

## DASC90011 Genetics and Animal Breeding

<b>Credit Points:</b>	12.5
<b>Level:</b>	9 (Graduate/Postgraduate)
<b>Dates &amp; Locations:</b>	2015, Parkville This subject commences in the following study period/s: August, Parkville - Taught on campus.
<b>Time Commitment:</b>	Contact Hours: Up to 45 hours of lectures/practicals/tutorials Total Time Commitment: Not available
<b>Prerequisites:</b>	Eligibility for honours or postgraduate degree
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	None
<b>Non Allowed Subjects:</b>	None
<b>Core Participation Requirements:</b>	<p>&lt;p&gt;For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry.&lt;/p&gt;         &lt;p&gt;It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: &lt;a href="http://services.unimelb.edu.au/disability"&gt;http://services.unimelb.edu.au/disability&lt;/a&gt;&lt;/p&gt;</p>
<b>Coordinator:</b>	Prof Michael Goddard
<b>Contact:</b>	<a href="mailto:meg@unimelb.edu.au">meg@unimelb.edu.au</a> (mailto:meg@unimelb.edu.au)
<b>Subject Overview:</b>	<p>This subject covers the application of genetics to the breeding of animals. It explores the application of quantitative and molecular genetics in domestic animal improvement programs. Modern animal breeding requires an understanding of how traditional and genomic selection tools can be successfully applied in practical breeding programs. Practical topics will be explored to develop the skills to interpret genetic data and to manage breeding programs: using real data, computer simulations and modelling software. The topics to be covered include:</p> <ul style="list-style-type: none"> <li>• definition of breeding objectives in economic terms;</li> <li>• the meaning and application of genetic parameters;</li> <li>• estimation and interpretation of breeding values and selection indices;</li> <li>• applications of genomics tools</li> <li>• applications for modern reproductive biotechnology such as cloning</li> <li>• design of breeding programs.</li> </ul>
<b>Learning Outcomes:</b>	<p>On completion of this subject, students should be able to:</p> <ul style="list-style-type: none"> <li>• express the meaning and application of a range of genetic parameters</li> <li>• estimate breeding values and use genetic tools to determine the impact of selection and crossbreeding</li> <li>• identify the impact of inbreeding</li> <li>• evaluate a range of genetic tools (including molecular and reproductive biotechnologies) for the design of breeding programs.</li> </ul>
<b>Assessment:</b>	<ul style="list-style-type: none"> <li>• One 3-hour written examination (50%), end of semester</li> <li>• Up to three written practical reports and one assignment totaling 1000 words (35%), submitted mid to late semester</li> <li>• 10 minutes seminar (15%). During the semester</li> </ul>

<b>Prescribed Texts:</b>	N/A
<b>Breadth Options:</b>	This subject is not available as a breadth subject.
<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Generic Skills:</b>	<p>On completion of this subject, students should have developed these generic skills:</p> <ul style="list-style-type: none"> <li>• academic excellence</li> <li>• greater in-depth understanding of the scientific disciplines of applied animal genetics</li> <li>• critical thinking and analysis, and problem solving</li> <li>• flexibility and level of transferable skills should be enhanced through improved ability to communicate ideas effectively in both written and verbal formats.</li> </ul>
<b>Notes:</b>	<p>This subject will run in 2014 subject to sufficient student enrolments.</p> <p><b>Q Fever</b></p> <p>Students enrolling in the Faculty of veterinary and Agricultural Sciences are advised that some courses of study may put them at an increased risk of contracting Q Fever. Q Fever is a relatively common preventable condition which, while rarely fatal, can cause a severe acute illness and can result in damage to heart valves and chronic fatigue. It is recommended that students consider undertaking screening and vaccination for Q Fever prior to commencement of study. Students may be required to provide proof of vaccination prior to undertaking some coursework. Your course coordinator will advise you of this requirement prior to commencement of the study semester. Vaccine costs for students are not covered by the Pharmaceutical Benefit Scheme, Medicare, or by the University. Some students with full private medical coverage (which has hospital and ancillary cover) may receive partial re-imbursment for vaccine costs.</p>
<b>Related Course(s):</b>	<p>Master of Agricultural Science  Master of Animal Science  Postgraduate Diploma in Agricultural Science</p>
<b>Related Majors/Minors/ Specialisations:</b>	<p>100 Point (A) Master of Agricultural Sciences  100 Point (B) Master of Agricultural Sciences  150 Point Master of Agricultural Sciences  200 Point Master of Agricultural Sciences  Honours Program - Agricultural Science  Honours Program - Animal Science and Management</p>