide you with assistance if you are not sure of your career path, and help you to find both casual and career-related employment.

The Careers Centre provides a range of free and accessible services for students, including:

- help in finding casual and part-time work
- finding career-related work experience and graduate employment
- an internet vacancy database
- individual careers advice and counselling, by appointment
- comprehensive library and online resources
- workshops in resume writing, interview skills, and job searching
- careers fairs, employer presentations and talks.

Careers Centre
Jane Foss Russell Building, G02
The University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 3481
Fax: +61 2 9351 5134
Email: careers.information@usyd.edu.au
Website: www.careers.usyd.edu.au

Centre for Continuing Education (CCE)

The CCE provides the community with the opportunity to engage with the University of Sydney, offering people access to the academic expertise of one of Australia's finest educational institutions.

As a community leader, the CCE provides lifelong learning opportunities for people at all stages of life who want to undertake a course in self-enrichment, engage in active retirement learning,

upgrade their professional skills and qualifications, or bridge a gap between previous study and university. CCE offers short courses in all areas of the Humanities and Social Sciences, Languages, Science and Technology, Business and Management, and Continuing Professional Development.

160 Missenden Road
Newtown NSW 2042

Postal address:
Locked Bag 2020
Glebe NSW 2037

Phone: +61 2 9036 4789
Fax: +61 2 9036 4799
Email: cce.info@usyd.edu.au
Website: www.cce.usyd.edu.au

Centre for English Teaching (CET)

The CET offers English language and academic study skills programs to international students who need to develop their English language skills in order to meet academic entry requirements.

Wentworth Building, G01
The University of Sydney
NSW 2006 Australia

Phone: +61 2 9036 7900
Fax: +61 2 9036 7910
Email: info@cet.usyd.edu.au
Website: www.usyd.edu.au/cet

Child Care Information Office

The Child Care Information Office has information for parents who are students and staff of the University, about child care centres, vacation and occasional care. For more details, see the child care website, via the MyUni student portal (myuni.usyd.edu.au) or the Services for Students website (www.usyd.edu.au/stuserv).

Child Care Information Office
Level 5, Jane Foss Russell Building, G02
The University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 5667
Fax: +61 2 9351 7055
Email: childc@stuserv.usyd.edu.au
Website: www.usyd.edu.au/childcare

The Co-op Bookshop

The Co-op Bookshop is a one-stop store for:

- textbooks
- general books
- reference books
- University of Sydney clothing and memorabilia
- DVDs
- flash drives
- software at academic prices

Take advantage of a lifetime of membership benefits. For a one-time joining fee of \$20, you are entitled to great member pricing, promotional offers and much more.

The Co-op Bookshop
Sports and Aquatic Centre Building, G09
The University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 3705
Fax: +61 2 9660 5256
Email: sydu@coop-bookshop.com.au
Website: www.coop-bookshop.com.au

Counselling Service

The Counselling Service aims to help students fulfil their academic, individual and social goals, by providing short-term, problem-focused counselling to promote psychological wellbeing and help students develop effective and realistic coping strategies. International students can access counselling assistance through the International Student Support Unit (ISSU).

Each semester the Counselling Service runs a program of workshops which are designed to help students master essential study and life management skills. These are open to all local and international students. Phone to make an appointment. Daily walk-in appointments are also available between 11am and 3pm.

For details of workshops, activities and online resources, see the Counselling Service website via the MyUni portal (myuni.usyd.edu.au) or the Services for Students website (www.usyd.edu.au/stuserv).

Camperdown and Darlington campuses

Level 5, Jane Foss Russell Building, G02
The University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 2228
Fax: +61 2 9351 7055
Email: counsell@stuserv.usyd.edu.au
Website: www.usyd.edu.au/counsel

Cumberland Campus

Ground Floor, A Block, C42
The University of Sydney
East Street, Lidcombe
NSW 2141 Australia

Phone: +61 2 9351 9638
Fax: +61 2 9351 9635
Email: CS.Cumberland@stuserv.usyd.edu.au

Disability Services

Disability Services is the principal point of contact for advice on assistance available for students with disabilities. Students need to register to receive support and assistance. Disability Services works closely with academic and administrative staff to ensure that students receive reasonable accommodation in their areas of study.

Assistance includes note taking, interpreters, and negotiation with academic staff regarding assessment and course-requirement modifications where appropriate. For details on registering, including required documentation and online resources, see the Disability Services' website via the MyUni student portal (myuni.usyd.edu.au) or the Services for Students website (www.usyd.edu.au/stuserv).

Camperdown and Darlington campuses

Level 5, Jane Foss Russell Building, G02
The 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
Website: www.usyd.edu.au/disability

Cumberland Campus

Ground Floor, A Block, C42
The University of Sydney
East Street, Lidcombe
NSW 2141 Australia

Phone: +61 2 9351 9638
Fax: +61 2 9351 9635
Email: DS.Cumberland@stuserv.usyd.edu.au

Employment opportunities for students

See 'Sydney Student Development'.

Enrolment

Domestic and international students entering their first year via UAC

Details of enrolment procedures will be sent to students with their UAC offer of enrolment. Enrolment takes place during the last week of January or in February for the later offer rounds.

Domestic and international students entering their first year via a direct offer from the University

Details of the enrolment procedures will be sent to students with their University offer of enrolment. Enrolment takes place during the first two weeks of February.

All continuing domestic and international 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:

Manager, Campus Sustainability
Phone: +61 2 9036 5441
Email: sustainable@usyd.edu.au

Visit the website www.usyd.edu.au/sustainable to find out what the University is doing, and learn how you can get involved, make suggestions or receive the Sustainable Campus Newsletter.

Equity Support Services

Equity Support Services, located within Student Administration and Support, brings together a number of student support services that produce practical assistance and information to help students meet their academic and personal goals while at University.

Services include the Accommodation Service, Casual Employment Service, Child Care Information Office, Disability Services and the Financial Assistance Office.

More information is available through the MyUni student portal (myuni.usyd.edu.au) or the Services for Students website (www.usyd.edu.au/stuserv).

Examinations

Most examinations are facilitated primarily through the Examinations Office. However, some faculties arrange and conduct their own examinations.

Information and timetables on examinations can be located by searching the University's website. For more details, contact the Examinations Office.

Student Centre
Level 3, Jane Foss Russell Building, G02
The 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 where and how to pay fees, and how to find out if payments have been received. The office can also provide information on obtaining a refund for fee payments. More details are available on the website (listed below).

Fees Office
Margaret Telfer Building, K07
The University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 5222
Fax: +61 2 9114 0556
Email: feespay@usyd.edu.au
Website: www.finance.usyd.edu.au/revenue_income/fees.shtml
Office hours: 9am to 4.30pm, Monday to Friday

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, and buying textbooks and course equipment.

Loans are interest-free and are usually repayable 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 the MyUni student portal (myuni.usyd.edu.au) or the Services for Students website (www.usyd.edu.au/stuserv).

Level 5, Jane Foss Russell Building, G02
The University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 2416
Fax: +61 2 9351 7055
Email: fao@stuserv.usyd.edu.au
Website: 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.

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 an 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 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. More information and copies of the reports can be found at www.usyd.edu.au/arms/info_freedom.

Graduations Office

The Graduations Office is responsible for organising graduation ceremonies and informing students of their graduation arrangements.

Student Centre
Level 3, Jane Foss Russell Building, G02
The University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 3199 or +61 2 9351 4009
Protocol enquiries: +61 2 9351 4612
Fax: +61 2 9351 5072

Grievances and 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 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, the Student Representative Council, and on the Policy Online website (www.usyd.edu.au/policy (click on 'Study at the University', then 'Appeals' – see the Academic Board and Senate resolutions).

For assistance or advice regarding an appeal contact:

Undergraduates

Students' Representative Council
Level 1, Wentworth Building, G01
The University of Sydney
NSW 2006 Australia
Phone: +61 2 9660 5222

Postgraduates

Sydney University Postgraduate Representative Association (SUPRA)
Corner of Raglan and Abercrombie Streets
The University of Sydney
NSW 2006 Australia
Phone: +61 2 9351 3115

HECS and Fees Office

Student Centre
Level 3, Jane Foss Russell Building, G02
The University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 5659
Fax: +61 2 9036 6111
Email: hecs.fees@records.usyd.edu.au

Information and Communications Technology (ICT)

See 'Service Management, Information and Communications Technology'.

International Office

The International Office helps international students with application, admission and enrolment procedures. The International Office has units responsible for international marketing, government and student relations, international scholarships (including AusAID scholarships and administrative support for international financial aid programs), and compliance with government regulations relating to international students.

The Study Abroad and Student Exchange units assist both domestic and international students who wish to enrol for study abroad or exchange programs.

International Office

Services Building, G12
The University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 4079
Fax: +61 2 9351 4013
Email: info@io.usyd.edu.au
Website: www.usyd.edu.au/internationaloffice

Study Abroad

Phone: +61 2 9351 3699
Fax: +61 2 9351 2795
Email: studyabroad@io.usyd.edu.au
Website: www.usyd.edu.au/studyabroad

Student Exchange

Phone: +61 2 9351 3699
Fax: +61 2 9351 2795
Email: exchange@io.usyd.edu.au
Website: www.usyd.edu.au/studentexchange

International Student Support Unit (ISSU)

The ISSU helps 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 an 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 (myuni.usyd.edu.au) or the Services for Students website (www.usyd.edu.au/stuserv). International students also have access to all University student support services.

Camperdown and Darlington campuses

Level 5, Jane Foss Russell Building, G02
The University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 4749
Fax: +61 2 9351 6818
Email: info@issu.usyd.edu.au
Website: www.usyd.edu.au/issu

Cumberland Campus

Ground Floor, A Block, Cumberland Campus, C42
The University of Sydney
East Street, Lidcombe
NSW 2141 Australia

Phone: +61 2 9351 9638
Fax: +61 2 9351 9635
Email: ISSU.Cumberland@stuserv.usyd.edu.au
Website: www.usyd.edu.au/issu

Koori Centre and Yooroang Garang

The Koori Centre and Yooroang Garang support Aboriginal and Torres Strait 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 faculties across mainstream courses. The Koori Centre also provides tutorial assistance, and student facilities including a computer lab, indigenous research library and study rooms for Indigenous Australian students at 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 Cumberland Campus. Yooroang Garang provides assistance, advice 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
The University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 2046 (general enquiries)
Toll-free within Australia: 1800 622 742
Community Liaison Officer: +61 2 9351 7003
Fax: +61 2 9351 6923
Email: koori@koori.usyd.edu.au
Website: www.koori.usyd.edu.au

Yooroang Garang

T Block, Level 4, Cumberland Campus, C42
The 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
Website: 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 during their undergraduate and postgraduate studies.

Learning Centre staff can be found at the Camperdown, Darlington and Cumberland campuses. 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, a faculty-based program and access to online and print-based learning resources.

For details of programs, activities and online resources available from the Learning Centre, see its website via the MyUni student portal (myuni.usyd.edu.au) or the Services for Students website (www.usyd.edu.au/stuserv).

Camperdown and Darlington campuses

Level 7, Education Building, A35
The University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 3853
Fax: +61 2 9351 4865
Email: lc@stuserv.usyd.edu.au
Website: www.usyd.edu.au/lc

Cumberland Campus

Ground Floor, A Block, C42
The University of Sydney
East Street, Lidcombe
NSW 2141 Australia

Phone: +61 2 9351 9638
Fax: +61 2 9351 9635
Email: LC.Cumberland@stuserv.usyd.edu.au
Website: www.usyd.edu.au/stuserv/learning_centre/cumberl.shtml

Library

The University of Sydney Library provides services via a network of 14 libraries on 10 campuses, and online at www.library.usyd.edu.au.

The location, opening hours and specific subject focus of each library is listed on the website. Over 5.5 million items are available via the library catalogue, including more than 67,000 online journals and 325,000 online books.

Enrolled students are entitled to borrow from any of the University libraries. Reading list books and articles are available via the reserve service either online or in print. Past examination papers are also available online.

Library facilities include individual and group study spaces, computers, printers, multimedia equipment, photocopiers and adaptive technologies. Refer to the 'Libraries' link on the University website to find out about services and facilities in specific libraries.

Library staff are available in every library to support students with their study and research. Faculty liaison librarians assist students to find great information on any topic and provide training in using a wide range of resources. For contact details of faculty liaison librarians, see www.library.usyd.edu.au/contacts/subjectcontacts.html. It is also possible to learn research and information skills online; see www.library.usyd.edu.au/skills.

Comments and suggestions about library services are welcome.

The University of Sydney Library, F03
Camperdown Campus
NSW 2006 Australia

Phone: +61 2 9351 2993
Website: www.library.usyd.edu.au

Mathematics Learning Centre

The Mathematics Learning Centre helps 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 ongoing 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 the MyUni student portal (myuni.usyd.edu.au) or the Services for Students website (www.usyd.edu.au/stuserv).

Level 4, Carslaw Building, F07
The University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 4061
Fax: +61 2 9351 5797
Email: mlc@stuserv.usyd.edu.au
Website: www.usyd.edu.au/mlc

Museums and galleries

The University of Sydney has one of the largest and finest university collections of antiquities, art, ethnography and natural history in Australia. While these collections are used for teaching, they also provide an opportunity for the University to contribute to the cultural life of the country.

University Art Gallery

Founded in the 1860s, the University of Sydney Art Collection now holds more than 3000 paintings, sculptures and works on paper by Australian, Asian and European artists, as well as more than 700 works from the University Union Art Collection. The University Art Gallery showcases changing exhibitions of works from the collection as well as high-quality exhibitions of both contemporary and historical works.

War Memorial Arch
Quadrangle, A14
Camperdown Campus

Phone: +61 2 9351 6883
Fax: +61 2 9351 7785
Website: www.usyd.edu.au/museums

Macleay Museum

The Macleay Museum originated with the eighteenth century collection of insects owned by Alexander Macleay. The oldest of its kind in Australia, the museum today holds significant collections of ethnographic artefacts, scientific instruments, biological specimens and historic photographs. Changing exhibitions engage with the diversity of the collection.

Macleay Building, A12
Gosper Lane (off Science Road)
Camperdown Campus

Phone: +61 2 9036 5253
Fax: +61 2 9351 5646
Email: macleaymuseum@usyd.edu.au
Website: www.usyd.edu.au/museums

Nicholson Museum

The Nicholson Museum contains the largest and most prestigious collection of antiquities in Australia. It is also the country's oldest university museum, and features works of ancient art and objects of daily life from Greece, Italy, Egypt, Cyprus the Near and Middle East, as well as Northern Europe. A regular changing schedule of exhibitions highlights various parts of the collection.

Quadrangle, A14
Camperdown Campus

Phone: +61 2 9351 2812
Fax: +61 2 9351 7305
Email: nicholsonmuseum@usyd.edu.au
Website: www.usyd.edu.au/museums

The Tin Sheds Gallery

The Tin Sheds Gallery is part of the Art Workshop complex within the University of Sydney's Faculty of Architecture, Design and Planning. The gallery hosts exhibitions across a wide variety of contemporary visual arts practices from individuals and groups, as well as community projects and curated exhibitions.

Tin Sheds Gallery and Art Workshops
Faculty of Architecture
Wilkinson Building
148 City Road

Phone: +61 2 9351 3115
Fax: +61 2 9351 4184
Email: tinsheds@arch.usyd.edu.au
Website: www.arch.usyd.edu.au/art_workshop

MyUni Student Portal

The MyUni student portal (myuni.usyd.edu.au) 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 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 relating to health, counselling, employment, child care, accommodation, and general wellbeing
- student administration systems for obtaining examination 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 and communications technology and support services
- information for local, Indigenous and international students
- campus maps, with descriptions of cultural, sporting and campus facilities.

Orientation and O-Week

Orientation

Transition to University involves both opportunities and challenges. A successful transition is important in developing a sense of belonging and better academic adjustment and success. The University seeks to facilitate students' successful transition through a wide range of programs and activities.

Orientation activities for both undergraduate and postgraduate students are scheduled at the beginning of each semester. Transition support continues throughout the academic year within faculties while student support services are available to assist students for the duration of their study.

For more information, see www.usyd.edu.au/orientation.

Undergraduate students

Sydney Welcome Orientation and Transition (SWOT) Program

In the week prior to Semester One, the SWOT program offers all commencing undergraduate students an opportunity to learn more about the University of Sydney.

During this week you can get to know the University, develop key skills for success, discover other key resources for getting the most out of university life and develop a sense of belonging. All students are welcome to attend activities which are based at the Camperdown and Darlington campuses. Faculties based on other campuses also provide orientation activities and programs.

SWOT 2009 will run from **25 to 27 February 2009**.

For more information, see www.swot.usyd.edu.au.

Postgraduate students

The University of Sydney Postgraduate Induction Program is a specialised program for postgraduate students organised by the Dean of Graduate Studies. See www.dogs.usyd.edu.au.

O-Week

O-Week is the orientation event at the beginning of Semester One. Organised by the University of Sydney Union (USU) and other student organisations, it runs in parallel with the SWOT program. O-Week provides an opportunity to learn about and participate in the many clubs and societies available at the University and the services and activities of the student organisations.

It's packed with fun activities and events, plus information to help you get acquainted with the University and grab hold of all of the opportunities this campus has to offer.

Rock, jazz, orchestral and choral concerts, plays, demonstrations, symposia on current affairs, reviews, competitions, sports, bus tours, games, special-interest meetings, guest speakers, debates, films, food and freebies are all organised for commencing students' participation and enjoyment. You need to know what's on and what's available in order to make the most out of your time here.

O-Week 2009 will run from **25 to 27 February 2009**. Programs are available at www.usuonline.com.

Part-time, full-time attendance

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)

Part-time or full-time status for postgraduate coursework students 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 6pm to 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, 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:

- Code of Conduct for students
- Academic Honesty in Coursework
- Student Plagiarism: Coursework Assessment and Examination of Coursework
- Identifying and Supporting Students at Risk

All of these policies can be accessed at the University's Policy website online (www.usyd.edu.au/policy).

Printing Service

The University Printing Service (UPS) provides printing and binding services including: high-volume printing and copying, short run/low-volume printing, and four-colour process printing. It also offers finished artwork and design, including website design, document scanning, file conversion and CD burning.

UPS products range from stationery, books, brochures, handbooks, graduation certificates and examination papers through to invitations, flyers and banners.

UPS also offers a variety of finishing options plus collating, addressing and filling of envelopes, mail merge options and print-broking services.

University Printing Service
Room 314, Top Floor
Services Building, G12
Codrington Street

Phone: +61 2 9351 2004
Fax: +61 2 9351 7757
Email: ups@ups.usyd.edu.au
Website: www.usyd.edu.au/ups

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 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 one of the following:

Tim Robinson: +61 2 9351 4263
Anne Picot: +61 2 9351 7262
Email: foi@mail.usyd.edu.au

Research Office

The Research Office administers the major government-funded research awards. Details of these awards and many others may be obtained from www.usyd.edu.au/ro/training.

The closing date for Australian Postgraduate Awards (APA) and University of Sydney Postgraduate Awards (UPA) is October every year.

National Health and Medical Research Council (NHMRC) Postgraduate Research Scholarships usually close in mid-July. It is wise to confirm in advance the exact closing date.

Research Office
Level 6, Jane Foss Russell Building, G02
Phone: +61 2 8627 8112
Email: research.training@usyd.edu.au
Website: www.usyd.edu.au/ro/training

Scholarships for undergraduates

The Scholarships and Prizes Office administers scholarships and prizes for undergraduate and postgraduate coursework degrees at the University of Sydney. To learn more, see the website.

Scholarships and Prizes Office
Jane Foss Russell Building, G02
The University of Sydney
NSW 2006 Australia
Phone: +61 2 9351 2717
Fax: +61 2 9036 7879
Email: scholarships.reception@usyd.edu.au
Website: www.usyd.edu.au/scholarships

Security Services

Security staff patrol the University's Camperdown and Darlington campuses 24 hours a day, seven days a week and are easily identified by their blue uniforms and distinguishing badges.

Security Escort Service

The University's Security Escort Service may be booked by telephoning +61 2 9351 3487. This service provides transportation around the Camperdown and Darlington campuses as well as to the nearest transport point at its edge (it generally operates after the Security Bus has ceased). The service is for security situations and is not designed for convenience use. Requests for this service will be prioritised against other security demands.

Emergency contact

Phone: +61 2 9351 3333

Enquiries

Phone: +61 2 9351 3487 or (toll-free within Australia) 1800 063 487

Fax: +61 2 9351 4555

Email: security.admin@mail.usyd.edu.au

Website: www.security.usyd.edu.au

Traffic

Phone: +61 2 9351 3336

Lost property

Phone: +61 2 9351 5325

Service Management, 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 (02) 9351 6000, through the IT Assist website (www.switch.usyd.edu.au) or by visiting the staff at one of the University Access Labs.

Access labs on the Camperdown and Darlington campuses:

- Fisher Library (Level 2)
- Carslaw Building (Room 201)
- Education Building (Room 232)
- Christopher Brennan Building (Room 232)
- Engineering Link Building (Room 222)
- Pharmacy and Bank Building (Room 510)

Other labs are available at the Law Campus, Westmead Hospital and Cumberland Campus.

The labs provide students free access to computers, including office productivity and desktop publishing software. Some services are available on a fee-for-service basis, such as Internet access, printing facilities, and the opportunity for students 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 (www-mail.usyd.edu.au)
- WebCT/elearning online resources via <https://learn-on-line.ce.usyd.edu.au/webct/entryPageIns.dowebct>
- access to the Internet from home or residential colleges (www.switch.usyd.edu.au/services.html)
- facilities via the MyUni student portal: myuni.usyd.edu.au including exam results, enrolment variations and timetabling
- free courses in basic computing (such as MS Office, basic html and Excel), run by Access Lab staff in the week following orientation week. To register contact the Access Lab Supervisor on +61 2 9351 6870.

Service Management, Helpdesk
University Computer Centre, H08
Camperdown Campus

Phone: +61 2 9351 6000

Fax: +61 2 9351 6004

Email: support@usyd.edu.au

Website: www.switch.usyd.edu.au

Staff and Student Equal Opportunity Unit (SSEOU)

The Staff and Student Equal Opportunity Unit works with the University community to promote equal opportunity in education and employment, to create opportunities for staff and students who have traditionally been disadvantaged by mainstream practices and policies, and to create an environment that is free from discrimination and harassment.

The Staff and Student Equal Opportunity Unit is responsible for:

- providing policy advice to staff on harassment and discrimination
- providing equal opportunity policy development, promotion and training for staff and students
- coordinating and monitoring equity programs and initiatives
- providing information and advice to staff and students on equal opportunity matters
- resolving individual staff and student concerns about harassment and discrimination
- overseeing the University's Harassment and Discrimination Resolution procedure
- monitoring and reporting to external bodies on the University's progress in the equal opportunity area.

Every student and employee at the University of Sydney has the right to expect from their fellow students and colleagues behaviour that reflects these key values, irrespective of background, beliefs or culture.

In addition, every student and employee has a right to expect from the University-equitable practices that preserve and promote equal opportunity to access, participate, and excel in their chosen field.

Second Floor, Margaret Telfer Building, K07
The University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 2212

Fax: +61 2 9351 3195

Email: admin@eeo.usyd.edu.au

Website: www.usyd.edu.au/eeo

Student Administration and Support

The University provides personal, welfare, administrative and academic support services to facilitate your success. Many factors can have an impact on your wellbeing while studying, and Student Services can help you to manage these more effectively.

For details of services and online resources provided, see the MyUni student portal (myuni.usyd.edu.au) or the Services for Students website (www.usyd.edu.au/stuserv).

Student Centre

Level 3, Jane Foss Russell Building, G02
The University of Sydney
NSW 2006 Australia

General enquiries: +61 2 9351 3023

Academic records: +61 2 9351 4109

Handbooks: +61 2 9351 5057

Fax: +61 2 9351 5081 or +61 2 9351 5350 (academic records)

Website: 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, and must be taken to all examinations. Details for obtaining a student card can be found at: www.usyd.edu.au/cstudent/student_cards.shtml

Sydney Student Development

Sydney Student Development offers paid course-related employment to students with the aim of increasing their employment prospects upon graduation. During the semester students can work part-time to accommodate their study commitments and potentially full-time during the semester break.

For more information, see www.usyd.edu.au/student_employment.

Sydney Summer School

Nine faculties at the University offer subjects from undergraduate and postgraduate degree programs during summer. As the University uses its entire quota of Commonwealth-supported places in Semesters One and Two, these units are full fee-paying for both local and international students and enrolment is entirely voluntary.

Summer School enables students to accelerate their degree progress, make up for a failed subject or fit in a subject which otherwise would not suit their timetables. New students may also gain an early start by completing subjects before they commence their degrees.

Three Summer Sessions are offered, commencing in mid December, the first week of January and the third week of January and run for up to six weeks (followed by an examination week). Details of the available subjects are on the Summer School website and is usually circulated to students with their results notices.

A smaller Winter School is also run by the Summer School office. It will commence on 29 June 2009 and run for three weeks (followed by an examination week). The Winter School offers both postgraduate and undergraduate subjects.

To find out information about subjects offered and to enrol, see the Summer School website: www.summer.usyd.edu.au.

Sydney Welcome Orientation and Transition Program (SWOT)

The Sydney Welcome Orientation and Transition program (SWOT) offers a head start to commencing undergraduate students at the University, helping you to become familiar with the University and its student support services. The Library and central student support services work together with faculties to provide the SWOT program.

SWOT 2009 runs from **25 to 27 February 2009**.
For more information, see www.swot.usyd.edu.au.

The University of Sydney Foundation Program (USFP)

The University of Sydney provides a foundation program to international students as a preparation for undergraduate degrees at several Australian universities.

The program is conducted by Taylors College on behalf of Study Group Australia and the University of Sydney. It allows both first and second semester entry to undergraduate courses at the University of Sydney and other universities within Australia.

Contact details

Phone: +61 2 8263 1888
Fax: +61 2 9267 0531
Email: info@taylorscollege.edu.au
Website: www.usyd.edu.au/foundationprogram

College address

The University of Sydney Foundation Program
Taylors 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 ten days prior to the beginning of semester.

Website: www.usyd.edu.au/studentcentre/timetabling.shtml

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: i.marshall@unihealth.usyd.edu.au
Website: www.unihealth.usyd.edu.au
Phone: +61 2 9351 3484
Fax: +61 2 9351 4110

University Health Service (Wentworth)

Level 3, Wentworth Building, G01
The University of Sydney
NSW 2006 Australia

Opening hours: 8.30am to 5.30pm, Monday to Friday
Phone: +61 2 9351 3484

University Health Service (Holme)

Holme Building, A09
Entry Level, Science Road
The University of Sydney
NSW 2006 Australia

Opening hours: 8.30am to 5.30pm, Monday to Friday
Phone: +61 2 9351 4095

Student organisations

Students' Representative Council (SRC)

The Students' Representative Council (SRC) represents, campaigns and advocates for undergraduate students throughout the University.

SRC caseworkers advise students on a range of issues, including academic appeals, Centrelink and Austudy, tenancy, harassment and discrimination. The solicitor (from Redfern Legal Centre) provides legal assistance and court representation. These services are free and confidential. The SRC also offers financial support in the form of emergency loans up to \$50.

In addition, the SRC runs a second-hand bookshop that specialises in the purchase and sale of coursework textbooks. Among the publications produced by the SRC are the weekly student newspaper *Honi Soit*, the *Counter-Course Handbook* and the *O-Week Handbook*.

Recently celebrating its 80th anniversary, the SRC is one of the oldest student organisations in Australia, and is run by and for students. This is a great way for you to be involved in student life. Office bearers elected to student council campaign on issues that directly affect students, such as course cuts and assessments, fee increases, discrimination and welfare rights. They also advocate on social justice matters both within the University and throughout the wider community.

SRC main office

Level 1, Wentworth Building, City Road
 Phone: +61 2 9660 5222
 Fax: +61 2 9660 4260
 Email: help@src.usyd.edu.au
 Email (*Honi Soit* editors): editors@src.usyd.edu.au
 Website: www.src.usyd.edu.au

Contain the main office for details of other campuses.

The SRC Secondhand Bookshop

Level 3, Wentworth Building, City Road
 Phone: +61 2 9660 4756
 Fax: +61 2 9660 4260
 Email: books@src.usyd.edu.au
 Website: www.src.usyd.edu.au

Sydney University Postgraduate Representative Association (SUPRA)

SUPRA is an independent association which provides advice, advocacy and support services to postgraduate students. SUPRA is both the voice and safety net of these students, and represents their interests by:

- ensuring the representation of postgraduate views within the University and wider community
- providing free, confidential assistance and advocacy for postgraduates through the employment of Student Advice and Advocacy Officers (SAAOs)
- providing free legal advice for postgraduate students, in association with the Redfern Legal Centre
- representing postgraduates on University policy-making bodies such as the Academic Board, its committees and working parties
- meeting with members of the Senate on the Senate/Student Organisations Liaison Committee
- regularly consulting with the Vice-Chancellor, Registrar and other senior University officers
- drawing postgraduates together at all levels of University life.

SUPRA Council, committees and networks

The SUPRA Council is elected annually by and from the postgraduate student community. Council meetings are held monthly and postgraduate students are encouraged to attend. SUPRA committees and networks help to coordinate activities and run campaigns, and are a great way to get involved. All postgraduates can stand for the Council or attend any SUPRA events provided they are a SUPRA subscriber.

Advice and advocacy

SUPRA employs professional Student Advice and Advocacy Officers (SAAOs) to help postgraduate students with any academic or personal problems that may be affecting their study, such as:

- fee paying and administrative issues
- academic appeals and exclusions
- supervision problems
- tenancy issues
- Centrelink and financial assistance concerns
- harassment and discrimination.

This is a free and confidential service for all postgraduates at the University of Sydney. To access the SAAO service, you must be a SUPRA subscriber. It's free to subscribe and you can do it online, in the office, or when you see an SAAO. To find out more about the SAAO service, email: help@supra.usyd.edu.au.

Publications

SUPRA places the highest priority upon communication, being responsive to postgraduates and encouraging maximum participation in SUPRA through the following publications:

- *eXpress*, a magazine-style publication
- *eGrad*, a regular email bulletin
- *Survive!* Postgraduate Survival Manual
- *The Counter Course Handbook*
- *Thesis Guide*
- a range of factsheets and brochures.

Electronic versions are available at www.supra.usyd.edu.au.

All of SUPRA's services, activities and publications are free to SUPRA subscribers. By subscribing, you also show your support for all the work that SUPRA does on your behalf. It's free to subscribe and you can sign up online or drop into the SUPRA offices and fill out the form.

SUPRA Office

Raglan St Building, G10
 Corner Raglan and Abercrombie Streets
 Phone: +61 2 9351 3715 or toll-free 1800 249 950
 Fax: +61 2 9351 6400
 Email: admin@supra.usyd.edu.au
 Website: www.supra.usyd.edu.au

University of Sydney Union (USU)

USU is the organisation that coordinates activities, programs, events, services and facilities in and around Manning House, Wentworth Building and Holme Building, to provide an exciting and varied student experience. USU looks after on-campus catering and functions, spaces to relax and eat in, clubs and societies, entertainment, and other social and cultural programs.

For more information on USU, see www.usuonline.com.



Access Card Benefits Program

The Access program is a savings and benefits scheme offered by USU. Once you've bought an Access Card, you can take advantage of great discounts, such as 15 per cent off purchases from USU catering and retail outlets, and 20 percent off coffee and water across campus.

As part of your membership, you can also make fantastic savings off-campus from Access Partners offering discounts and deals on gifts, clothing, family entertainment and food.

For more information, see www.accessbenefits.com.au.

Clubs and societies

The USU funds, accommodates, trains and supports around 250 clubs and societies – groups that students can join and operate to pursue their own interests. Clubs and societies organise their own activities and events and are funded by USU. Being part of a club or society is the best way to get involved in campus life, meet people who share your interests, network and gain valuable organisational skills, training and experience.

There are clubs and societies focused on politics, culture, the arts, the environment, religion, volunteering, skills, hobbies, departments and faculties. If there isn't a club or society catering to your interests, we'll help you create and operate your own!

USU provides all of their clubs and societies with grants, insurance, venues, training and support for a range of events and projects including barbecues, dinners, annual balls, dance parties, cocktail parties, video nights, camps, conferences, excursions, trivia nights, fundraisers, merchandise and t-shirt production, postage and printing.

Registered clubs and societies can make free use of USU meeting rooms (as available) and free photocopying. Registered clubs can also use letterbox hire and USU equipment hire.

C&S Office

University of Sydney Union
Level 1, Manning House, Manning Road
Phone: +61 2 9563 6161
Email: clubsandsocs@usu.usyd.edu.au

The USU Student Leadership Program

The USU believes that a university should educate you, prepare you for life, and be fun!

The University of Sydney is able to boast the broadest, most inclusive extra-curricular program of all universities in Australia, and the USU prides itself on the world-class student experience program it delivers for the University.

The USU takes very seriously the need to create a vibrant community outside the classroom. Our programs are designed not only to entertain, but to teach and prepare participants for their lives after graduation. At the apex of what we do is mentoring, personal development, and leadership training.

The vitality of the USU is founded on the involvement of students as leaders within its community. These positions range from a student Board of Directors, Club and Society Executives, Festival Directors, Debate Directors, volunteers, and community portfolio convenors.

Sydney Uni Sport & Fitness

Sydney Uni Sport & Fitness invites you to choose from our range of value membership options, giving access to many sport and recreation clubs, fitness programs, top-level sporting facilities, regular competition and events, and great member benefits.

Join a vast array of sporting and recreational clubs for men and women with well-developed juniors programs, take part in excellent courses and world-class sporting events, and improve your performance under

the guidance of some of Australia's most accomplished coaches and sportspeople.

Purpose-built venues, such as the University Sports and Aquatic Centre, Arena Sports Centre with the Ledge Climbing Centre, and the HK Ward Gymnasium, offer tennis and squash courts, rock-climbing, fitness equipment, a martial arts room and an Olympic-size heated swimming pool.

Check out the historic and panoramic sporting ovals, rowing sheds and a multi-purpose facility at Tempe, and don't forget the on-campus Grandstand Sports Bar.

Sydney Uni Sport & Fitness
University Sports & Aquatic Centre
Phone: +61 2 9351 4960
Fax: +61 2 9351 4962
Email: admin@sport.usyd.edu.au
Website: www.susf.com.au

Facilities

Sydney Uni Sport & Fitness has three main fitness centres.

University Sports & Aquatic Centre

Corner Codrington and Darlington Streets
Darlington Campus
Phone: +61 2 9351 4978
Email: nmrc@sport.usyd.edu.au

Facilities at the centre include:

- 50-metre heated swimming pool
- six synthetic tennis courts
- four squash courts
- multi-function sports hall
- modern fitness equipment
- group fitness studio
- RPM Studio
- health assessments and fitness testing
- personal training
- a café.

Arena Sports Centre

Western Avenue
Camperdown Campus
Phone: +61 2 9351 8111
Email: arenaman@sport.usyd.edu.au

Facilities at the Arena Sports Centre include:

- extensive weights room
- Yoga classes
- personal training
- modern cardio equipment
- multi-purpose sports hall (Badminton)
- two squash courts
- sports clinic
- The Ledge Climbing Centre
- Ralph's Café.

HK Ward Gymnasium

Between Ovals 1 and 2
Camperdown Campus
Phone: +61 2 9351 4988
Email: hk@sport.usyd.edu.au

Facilities at the gymnasium include:

- martial arts facility
- international-standard sports hall
- boxing ring and gym
- group fitness studio
- boxercise and kickboxing classes
- ergometer training
- sports equipment hire.

International students

The following information is for International students studying onshore on an Australian student visa.

Completion within the expected duration

Education Providers are required to ensure that international students complete their studies within the duration specified on the electronic Confirmation of Enrolment (eCoE). Extensions to a student's course duration are allowed only in limited circumstances. For example, for compassionate or compelling reasons, where an intervention strategy has been implemented or where there has been an approved leave of absence or suspension.

It is important for students to ensure they are on track to complete their studies within the expected duration, or that they have permission from their faculty to extend their duration.

Satisfactory academic progress

Maintaining satisfactory course progress is a mandatory student visa condition. Education providers are required to monitor course progress, intervene where students are at risk of failing to achieve satisfactory course progress, notify students who fail to achieve satisfactory course progress and report students who fail to achieve satisfactory course progress to the Department of Immigration and Citizenship (DIAC).

It is important that every student is aware of the progress rules for their course and participates in the intervention strategies implemented by their faculty. Exclusion from a course due to unsatisfactory progress can have serious implications for student visa holders including visa cancellation and restrictions on returning to Australia.

The University provides many avenues of support for students who are struggling academically. International students who are experiencing any difficulties with their academic progress should consult their faculty, the international student advisers in the International Office or the counsellors in the International Student Support Unit (ISSU).

Distance/web-based study

International students may undertake no more than 25 per cent of their total course by distance and/or online learning. Students must not enrol in exclusively distance or online study in any compulsory study period.

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 student advisers in 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 should be done online via the University's MyUni student portal (<http://myuni.usyd.edu.au>).

Sponsored students

Sponsored students will need permission from their sponsors before transferring courses, suspending their studies or varying their study load. Students sponsored by the Australian Government (AusAID, Endeavour), or Asia Development Bank (ADB) should contact the International Office in the early stages of considering a change to their program.

Suspension/discontinuation

The University is required to report to DIAC any international students who discontinue or suspend their studies. Students who suspend their studies for medical or compassionate reasons should contact the International Student Advisers in the International Office urgently.

Overseas student health cover

The Australian government requires that all international students and their families pay for health insurance in Australia through the Overseas Student Health Cover (OSHC) scheme. The University-preferred provider is OSHC Worldcare. The International Office will, on receipt of the student's first payment of tuition fees and the OSHC premium, pay the compulsory amount to OSHC Worldcare on his/her behalf.

OSHC provides free access to the University health service and public hospitals. Higher-level coverage (eg, access to private hospitals coverage for spouse and family) is the student's responsibility.

ISSU (International Student Support Unit)

The International Student Support Unit (ISSU) provides support to international students through information, orientation programs, welfare advice and counselling. The ISSU gives advice on:

- preparations before leaving their home country
- what to expect upon arrival in Sydney
- emotional changes that can occur when moving to a different country
- academic concerns, including understanding the University system and liaising with staff members
- preparing family visit letters
- preparing to return to their home country.

ISSU Office - Camperdown Campus

Jane Foss Russell Building, G02
University of Sydney
NSW 2006 Australia
Phone: +61 2 9351 4749
Fax: +61 2 9351 6818
Email: info@issu.usyd.edu.au
Website: www.usyd.edu.au/stuserv/issu

ISSU Office - Cumberland Campus

Ground Floor, A Block, C42
75 East St, Lidcombe
NSW 2141 Australia
Phone: +61 2 9351 9638
Email: ISSU.Cumberland@stuserv.usyd.edu.au



International Office

The International Office provides advice and assistance with application, admission and enrolment procedures for international students. The International Office also includes units responsible for international marketing, government and student relations, international scholarships, including AusAID scholarships and administrative support for international financial aid programs, and compliance with government regulations related to international students.

The International Office also coordinates student exchange and study abroad programs, and other inter-institutional links. The Study Abroad and Exchange unit assists both domestic and international students who wish to enrol for study abroad or exchange programs.

International Admissions and Customer Services

Jane Foss Russell Building, G02
The University of Sydney
NSW 2006 Australia

Phone: +61 2 9351 4079
Future student enquiries: 1800 899 376 (domestic free call)
Fax: +61 2 9351 4013
Email: info@io.usyd.edu.au
Website: www.usyd.edu.au/internationaloffice

Study Abroad

Phone: +61 2 9351 3699
Fax: +61 2 9351 2795
Email: studyabroad@io.usyd.edu.au
Website: www.usyd.edu.au/studyabroad

Student Exchange

Phone: +61 2 9351 3699
Fax: +61 2 9351 2795
Email: studyabroad@io.usyd.edu.au
Website: www.usyd.edu.au/studentexchange

Essential information for students

Calendar

The annual *University of Sydney Calendar* and its online updates are the University of Sydney's central source of official information.

The *Calendar* provides general and historical information about the University of Sydney, the statutes and regulations under which it operates and the Resolutions of the Senate relating to constitutions of and courses in each faculty. The statutes and regulations, as well as some Resolutions of the Senate, also appear in Policy Online (www.usyd.edu.au/policy).

Along with the University of Sydney handbooks, the *Calendar* forms the official legal source of information relating to study at the University of Sydney.

The latest *Calendar* is available in hard copy from the Student Centre. It is also available online, at www.usyd.edu.au/calendar. The PDF and Word document files can be downloaded and printed if required.

Coursework Rule

It is very important that students are aware of the *University of Sydney (Coursework) Rule 2000 (as amended)*, which governs all coursework award courses in the University.

The Coursework Rule relates to:

- award course requirements
- credit points and assessment
- enrolment
- credit
- cross-institutional study and its upper limits
- progression
- discontinuation of enrolment and suspension of candidature
- unsatisfactory progress and exclusion
- exceptional circumstances
- award of degrees
- diplomas and certificates
- transitional provisions.

It should be read in conjunction with two other documents:

- *University of Sydney (Amendment Act) Rule 1999*; and
- Resolutions of the Senate and the faculty resolutions relating to each award course. These are found in the relevant faculty handbook.

The Coursework Rule can be found in the following places:

- *University of Sydney Calendar* (print or online version): www.usyd.edu.au/calendar
- Policy Online: (www.usyd.edu.au/policy)
- Handbooks online: www.usyd.edu.au/handbooks/university_information/01_uni_coursework_rule

PhD Rule

The *University of Sydney (Doctor of Philosophy (PhD)) Rule 2004* deals with matters relating to the degree of Doctor of Philosophy, including admission, probation, supervision and submission of theses.

It should be read in conjunction with two other documents:

- *University of Sydney (Amendment Act) Rule 1999*; and
- Senate and faculty resolutions relating to each award course (found in the relevant faculty handbook).

The PhD Rule can be found in the following locations:

- *University of Sydney Calendar* (print or online version): www.usyd.edu.au/calendar
- Policy Online: (www.usyd.edu.au/policy)
- Handbooks online: www.usyd.edu.au/handbooks/postgrad_hb/ap04_phd_rule.shtml

Plagiarism

The University of Sydney is opposed to and will not tolerate plagiarism. It is the responsibility of all students to:

- ensure that they do not commit or collude with another person to commit plagiarism
- report possible instances of plagiarism
- comply with the University's policy and procedure on plagiarism.

The policy and procedure on plagiarism can be found at the Policy Online website: www.usyd.edu.au/policy.

The Policy Online website (www.usyd.edu.au/policy) also lists related policies and procedures, including:

- *Academic Honesty in Coursework (plagiarism) policy*; and
- *Code of Conduct for Responsible Research Practice and Guidelines for Dealing with Allegations of Research Misconduct*.

The University will treat all identified cases of student plagiarism seriously, in accordance with this policy and procedure, and with Chapter 8 of the *University of Sydney By-law 1999 (as amended)*, which deals with student discipline.

Students at Risk Policy

The Students at Risk Policy enables early detection of students who are making poor or unsatisfactory progress and are therefore at risk of exclusion from their degree.

The policy outlines procedures and processes to support students in their ongoing studies, including:

- timely intervention and the provision of advice and assistance
- regularly and effectively advising students of progress requirements
- identifying students at risk
- alerting students that they are at risk
- providing assistance to address the risk
- tracking the progress of students after they are identified as being at risk.

For more information on this policy, please see the Secretariat website at www.usyd.edu.au/secretariat/students/riskstudents.

Grievance procedure

The University's policy and procedures document on student grievances, appeals and applications for review is available on the Policy Online website: www.usyd.edu.au/policy.

The *Grievance Procedure* document is a statement of the University's processes for handling student grievances, appeals and applications for review regarding academic and non-academic matters.

Study at the University presents opportunities for interacting with other members of the University community. The University recognises and values the diversity of student experiences and expectations, and is committed to treating students, both academically and administratively, in a fair and transparent manner.



Abbreviations

Listed below are commonly used acronyms that appear in University documents and publications. (See also the Glossary.)

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
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
CPS	Campus Property Services
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
CHESN	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
CRC	Cooperative Research Centre

C	
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
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
HEFA	Higher Education Funding Act 1988
HEIMS	Higher Education Information Management System
HEIP	Higher Education Innovation Program (DEST)
HELP	Higher Education Loan Program



Abbreviations

H	
HEO	Higher education officer
HEP	Higher education provider
HERDC	Higher Education Research Data Collection
HESA	Higher Education Support Act

I	
IAF	Institutional Assessment Framework
IAS	Institute of Advanced Studies
ICT	Information and Communication Technology
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	
MISG	Management Information Steering Group
MNRF	Major National Research Facilities Scheme
MOU	Memorandum of Understanding
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
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
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 Uni Sport & Fitness

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
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 commonly used acronyms and abbreviations that appear in University documents and publications, see 'Abbreviations'.

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 new or amended courses and endorsing faculty development of units of study. The board is also responsible for the formulation and review of policies, guidelines and procedures in relation to academic matters. For further information, see the *University of Sydney (Academic Governance) Rule 2003 (as amended)*.

Academic Consortium 21 (AC21)

An international network, of which the University is a member, comprising educational, research and industrial organisations throughout the world with the objective of encouraging the further advancement of global cooperation to the benefit of higher education and to contribute to world and regional society.

Academic cycle

The program of teaching sessions offered over a year. Currently the cycle runs from the enrolment period for Semester One to the completion of the processing of results at the end of Semester Two. See also 'Academic year', '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 'Academic record', 'External transcript', 'Internal transcript'

Academic year

The current calendar year in which a student is enrolled.

See also 'Academic cycle', 'Stage'.

Ad eundem gradum

Long-standing full-time members of the University's academic and general staff who are not graduates of the University may be considered by Senate, upon their retirement, for admission *Ad eundem gradum* ('to the same degree') to an appropriate degree of the University.

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'.

Adviser

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

See 'Graduate'

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 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.

Appeals against an academic decision

A student may appeal to the Student Appeals Body against a decision by the University that affects the academic assessment or progress of a student within his or her award course, including a decision:

(a) to exclude a student in accordance with the *University of Sydney (Coursework) Rule 2000 (as amended)*

(b) not to readmit or re-enrol a student following exclusion in accordance with the *University of Sydney (Coursework) Rule 2000 (as amended)*

(c) to terminate a student's candidature for a postgraduate award.

See also 'Student Appeals Body'.

Appeal against a disciplinary decision

A student may appeal to the Student Disciplinary Appeals Committee against a determination being:

(a) a finding by the Vice-Chancellor or the student Proctorial Board that the student is guilty of misconduct

(b) the imposition of a penalty upon the student by the Vice-Chancellor or the Student Proctorial Board

(c) an order made by the Vice-Chancellor or the Student Proctorial Board.

See also 'Student Disciplinary Appeals Committee'.

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 limits 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 'Adviser', 'Instrumental supervisor/teacher', 'Research supervisor', 'Supervision'.

Association of Pacific Rim Universities (APRU)

A consortium of leading research universities in the Pacific Rim, of which the University is a member, which aims to foster education, research and enterprise thereby contributing to the economic, scientific and cultural advancement in the Pacific Rim.

Assumed knowledge

For some units of study, a student is assumed to have passed a relevant subject in 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. It depends on the student's mode of attendance and the student load.

Attendance mode

A Department of Education, Science and Training (DEST) classification defining the manner in which a student is undertaking a course, such as 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 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

See 'University Calendar'.

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 ten 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.

See 'Course enrolment status'.

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 '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.

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 Place (CSP)

(Previously known as a HECS Place.) A student in a Commonwealth Supported Place makes a contribution towards the cost of their education (known as the student contribution) while the Australian Government contributes the majority of the cost.

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).

In these arrangements, 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 (CCE) 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 the Fellows and former Fellows of the Senate of the University of Sydney; members of the former governing bodies of the institutions with which the University has amalgamated or their predecessors; the graduates of the University of Sydney, which include graduates of the institutions with which the University has amalgamated or their predecessors; professors and other full-time members of the academic staff of the University; and principals of the incorporated colleges. This is as per clause 14 of the *University of Sydney Act 1989*.

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 Academic Board and endorsed by Senate. 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 work, other forms of instruction and learning will normally be dominant.

Research

A course in which at least 66 per cent of the overall course requirements involve students 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. For example, 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, for example 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 (for example 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 'Annual average mark (AAM)', '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 normally has a six 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 Planning and Statistics.

Deadlines (Enrolment variations)

See 'Enrolment variation'.

Deadlines (Fees)

The University has deadlines for the payment of fees (for example, 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 the 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 also '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, for example 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, a 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 Federal Government department responsible for higher education.

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 and students will be informed of its use.

Disciplinary action

Undertaken as the result of academic or other misconduct, for example 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.

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, for example 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 start of each semester. Each faculty determines its deadlines for variations, but student-contribution liability depends on the Commonwealth census date.

See also 'Commonwealth Supported Place'.

Examination

A set of questions or exercises evaluating on a given subject given by a department or faculty.

See also 'Examination period', 'Assessment'.

Examination period

The time set each semester for the conduct of formal examinations.

Examiner (Coursework)

The person assessing a student or group of students, for example through written/oral examination, coursework assignments, presentations.

Exchange student

Either a University of Sydney student participating in a formally agreed program involving study at an overseas university, or an overseas student 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 exclusions is set out in the *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
- 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, such as 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 provides detailed information about the faculty, its courses and resolutions.

FEE-HELP

An eligible student in a postgraduate course or in a bridging study course (for overseas-trained professionals) can apply for assistance (in the form of a loan) in paying all or some of their tuition fees.

Fee-paying students

Students who pay tuition fees to the University and are not liable for student contributions to a Commonwealth Supported Place. The Commonwealth does not contribute towards the cost of the education of fee-paying students. Annual fees vary between the faculties. Students pay a per semester fee.

Fellows of Senate

Members of the governing body of the University who are either elected, appointed or ex-officio.

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 Commonwealth-supported 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 also 'Assessment'.

Full-time student

See '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'.

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 of Eight (G08)

The Group of Eight represents Australia's major research-intensive universities and membership comprises the vice-chancellors (presidents) of the Australian National University, Monash University, the University of Adelaide, the University of Melbourne, the University of New South Wales, the University of Queensland, the University of Sydney, and the University of Western Australia.

The Group of Eight works to ensure a consistent and sustainable policy environment which maximises the wide-ranging economic, social and cultural benefits to the Australian community of higher education and which ensures Australian universities are recognised as among the best in the world.

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'.

H**Handbook**

See 'Faculty handbook'.

Head of department/Head of school (HOD/HOS)

The head of the academic unit which has responsibility for the relevant unit of study, or equivalent program leader.

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

An eligible student in a Commonwealth Supported Place can apply for assistance in paying their student contribution. This may take the form of a HECS-HELP loan to pay all or some of the student contribution, or a HECS-HELP discount if all (or at least \$500) of the student contribution is paid by the census date.

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.

Honours

Some degrees may be completed 'with honours'. This may involve the completion of a separate honours year, 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 have an instrumental teacher appointed.

See also 'Adviser', '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 include 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 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 such 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'.

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 student interaction.

See also 'Group work'.

Life membership

Life membership is no longer offered by the University of Sydney Union (USU). However, existing life Members continue to enjoy the right to vote in USU elections and at USU general meetings. Like all members, life members are encouraged to stand for election to the USU Board. Similarly, life members, once they have paid the appropriate annual fees, are able to enjoy the benefits of the Access Benefits program.

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 '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)'.

Mid-year intake

Admission to degree programs for Semester Two.

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 access to email, library services, student self-administration, support services, e-learning software such as Blackboard and WebCT, as well as information about the University and its courses.

N**Non-award course**

See 'Course'.

Non-standard session

A teaching session other than the standard February and August sessions – such as Sydney Summer School or Winter School, in which units of study are delivered and assessed in an intensive mode during January or July respectively.

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 also '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 (for example during semester breaks), unless the student provides a different 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 acknowledging the source.

See also 'Academic dishonesty'.

Policy Online

The website which provides access to the University's current policies, procedures and guidelines.

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 also 'FEE-HELP'.

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/school 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

Some students undertake placement in a professional practice as part of their course requirements. This 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', 'Supervision', 'Instrumental supervisor/teacher'.

Result processing

Refers to the processing of assessment results for units of study. For each unit of study, departments/schools 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 schools 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, the dates for which 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.

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.

Special Studies Program (SSP)

A period of release from normal duties to allow academic staff to undertake a planned program of academic activity and development.

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'.

Strategic Directions

See also 'University Strategic Directions'.

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, eg 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 Appeals Body

Any student may appeal to the Student Appeals Body against an academic decision on the ground that due academic process has not been observed by the relevant faculty in relation to the academic decision.

See also 'Appeals', *University of Sydney (Student Appeals against Academic Decisions) Rule 2006*.

Student Disciplinary Appeals Committee

Any student may appeal to the Student Disciplinary Appeals Committee against a misconduct determination by the Vice-Chancellor or a Student Proctorial Board.

See also 'Appeals'.

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, for example 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 that has the responsibility for managing the academic administration of a particular course, such as 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 (such as 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

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 'Adviser', 'Associate supervisor', 'Research supervisor', 'Instrumental supervisor/teacher'.

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 also '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.

Sydney Winter School

An intensive session offered by the University in July during the mid-year break.

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

This indicates whether the student is still actively attending the unit of study (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 Calendar

The annual University publication, also available online, 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 in each faculty.

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.

University Strategic Directions

This refers to the University of Sydney *Strategic Plan 2007–2010*.

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.

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

See 'Sydney Winter School'.

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, ie 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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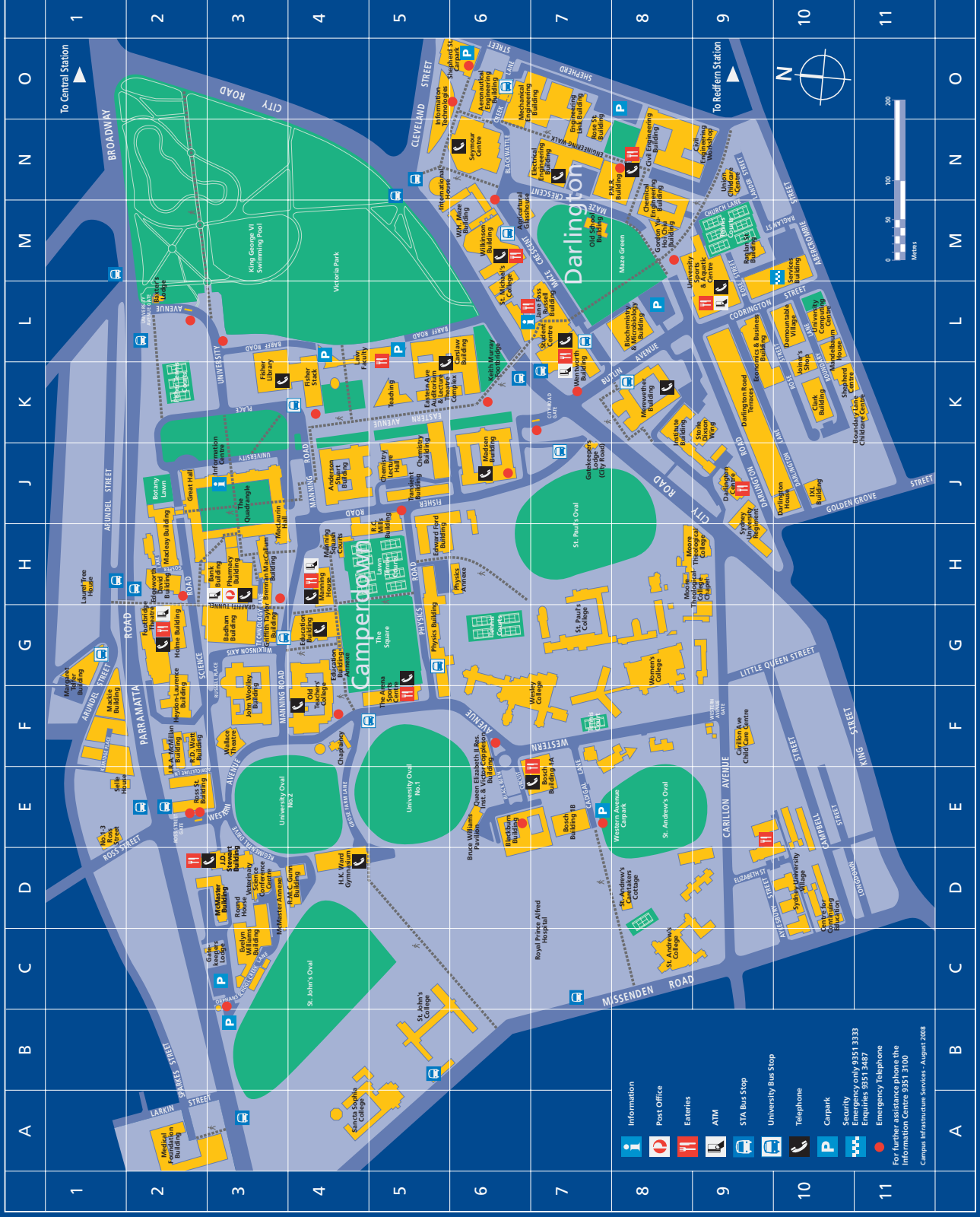
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Camperdown and Darlington Campuses



- Information
 - Post Office
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 - STA Bus Stop
 - University Bus Stop
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- Emergency only 9351 1333
Enquiries 9351 2407
For further assistance please the
Information Centre 9351 3100
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K7	University Health Service
M9	University Sports & Aquatic Centre
M9	University Co-op Bookshop
C3	Valentine Charlton Cat Centre
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H3	University Relations (Vice Principal)
C3	Veterinary Hospital & Clinic
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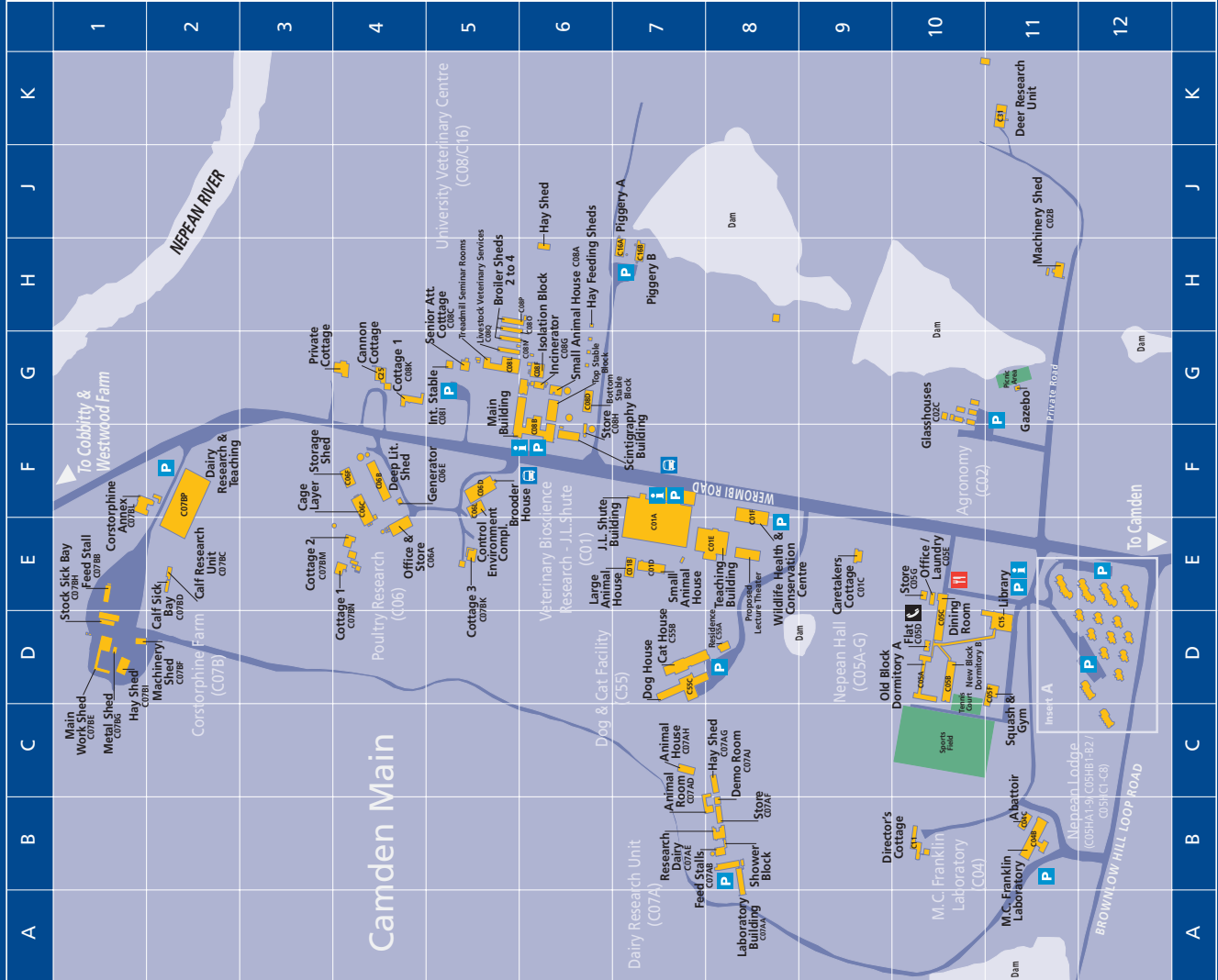
CAMDEN MAIN

-  STA Bus Stop
-  Information
-  Eateries
-  Telephone
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CAMPUS PROPERTY AND SERVICES - AUGUST 2008



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Agronomy

- H11 Machinery Shed (C02B)
- G10 Glasshouses & Boiler Room (C02C)
- K11 Deer Research Unit (C02D)

M.C. Franklin

- B11 Laboratory (C04B)
- B11 Abattoir (C04C)
- B10 Director's Cottage (C11)

Nepean Lodge

- D12 Group A, No1 to No 9 (C05HA1-9)
- D12 Group B, No1 (C05HB1)
- D12 Group B, No2 (C05HB2)

- E11 Group C, No1 & 2 (C05HC1-2)
- E12 Group C, No3 & 4 (C05HC3-4)
- E12 Group C, No5 & 6 (C05HC5-6)
- E12 Group C, No7 & 8 (C05HC7-8)

Nepean Hall

- D10 Old Block - Dormitory A (C05A)
- D10 New Block - Dormitory B (C05B)
- D10 Dining Room (C05C)
- D10 Flat (C05D)
- E10 Office & Laundry (C05E)
- D11 Squash Court & Gym (C05F)
- E10 Store (C05G)
- D11 Library (C15)

Dairy Research Unit

- B8 Laboratory (C07AA)
- B8 Feed Stalls (C07AB)
- B8 Animal Room (C07AD)
- B8 Research Dairy (C07AE)
- B8 Store (C07AF)
- C8 Hay Shed (C07AG)
- C8 Animal House (C07AH)
- B8 Demo Room (C07AA)

Poultry Research

- E4 Office & Store (C06A)
- F4 Deep Lit. Shed (C06B)
- F4 Cage Layer Shed (C06C)
- F5 Brooder House (C06D)
- F4 Generator Building (C06E)
- F4 Storage Shed (C06F)
- F5 Control Environment Compl. (C06L)

Corstorphine Farm

- E1 Feeding Stalls & Office (C07BB)
- E2 Calf Research Unit (C07BC)
- E2 Calf Sick Bay (C07BD)
- D1 Main Work Shed (C07BE)
- D1 Machinery Shed (C07BF)
- D1 Metal Shed (C07BG)
- D1 Stock Sick Bay (C07BH)
- D1 Hay Shed (C07BI)
- E5 Cottage No. 3 (C07BK)
- F1 Corstorphine Annexe (C07BL)
- E4 Cottage No. 2 (C07BM)
- E4 Cottage No. 1 (C07BN)
- F2 Dairy Research & Learning (C07BP)

University Veterinary Centre

- G6 Small Animal House (C08A)
- F6 Main Building (C08B)
- G5 Senior Att. Cottage (C08C)
- G6 Cattle Unit (C08D)
- G6 Isolation Block (C08F)
- G6 Incinerator (C08G)
- F6 Store (C08H)
- G4 Cottage 1 (C08K)
- G5 Interlock Stable (C08I)
- H7 Piggery A (C16A)
- H7 Piggery B (C16B)
- G4 Cottage No. 1 (C08K)
- G5 Treadmill Seminar Rooms (C08L)
- H5 Broiler Shed 2 to 4 (C08N-O-P)
- G5 Livestock Veterinary Services (C08Q)
- G5 Cannon Cottage (C25)

Campus Facilities

- E8 Computer Laboratories (C01E)
- E8 Auditorium (C01E)
- E8 Seminar Rooms (C01E)

Residential accomodation

- D12 Nepean lodge
- D10 Old Block Dormitory A
- D10 New Block Dormitory B

Sports & Recreational Venues

- D11 Squash & Gym

Libraries

- D11 Library

Unions & Associations (offices)

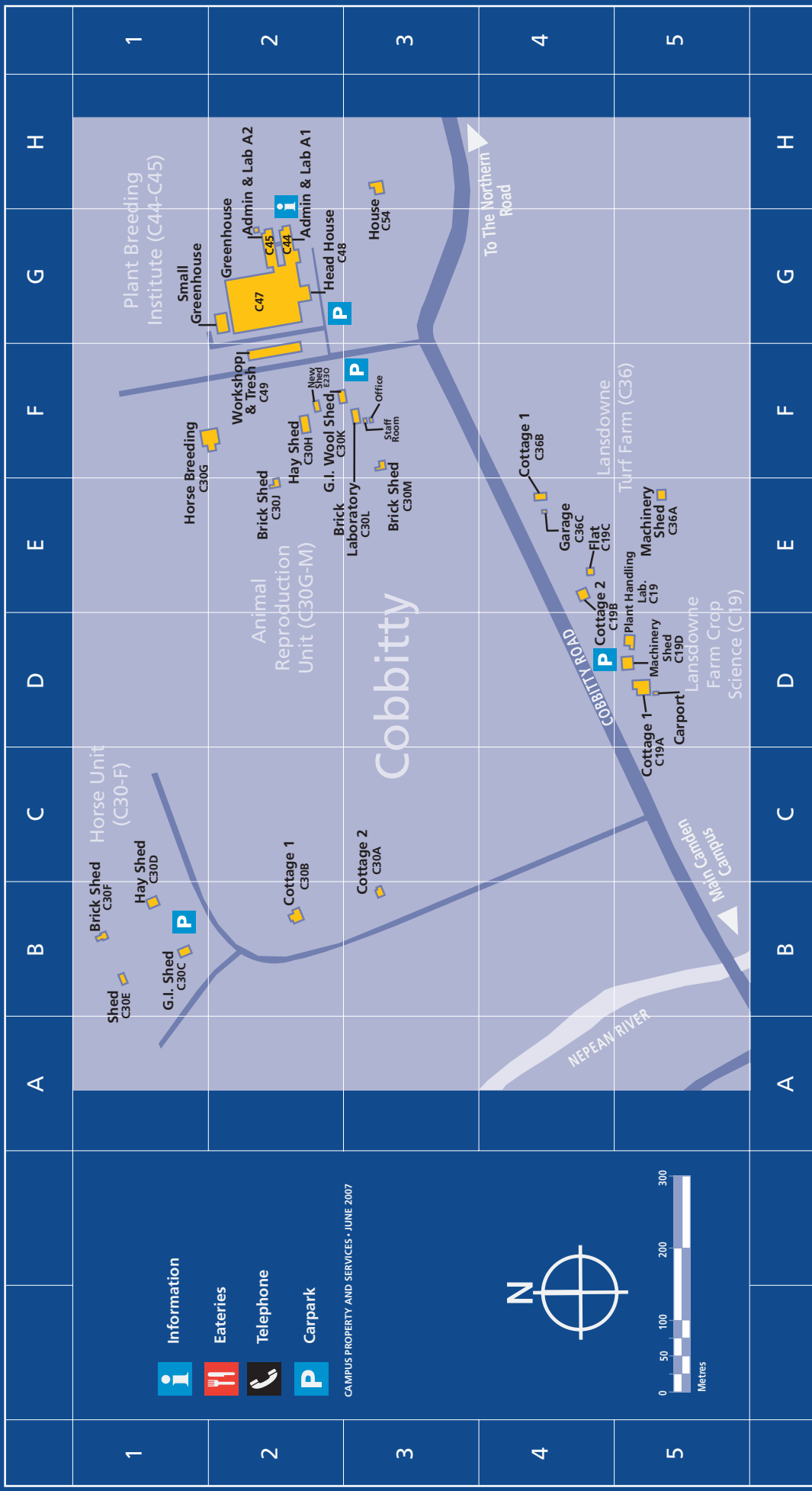
- E7 Students' Association (C01A)

Venues

- E7 J.L. Shute Building
- G5 Treadmill Seminar Rooms

MAP CODE: 13C_MAIN

COBBITTY CAMPUS



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Directory

University Buildings

Lansdowne Farm
D5 Plant Handling Lab. (C19)
D5 Cottage 1 (C19A)
E4 Cottage 2 (C19B)
E4 Flat (C19C)
D5 Machinery Shed (C19D)

Lansdowne Turf Farm
E5 Machinery Shed (C36A)
E4 Cottage 1 (C36B)
E4 Garage (C36C)
E4 Carport (C36D)

Horse Unit
B3 Cottage 2 (C30A)
B2 Cottage 1 (C30B)
B1 G.I. Shed (C30C)
B1 Hay Shed (C30D)
B1 Brick Dairy (C30E)
B1 Brick Shed (C30F)

Animal Reproduction Unit
F2 Horse Breeding (C30G)
F2 Hay Shed (C30H)
E2 Brick Veterinary Laboratory (C30J)
F2 G.I. Woolshed (C30K)
F3 Brick Laboratory (C30L)
F3 Brick Veterinary Laboratory (C30M)

Plant Breeding Institute
G2 Administration & Lab A1 (C44)
G2 Administration & Lab A2 (C45)
G2 Green House (C47)
G2 Head House (C48)
F2 Workshop and Thresh (C49)
H3 House (C54)

College Facilities

G2 Lecture Theatre (C44)

Map Code: NSW_A13

Camden Campus



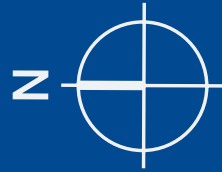


Information



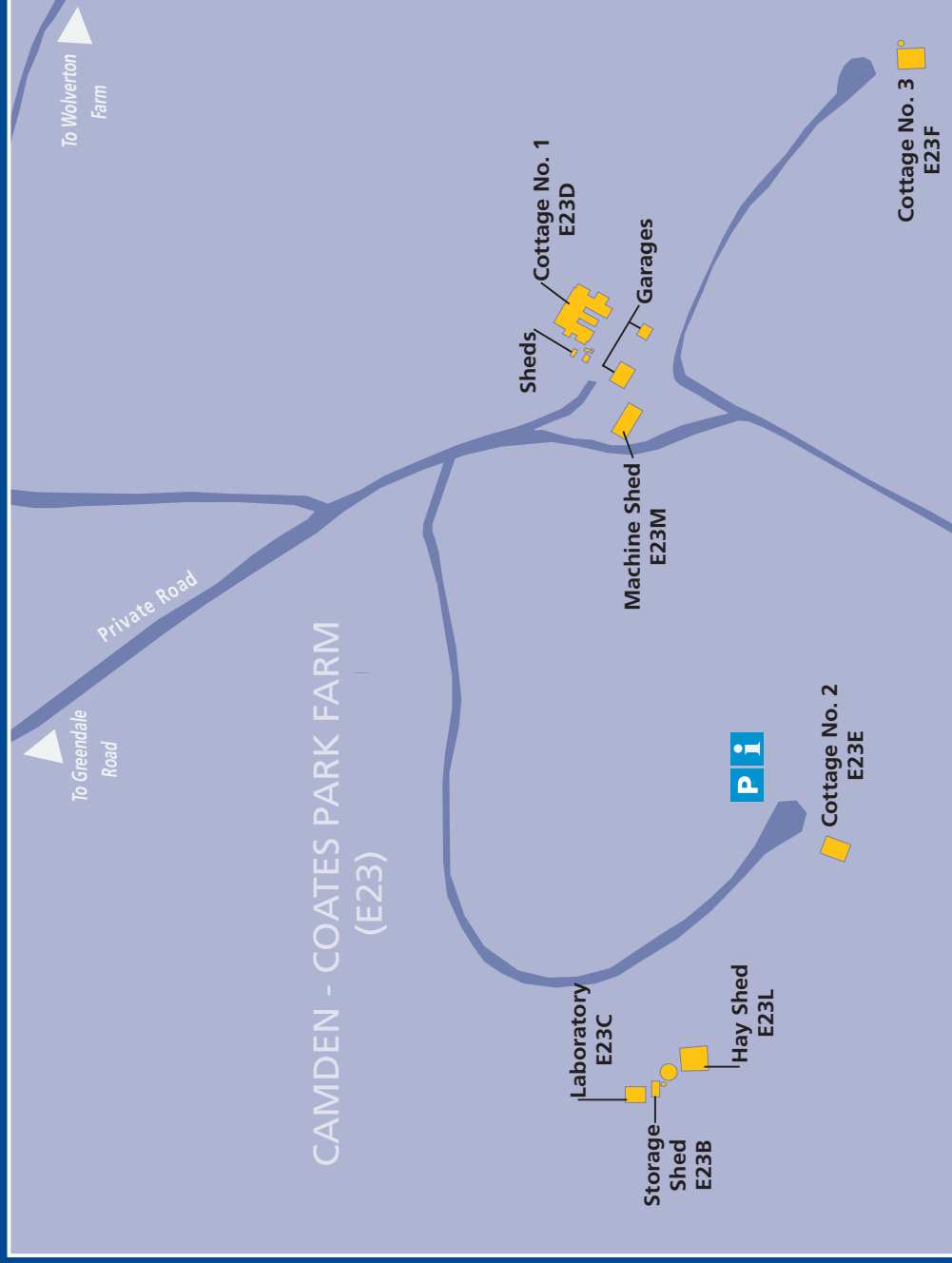
Parking

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MAP CODE: 13B_MAIN

COATES PARK FARM



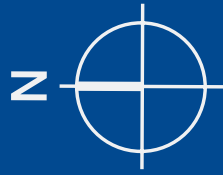


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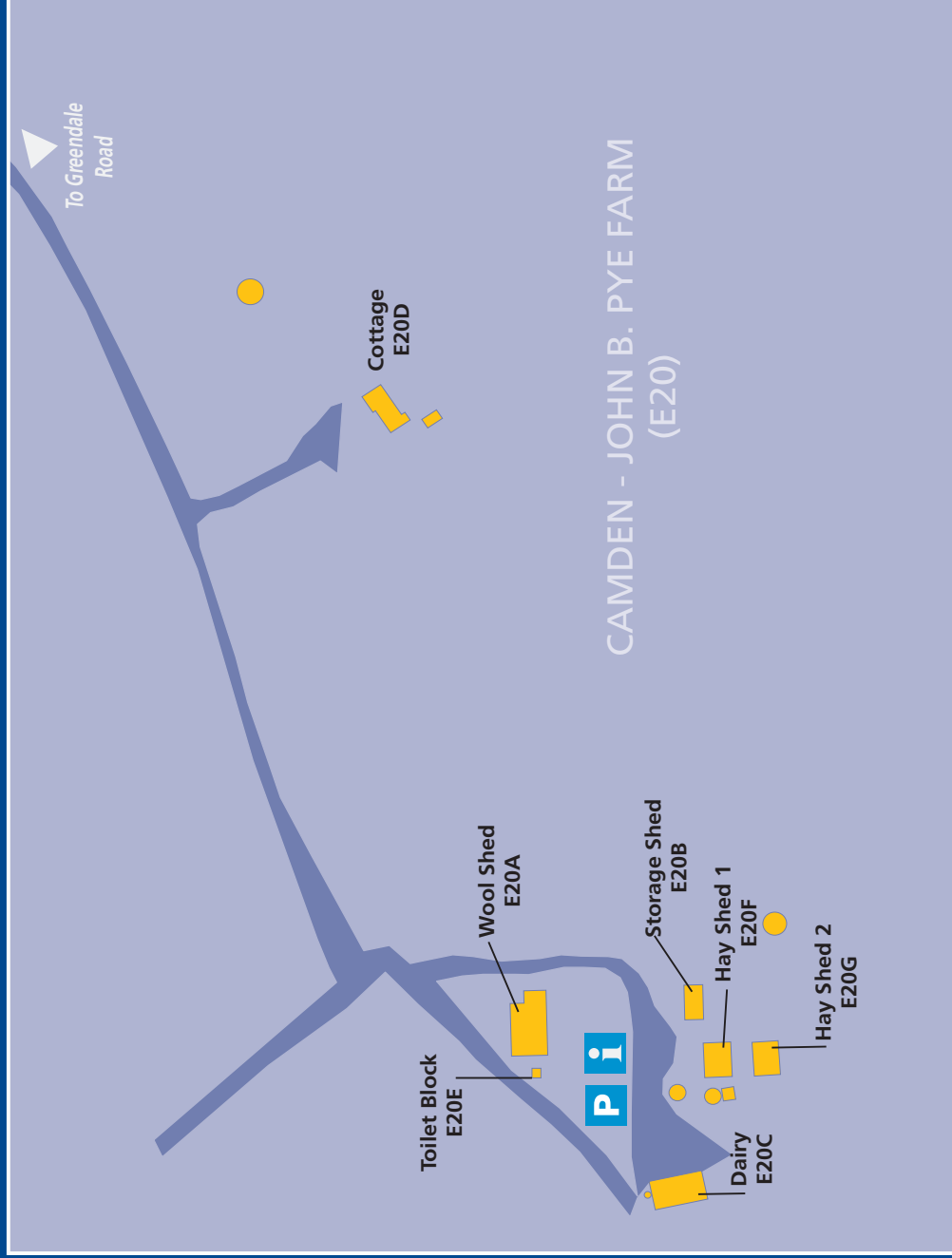
Parking

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MAP CODE: 13D_MAIN

JOHN B. PYE FARM



MAP CODE: 13E_MAIN

MAY FARM

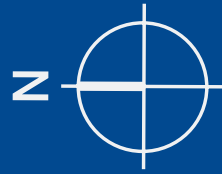
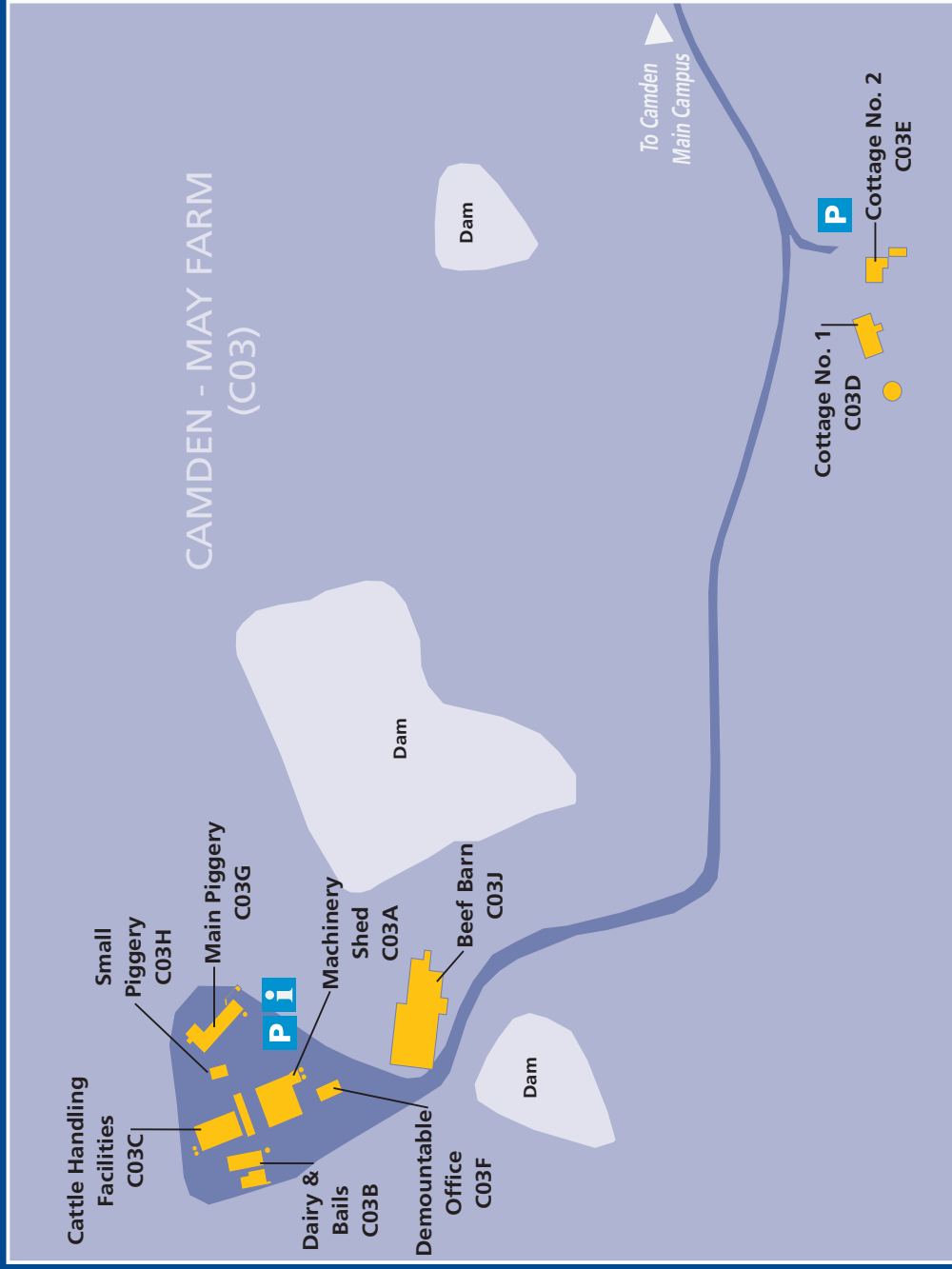


Information



Parking

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MAP CODE: 13F_MAIN

MT. HUNTER FARM

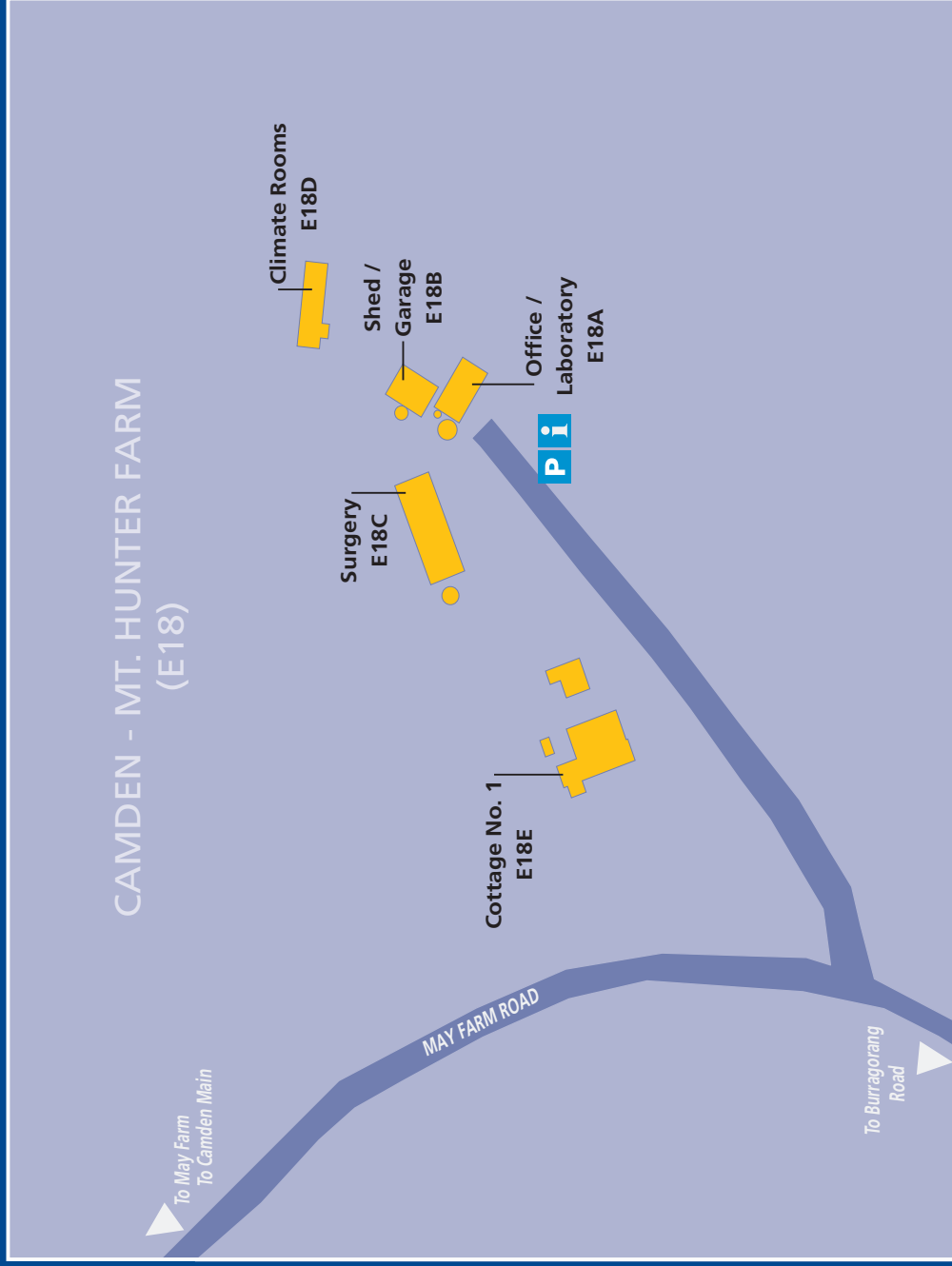


Information



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MAP CODE: 13G_MAIN

WESTWOOD FARM



Information



Parking

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MAP CODE: 13H_MAIN

WOLVERTON FARM

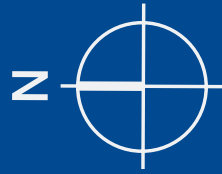
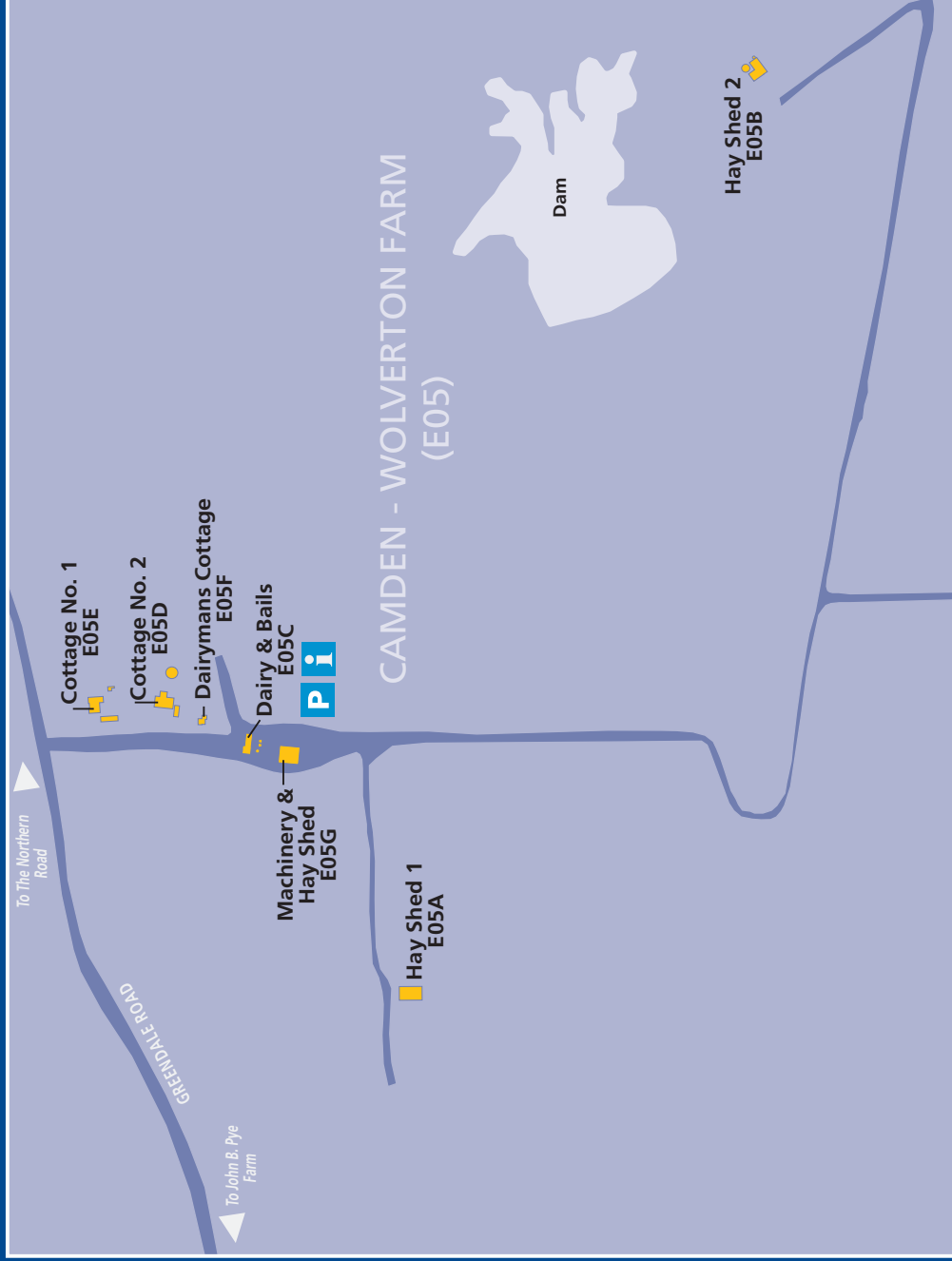


Information



Parking

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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										