

USC School of Architecture

Architecture 546 Topics in Practice: Fire Urbanism

Class Location: Third Floor Watt Hall NW

Instructor: Esther Margulies
Associate Professor of Practice
Landscape Architecture + Urbanism

2 units, Tuesdays 1pm – 2:50 pm Office hours: Tuesdays 3pm
or By Appt.

Contact Information:

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This course investigates the significant impact of wildfires in Southern California and the urban wildland interface globally, and will research approaches to reduce or avoid risks to human life and property in forests and fire prone landscapes. As designers and planners we have significantly changed the way we see climate change impacts in coastal communities and are applying measures to reduce or mitigate sea level rise and inland flooding from increasingly destructive storms and events.

The first part of the course will examine the ecology of wildfires, our cultural history of living with fire and more recently our belief that fire suppression was the best approach to nature's mechanisms for forest maintenance. We will visit and look at the Woolsey fire of November 2018 as a case study demonstrating local fire ecology and evidence of successes and failures in living within an urbanized wild fire prone area.

In the second portion of the course we will research current fire prediction methods, classification methodologies, building codes, landscape requirements and other tools in use to avoid fire damage and destruction.

In the third portion of the course we will investigate recent and newly developing responses to development in severe wild fire areas. We will apply them to a case study site to explore potentially new urban forms or solutions for areas likely to be re-built in areas of severe risk such as Point Dume or other local areas.

Meetings will include lectures, class discussions, field trips and project presentations. Readings for each class must be completed before the class meeting.

Student led discussions: students will be responsible for leading class discussions on various topics.

Course Objectives:

This course will:

- Research and expand awareness and understanding of global climate change impacts
- Develop research methods to analyze physical and social impacts
- Develop proposals for urban form and land development policies to reduce wildfire impacts.

The syllabus will be updated periodically throughout the semester. Readings will be posted on Blackboard.

Grading:

Assignments: Two (2) required assignments – 20 points each 40 points total

Mid Term Research Project 30 points

Final Paper – 20 points

Class Participation – 10 points

Students are expected to attend all class meetings, field trips and other meetings. Assignments are due as specified on the syllabus and as stated in the assignment when distributed to the class. Assignments and research projects must be original research. Grading will reflect the quality of research, completeness of the report or project and quality of graphic and verbal communication.

Grading Scale

Course final grades will be determined using the following scale:

- A 95-100
- A- 90-94
- B+ 87-89
- B 83-86
- B- 80-82
- C+ 77-79
- C 73-76
- C- 70-72
- D+ 67-69
- D 63-66
- D- 60-62
- F 59 and below

Class Attendance and Additional Work Requirements

Attendance at all meetings and field trips are mandatory. Students must notify the instructors and request to be excused prior to the class meeting time. Students are expected to spend a minimum of 2 hours of additional work time each week outside of class time to complete readings and assignments. You are expected to attend class and participate in class discussions. Excessive distraction with laptops and cell phones will not be excused.

Specific content and presentation requirements for all assignments and reviews will be provided.

Late submittals

Assignments and presentations are expected to be submitted by the posted deadlines. Late submittals will have grade reductions of 1/3 letter grade per day. All projects are due on the same day regardless of presentation schedule.

Required Skills:

This course will require production of mapping and site documentation. Students will have Arc GIS accounts provided for the semester and training. Maps may be created digitally or by hand. Students will develop a final research paper with proper citations and notes.

Software

MS Office or equal, Adobe Creative Suite for mapping, ARC GIS

Class Schedule

Date	Lecture Topics and Frameworks	Required Readings – Will be updated throughout the
Jan 8	First Day of Class Overview: Wildfires and Climate Change Risks and Impacts https://wildfiretoday.com/2018/12/23/a-documentary-about-the-camp-fire-at-paradise-california/ Analogies: Urban Climate Change Resilience	
Jan 15	The Ecology of Wildfires How forests and other fire based landscapes utilize fire to maintain healthy ecosystems. Historic human use of fire to manage landscapes and food production.	Fire in the Forest Chapters 5 and 6
Jan 22	Economics and Social Impacts of Wildfires The costs of wildfires are born by individuals, local, state and federal governments. The cost of forest management, fire suppression, fire fighting and insurance coverage are all parts of the cost equation. Review of Local, County and State building, zoning and landscape codes in Malibu that apply to high fire areas.	Reading on Blackboard Let Malibu Burn Mike Davis
	Assignment 1 – Mapping and documentation of Woolsey Fire characteristics and impacts	Assignment is due January 29 th bring to field trip
Jan 29	Field Trip – Malibu Leave USC 12:30 in Malibu until about 5pm Site investigation of damage from the Woolsey Fire Dume Drive and Pepperdine Campus	Reading on Blackboard TBD
Feb 5	No Class	
Feb 12	Global Precedent Case study of wildfire and associated impacts Assignment 2 Global Case Studies	Students will research and prepare case studies on wildfires, impacts, design and policy innovations and changes. Due in class February 19th

Feb 19	Global Fire Case Studies Students present case studies of catastrophic wildfires in Europe, Asia, North America and Australia	
Feb 26	Guest Speaker TBD	Reading on Blackboard TBD
March 5	Workshop Global Wildfire Data Review and verify data in class.	
March 12th	No Class Spring Break	
March 19	Workshop Mid term Assignment Fire Speculation Sites in Class Review of Wildfire Risk Factors Initial presentation methodology of site selections	Mid Term speculation report due March 26th
March 26	Presentation of High Risk Sites Wild Fire Adaptation Strategies Global survey of efforts to plan and design for wild fire in high severity areas.	Reading on BB
April 2 th	Case Study Woolsey Fire Malibu and Agoura Hills Fire History, development patterns, estimated loss, ecological impacts	Reading on Blackboard TBD
April 9 th	Guest Lecture How Architects are adapting to design in the WUI	Reading on Blackboard TBD
April 16	Final Speculation – High Risk Sites Identify and discuss methods and strategies to address development in fire prone areas Building Form, Building Materials, Landscape & Zoning regulations	Final Adaptation Strategies due May 8th
April 23	Final Class Preliminary Presentation of Adaptation Strategies	
May 8 th	Final Exam Date 10 AM Students Present Final Speculation Projects	

Required Text - There is no required text book for this class. All readings will be posted on Blackboard or links will be provided.

Bibliography – Sources that may be valuable throughout the semester to supplement required readings.

Ferguson, Gary Land on Fire, Timber Press, Portland, Oregon 2017

Struzik, Edward Fire Storm, Island Press, Washington, DC, 2017

Los Angeles Times Various Articles

2018 Wildfire and Climate Change Conference

The International Disaster Database https://www.emdat.be/emdat_db/

USC Policies

Statement on Academic Conduct and Support Systems

Academic Conduct

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Section 11, *Behavior Violating University Standards* <https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions>. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct>.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* <http://equity.usc.edu> or to the *Department of Public Safety* <http://adminopsnet.usc.edu/department/department-public-safety>. This is important for the safety of the whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. *The Center for Women and Men* <http://www.usc.edu/student-affairs/cwm/> provides 24/7 confidential support, and the sexual assault resource center webpage <http://sarc.usc.edu> describes reporting options and other resources.

Support Systems

A number of USC’s schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs*

http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* <http://emergency.usc.edu> will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.

Accreditation

The Master of Landscape Architecture degree program includes three curricula. Curriculum +3 for students with no prior design education and Curriculum +2 for students admitted with advanced standing have full accreditation by the Landscape Architecture Accreditation Board. Information about landscape architecture education and accreditation in the United States may be found on-line at <http://www.asla.org/Education.aspx>.

Religious Holidays

The University of Southern California recognizes the diversity of our community and the potential for conflicts involving academic activities and personal religious observation. The University provides a guide to such observances for reference and suggests that any concerns about lack of attendance or inability to participate fully in the course activity be fully aired at the start of the term. As a general principle, students should be excused from class for these events if properly documented and if provisions can be made to accommodate the absence and make up the lost work. Constraints on participation that conflict with adequate participation in the course and cannot be resolved to the satisfaction of the faculty and the student need to be identified prior to the add/drop date for registration. After the add/drop date the University and the School of Architecture shall be the sole arbiter of what constitutes appropriate attendance and participation in a given course.

School of Architecture Attendance Policy

A student may miss the equivalent of one week of class sessions (in this case, **TWO**, excused absences are permitted) without directly affecting the student's grade and ability to complete the course. An excused absence is a confirmed personal illness, family emergency, or religious holiday. For each absence over the allowed number, your grade can be lowered by 1/3-letter grade. If additional absences are required for a personal illness, family emergency, pre-approved academic reason/religious observance, you must discuss the situation with your faculty member immediately.

Any student not in class within the first 10 minutes is considered tardy, and any student absent (in any form including sleep, technological distraction, or by leaving mid class for a long bathroom/water break) for more than 1/3 of the class time can be considered fully absent. If arriving late, a student must be respectful of a class in session and do everything possible to minimize the disruption caused by a late arrival. It is always the student's responsibility to seek means (if possible) to make up work missed due to absences, not the instructor's, although such recourse is not always an option due to the nature of the material covered.

Sustainability Initiative

The School of Architecture has adopted the 2010 Initiative for Sustainability. Solutions to design problems must engage the environment in a way that dramatically reduces or eliminates the need for fossil fuel.