

# AGEN 7001 BUSHFIRE BEHAVIOUR

Credit Points 10

Legacy Code 200457

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**Description** This subject describes the factors affecting bushfire behaviour and the models which are used to predict bushfire behaviour, the principles of fire ecology, and the assessment of bushfire hazards on property and the environment. Topics include the measurement of fuel, rates of spread and flame length equations, fire danger indices and landscape issues, topographical influences on fire behaviour, the importance of fire regimes and fire thresholds on flora and fauna, habitat and fire impacts on environmental services such as soils and water catchments. The role of fire behaviour in determining impacts on structures is also described.

**School** Eng, Design & Built Env

**Student Contribution Band** HECS Band 2 10cp

Check your fees via the Fees ([https://www.westernsydney.edu.au/currentstudents/current\\_students/fees/](https://www.westernsydney.edu.au/currentstudents/current_students/fees/)) page.

**Level** Postgraduate Coursework Level 7 subject

## Restrictions

Students must be enrolled in a postgraduate program.

## Assumed Knowledge

This subject assumes that the student has undertaken undergraduate study in building surveying, planning or related areas or has gained the equivalent building construction knowledge by working in the construction industry in an appropriate capacity for at least four years.

## Learning Outcomes

On successful completion of this subject, students should be able to:

1. Identify and explain the factors affecting bushfire behaviour;
2. Classify vegetation types and associated fuel structures;
3. Discuss the role of fire weather in developing fire indices;
4. Describe the impacts of bushfire on species and communities of environmental significance and their fire thresholds;
5. Describe the impacts of fire on the environment and environmental services and management strategies to protect these values;
6. Predict the intensity and flame characteristics of a bushfire; and
7. Apply available models to describe bushfire behaviour and its impact on structures.

## Subject Content

Factors affecting various aspects of bushfire behaviour;  
 Initiation of bushfires;  
 Bushfire spread including spotting behaviour;  
 Comparative behaviour of bushfires in different vegetation types;  
 Ecological impacts of bushfires;  
 Models to describe bushfire behaviour;  
 Prediction of bushfire behaviour in terms of intensity and spread;  
 Prediction of bushfire behaviour on property.

## Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/Group Task
Short Answer	1000w. Students must achieve at least 40% in this task to achieve an overall pass for the unit	20	N	Individual
Essay	2000w. Students must achieve at least 40% in this task to achieve an overall pass for the unit	25	N	Individual
Report	3000w. Students must achieve at least 40% in this task to achieve an overall pass for the unit	35	N	Individual
Essay	1,000 words	20	Y	Individual