FRST90025 Bushfire & Climate

Credit Points:	12.5
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2015, Creswick This subject commences in the following study period/s: March, Creswick - Taught on campus. This subject involves field trips. This subject has pre-teaching a pre-teaching period: A brief review of literature and other sources to identify and assess the relative importance of sources and sinks of energy for bushfires will be required by the first day of teaching and will form part of the bushfire energy assignment due at the end of the intensive teaching period.
Time Commitment:	Contact Hours: 24 hrs lectures and 36 hrs practical work delivered in a two week teaching block. Total Time Commitment: 170 hours.
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	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. This course requires all students to enrol in subjects where they must actively and safely contribute to field excursions and laboratory activities. Students who feel their disability will impact on meeting this requirement are encouraged to discuss this matter with the Subject Coordinator and Disability Liaison http://services.unimelb.edu.au/disability/ students email: disability-liaison@unimelb.edu.au
Coordinator:	Assoc Prof Kevin Tolhurst
Contact:	**Graduate School of Science** *Enquiries* Phone: 13 MELB (13 6352) Email: **13MELB@unimelb.edu.au (mailto:13MELB@unimelb.edu.au)** *Coordinator* Assoc Prof Kevin Tolhurst **kgt@unimelb.edu.au (mailto:kgt@unimelb.edu.au)**
Subject Overview:	The course covers the fundamentals of forest fire behaviour and the factors affecting it including fuels, weather, topography, fire scale and climatic conditions. This knowledge will be the underlying understanding required for the planning and execution of prescribed burning for land management and to understand the fundamentals of wildfire suppression strategies and tactics.
Learning Outcomes:	By the end of the subject students should: # Have an understanding of the importance of fuel characteristics including composition and structure on forest fire behaviour. In particular, an understanding of the importance of fuel moisture, fuel availability, fine fuels, live fuels, coarse fuels, fuel accumulation and decomposition processes and assessment and mapping of fuels. # Have an understanding of the fundamentals of fire behaviour, in particular, the processes of pyrolysis, combustion, and heat transfer. At a broader level, the effects of fuel, weather, topography, fire scale, and spotting on fire behaviour, how to use fire behaviour prediction models, computer based models and the use of GIS (Geographic Information Systems) to make fire behaviour predictions.

	# Have an understanding of the effects of climate and weather patterns on fire occurrence and behaviour. Learn how to use weather observations and forecasts to predict fire behaviour. # Have a knowledge of the science of prescribed burning including the importance of lighting patterns, fuel moisture, ignition technologies, and fire impacts. # Have an understanding of fire suppression strategies, fire suppression tactics, suppression tools and incident control structures.
Assessment:	Several small daily online “quizzes” – 20%, Bushfire energy assignment (1500 words) – 30% due at the end of the intensive subject, Major assignment (2500 words) – 50% due 4 weeks after the intensive subject.
Prescribed Texts:	None
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
Links to further information:	http://graduate.science.unimelb.edu.au/master-of-forest-ecosystem-science
Notes:	This subject can be taken as part of the Graduate Certificate/Diploma in Bushfire Management, and the Graduate Certificate/Diploma in Bushfire Planning and Management.
Related Course(s):	Graduate Certificate in Bushfire Planning and Management Graduate Diploma in Bushfire Planning and Management Master of Architecture Master of Architecture Master of Design (Urban Design) Master of Forest Ecosystem Science Master of Urban Design Master of Urban Planning Postgraduate Certificate in Bushfire Planning and Management Postgraduate Diploma in Bushfire Planning and Management
Related Majors/Minors/ Specialisations:	200 point Master of Architecture 300 point Master of Architecture Climate Change Climate Change Environmental Science Environmental Science Sustainable Forests Sustainable Forests Tailored Specialisation Tailored Specialisation