

Ecology and Evolutionary Biology

Year and Campus:	2016						
Coordinator:	Associate Professor Peter Vesk (School of BioSciences) Professor Barbara Downes (School of Geography) Professor Mick Keough (School of BioSciences)						
Contact:	Email: pvesk@unimelb.edu.au (mailto:pvesk@unimelb.edu.au) Email: barbarad@unimelb.edu.au (mailto:barbarad@unimelb.edu.au) Email: mjkeough@unimelb.edu.au (mailto:mjkeough@unimelb.edu.au)						
Overview:	<p>The Ecology and Evolutionary Biology major will provide the springboard for students entering careers or research in the following areas: Ecology, Conservation Biology, Animal Behaviour, Evolutionary Biology, Systematic and Biodiversity, Environmental Consulting. Graduates will be prepared for these pathways by developing skills in survey, experimentation and modelling of ecological and evolutionary processes, which are crucial to being prepared to make contributions in research, education or in consulting roles in natural resources management and environmental consulting industries.</p> <p>This major will integrate knowledge from a range of disciplines from genetics through organismal biology to ecosystem science, by enabling students to complete a sequence of specialist subjects in each, as well as integrated subjects in which the students develop an understanding of the application of ecological methods to solving current problems in evolution, ecology and biodiversity. Students will gain experience preparing them for the workplace by participating in group research projects and working groups.</p>						
Learning Outcomes:	<p><i>Ecology & Evolutionary Biology Major graduates should demonstrate:</i></p> <ul style="list-style-type: none"> # knowledge from a range of disciplines from genetics through organismal biology to ecosystem science, by enabling students to complete a sequence of specialist subjects in each, as well as integrated subjects in which the students develop an understanding of the application of ecological methods to solving current problems in evolution, ecology and biodiversity; # skills in survey, experimentation and modelling of ecological and evolutionary processes, which are crucial to being prepared to make contributions in research, education or in consulting roles in natural resources management and environmental consulting industries; # understanding of the global nature of the science of Ecology and Evolutionary Biology and the opportunity for and importance of generality provided by regions and continents. They will demonstrate an awareness that current Ecology and Evolutionary Biology knowledge and thought is dominated by the English-speaking northern hemisphere, temperate countries and regions, and the effect this has on access to region-specific knowledge; # understanding of the role of the cultures of science practice in Ecology and Evolutionary Biology specifically the role of theory, of models, of mathematics, of observational and experimental (both field and lab) empirical work. They will understand the role of history in their science; # preparedness to engage as scientists to problems of climate change and other global challenges; # preparedness for the workplace through experience participating in group research projects and working groups; # ability to communicate about the theory, practice and evidence in Ecology and Evolutionary Biology orally, and in different modes of written presentation. 						
Structure & Available Subjects:	Completion of 50 points of study at Level 3.						
Subject Options:	<p>Students must take:</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>ECOL30006 Ecology in Changing Environments</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table> <p>Plus one of the following evolutionary biology subjects:</p>	Subject	Study Period Commencement:	Credit Points:	ECOL30006 Ecology in Changing Environments	Semester 1	12.50
Subject	Study Period Commencement:	Credit Points:					
ECOL30006 Ecology in Changing Environments	Semester 1	12.50					

Subject	Study Period Commencement:	Credit Points:
BOTA30002 Plant Evolution	Semester 2	12.5
GENE30001 Evolutionary Genetics and Genomics	Semester 1	12.5
ZOOL30004 Evolution and the Human Condition	Semester 1	12.5
ZOOL30006 Animal Behaviour	Semester 1	12.5

Plus one of the following research experience subjects:

Subject	Study Period Commencement:	Credit Points:
BOTA30006 Field Botany	January	12.50
GEOG30022 River Ecology & Ecosystem Management	Semester 1	12.50
GEOG30025 Biogeography and Ecology of Fire	Semester 1	12.5
ZOOL30007 Experimental Animal Behaviour	Semester 1	12.5
ZOOL30008 Experimental Marine Biology	February	12.50
ZOOL30009 Field Biology of Australian Wildlife	Semester 2	12.50

Plus one of:

Subject	Study Period Commencement:	Credit Points:
BOTA30002 Plant Evolution	Semester 2	12.5
BOTA30006 Field Botany	January	12.5
GENE30001 Evolutionary Genetics and Genomics	Semester 1	12.5
GEOG30022 River Ecology & Ecosystem Management	Semester 1	12.5
BOTA30003 Environmental Plant Physiology	Semester 1	12.5
BOTA30004 Vegetation Management and Conservation	Semester 2	12.5
ECOL30005 Applied Ecology	Semester 2	12.5
ECOL30007 Marine Ecosystems: Ecology & Management	Semester 1	12.5
EVSC30003 Environmental Risk Assessment	Semester 1	12.5
EVSC30006 Ecology of Urban Landscapes	Semester 1	12.5
ZOOL30007 Experimental Animal Behaviour	Semester 1	12.5
ZOOL30008 Experimental Marine Biology	February	12.5
ZOOL30009 Field Biology of Australian Wildlife	Semester 2	12.5
ZOOL30004 Evolution and the Human Condition	Semester 1	12.5
ZOOL30006 Animal Behaviour	Semester 1	12.5

Related Course(s):

Bachelor of Science