BIOL20001 Evolution: Making Sense Of Life

Credit Points:	12.5
Level:	2 (Undergraduate)
Dates & Locations:	This subject is not offered in 2016.
Time Commitment:	Contact Hours: 36 hours comprising two 1-hour lectures and one 2-hour workshop per week Total Time Commitment: 170 hours
Prerequisites:	One of the following: **Subject** / **Study Period Commencement:** / **Credit Points:** BIOL10001 Biology of Australian Flora & Fauna — Semester 2 — 12.5 BIOL10002 Biomolecules and Cells — Semester 1 — 12.5 BIOL10003 Genes and Environment — Semester 2 — 12.5 BIOL10004 Biology of Cells and Organisms — Semester 1 — 12.5 BIOL10005 Genetics & The Evolution of Life — Semester 2 — 12.5
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	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. 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: http://services.unimelb.edu.au/disability
Contact:	d.stuart-fox@unimelb.edu.au
Subject Overview:	It is widely held that nothing in biology makes sense, except in the light of evolution. But evolutionary theory is crucial not only for making sense of organic diversity, but also for helping us understand and manage our interactions with other organisms: antibiotic and insecticide resistance, disease virulence, fisheries decline, spread of invasive species, human behaviour and life-histories are all informed by a knowledge of the processes of evolution. This subject will reveal the ubiquity of biological evolution in both natural and human modified environments. It will describe and explain the agents of change— drift, migration and selection, and show their effects on both single and multiple gene traits, and on the phylogenetic relationships of species. The subject will introduce co-evolutionary processes, which are critical for understanding traits that evolve through interactions between species, including humans. Particular topics will include (but not limited to): heritable variation; agents of evolution; artificial, natural and sexual selection; phenotypes and quantitative genetics; phylogeny, speciation and the tree of life; and antagonistic and mutualistic co-evolution. The subject will emphasise both the outcome and process of scientific research leading to our understanding of evolutionary processes, drawing on examples from across the diversity of life.
Learning Outcomes:	Upon completion of this subject students should have an appreciation of phylogenies and the tree of life; genes, mutations and phenotypes; quantitative genetics; adaptation and natural

	selection; mutualistic and antagonistic co-evolution; applications of evolutionary ideas to human activities
Assessment:	One 30 minute test of multiple choice and written answers of no more than 200 words (15%, due Week 5). One essay of approximately 1200 words (15% due Week 7). One 2-hour written examination (end of semester, 70%)
Prescribed Texts:	Zimmer, C and Emlen D (2012) Evolution: Making Sense of Life. Roberts and Company Publishers.
Breadth Options:	This subject potentially can be taken as a breadth subject component for the following courses: # **Bachelor of Arts (https://handbook.unimelb.edu.au/view/2016/B-ARTS)** # **Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2016/B-COM)** # **Bachelor of Environments (https://handbook.unimelb.edu.au/view/2016/B-ENVS)** # **Bachelor of Music (https://handbook.unimelb.edu.au/view/2016/B-MUS)** You should visit **learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html)** and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	The subject builds upon generic skills developed in first year level subjects, including the ability to critically assess and assimilate new knowledge. Students should learn how to use these skills to solve practical problems associated with the discipline. They should learn how to design experiments and critically evaluate experimental designs. This subject also enables students to gain experience in evaluating and interpreting data and writing scientific reports.
Related Majors/Minors/ Specialisations:	Science-credited subjects - new generation B-SCI and B-ENG. Selective subjects for B-BMED