GEOG30025 Biogeography and Ecology of Fire

Credit Points:	12.5
Level:	3 (Undergraduate)
Dates & Locations:	2016, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus. An enrolment quota of 40 students (in undergraduate and post-graduate offering) applies to this subject. For detailed information on the quota subject application process, enrolment deadlines and selection preferences, refer to the Faculty of Science website: http://science.unimelb.edu.au/students/course-planning-and-advice The estimated additional cost of the 7 day field trip is in the vicinity of $750. The field trip to Cradle Mountain, Tasmania, will take place during teaching week 3 (March 14-20, 2016). Students need to confirm selection through a $100 deposit by February 12, 2016 to avoid additional field trip costs. Total field trip balance will be due by March 7, 2016. Students undertake field trip experiences that will require them to be physically capable of undertaking outdoor field work in remote locations
Time Commitment:	Contact Hours: 12 x 1 hr lectures (12 hours) 6 days field work (40 hours) Practicals: 1x2 hr pre-field practicals, 5x3 hr post-field practicals(17 hours) Total Contact Hours: 69 Total Time Commitment: 170 hours total time commitment
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	Some background in Ecology, Physical Geography and/or Earth Science is strongly recommended. Students are normally expected to have completed one or more 2 nd yr physical geography, biology and/or earth science subjects. Interested students should contact the coordinator for advice.
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
Coordinator:	Dr Michael-Shawn Fletcher
Contact:	**michael.fletcher@unimelb.edu.au (mailto:michael.fletcher@unimelb.edu.au)**
Subject Overview:	Fire is one of the most important controls over the distribution of vegetation on Earth. This subject examines the role of fire in natural systems, with a particular emphasis on the importance of fire in determining global vegetation patterns and dynamics over long periods of time. The aim is to understand how terrestrial systems have evolved to cope with and exploit fire, and to place the extreme flammability Australia's vegetation within a global context. The subject will examine concepts such as resilience, positive feedback loops, hysteresis and alternative stable states. The use of fire by humans to manipulate environments will be examined, with a particular emphasis on the variety of approaches employed by people across a diversity of environments over long periods of time, allowing an exploration of the social and cultural dynamics of fire and environmental management. A mid-semester field excursion in Tasmania will visit a number of sites which will exemplify the subject themes. The practical exercises leading up to the field trip will focus on how to gather fire-related ecological data. The practical exercises following the field trip will be devoted to processing, analysing, interpreting and reporting on the field data. At the end of the subject, students will have gained

	an understanding of the way in which fire has shaped natural systems, as well as acquiring the skills necessary to formulate and test hypotheses. More information about the subject and field trip can be seen at: **http://michaelsresearch.wordpress.com/GEOG30025/ (http://michaelsresearch.wordpress.com/GEOG30025/)** ***The estimated additional cost of the 7 day field trip to Cradle Mountain, Tasmania, is in the vicinity of $750. The field trip will take place during teaching week 3 – students will be required to arrange this with other subjects.***
Learning Outcomes:	At the completion of this subject, students will have achieved the following objectives # An understanding of the causes and consequences of fire in terrestrial systems; # An understanding of the specific adaptations that plants and animals have evolved to cope with fire; # An ability to generate and test ecological hypotheses, design in-field ecological experiments and gather data to address specific hypotheses; # Familiarity with the key literature and current debates on fire-ecology; # An understanding of how the current global warming debate fits into the longer-term perspective
Assessment:	nine online reading assignments due weekly before each lecture (20%), field journal (800 word equivalent) due at the end of the field trip (20%), individual report based on the analysis of field data 2000 words due at the end of the penultimate week of semester (50%), 15 minute group presentation due in last practical class of semester (10%)
Prescribed Texts:	Fire on Earth: An Introduction – Scott, Bowman, Bond, Pyne and Alexander
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Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	# ability to conduct library searches to source the latest relevant literature on key topic areas; # ability to comprehend some of the current debates in the field; # software skills, such as Excel and more specialised software, such as ecological ordination software and R; # basic introduction to plant identification, ecological data acquisition and analysis; # field skills, especially an ability to design and execute controlled field experiments; # data interpretation skills, informed by the relevant literature; # group field and research activities.
Related Majors/Minors/ Specialisations:	Ecology and Evolutionary Biology Environmental Geographies, Politics and Cultures major Environmental Geography Environmental Science Environments Discipline subjects Geography Geography Science-credited subjects - new generation B-SCI and B-ENG. Selective subjects for B-BMED