

FIRE ECOLOGY AND WILDFIRE HAZARD PLANNING MINOR

Offered at: San Luis Obispo Campus

This minor prepares students for the diverse, multi-disciplinary expertise needed to address the growing wildfire threat that societies throughout the world are facing, with a particular focus on California as a model system. The career expertise required to address the increasing threat of catastrophic wildfire spans many disciplines. This minor represents a key entry point for many students to tailor their major program in a way that provides an option to apply their undergraduate training to the rapidly growing number of career opportunities around wildfire management and hazard planning. Core coursework will give students an understanding around how fuel, weather and environmental features influence fire behavior, and the contemporary techniques and technology to control wildfire, as well as an understanding of the role of fire in ecosystem management. Beyond these core courses, students will have an opportunity to select between either a wildfire ecology track, focused on hands on and practical knowledge around fire ecology and fuels management, or a hazard planning track, focused on key elements of hazard planning and mitigation in fire prone communities. The wildfire ecology track will help prepare students for work in fuels and ecosystem management to enhance fire resilience in city, county, state and federal forest, rangeland, shrubland and other open space, as well as prepare students to work in the private sector providing technological and capacity solutions to meet wildfire management needs of different agencies. The hazard planning track will help prepare students for a range of work in the public and private sector space, including the design of policies and government functions to address wildfire threat as well as around contemporary approaches to hazard planning and mitigation across different public sectors.

Program Learning Objectives

1. Differentiate various techniques and tools utilized during wildfire suppression operations.
2. Describe characteristics of fire behavior and predict how differing fuels, weather, and topography will impact these characteristics.
3. Explain various human dimensions of living with wildfire and contrast how they vary between differing cultural and ethnic groups.
4. Identify various technologies utilized to manage wildfire and evaluate their appropriateness in various situations.
5. Analyze spatial data to classify elements of a fire environment in a given landscape.
6. Evaluate how manipulating elements of the fire environment impact fire behavior.

Minor Requirements and Curriculum

The minor must be completed prior to, or at the same time as, the requirements for the bachelor's degree. A major and a minor may not be taken in the same degree program, and a minor is not required for a degree. Requirements for the minor include:

- At least half of the units must be from upper-division courses (3000-4000 level).
- At least half of the units must be taken at Cal Poly (in residence).
- No more than one-third of the units will be taken with credit-no credit grading (CR/NC), not counting courses with mandatory CR/NC. Departments may further limit CR/NC grading if desired.
- A minimum 2.0 GPA is required in all units counted for completion of the minor.

Code	Title	Units
REQUIRED COURSES		
NR 2204	Wildland Fire Control	3
Select from the following:		3
GEOG 2218	Applications in GIS	
NR 2218	Introduction to Geographic Information Systems (GIS)	
NR 3317	The World of Spatial Data and Geographic Information Technology	
NR 3308	Fire and Society	3
NR 3312	Technology of Wildland Fire Management	3
NR 3340	Wildland Fire Management	2
Select from the following Tracks:		9-10
Fire Ecology Track		
NR 3305	Forest and Fire Ecology	
Select 7-8 units from the following:		
ASCI 2239	Principles of Rangeland Management	
ASCI 3370	Rangeland Improvements	
ASCI 3372	California Rangeland and Ranch Resource Management	
BIO 2253	Principles of Ecology and Evolution	
BIO 4446	Ecosystem Ecology	
BIO 4447	Spatial Ecology	

CRP 2457	GIS Applications in Planning
NR 3306	Natural Resource Ecology and Habitat Management
NR 3310	Global Climate Change
NR 4402	Forest Health and Disturbance Ecology
NR 4417	Natural Resource Protection and Policy
SS 4431	Spatial Data Analysis and Environmental Mapping
SS 4440	Forest and Range Soils

Fire Protection Track

NR 4466	Senior Project - Wildland-Urban Interface Fire Protection
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Select 6 units from the following:

CRP 1222	The Divided City: Urban Studies on Spatial Justice
CRP 2457	GIS Applications in Planning
CRP 4458	Hazard Mitigation Planning and Resilient Design
ME 4361	Fundamentals of Fire Protection Engineering

Total Units**23**