

ORIGINATOR'S SECTION:

1. College: CHABSS CoBA CoEHHS CSM
 Desired Term and Year of Implementation (e.g., Fall 2008):
 Fall 2018

2. Course is to be considered for G.E.? (If yes, also fill out appropriate GE form*) Yes No

3. Course will be a variable-topics (generic) course? Yes No
 ("generic" is a placeholder for topics)

4. Course abbreviation and Number:* FIRE 210

5. Title: (Titles using jargon, slang, copyrighted names, trade names, or any non-essential punctuation may not be used.)
Emerging Technologies and Topics in Fire Science

6. Abbreviated Title for PeopleSoft:
 (no more than 25 characters, including spaces)
 Tech & Topics in Fire Sci

7. Number of Units: 3

8. Catalog Description: (Not to exceed 80 words; language should conform to catalog copy. Please consult the catalog for models of style and format; include all necessary information regarding consent for enrollment, pre- and/or corequisites, repeated enrollment, crosslisting, as detailed below. Such information does not count toward the 80-word limit.)
 Students will conduct advanced study and review of current and emerging topics and technologies on wildland and urban interface fires through readings, case studies, and presentations. Subject matter experts will explain the technology and provide students with the tools to analyze and understand the legal, ethical, and operational requirements for new technologies. Students will also become familiar with cost benefit analysis and the processes for testing, adoption, and integration of new technologies, products, and procedures into the fire services.

9. Why is this course being proposed?
 Course is part of the curricula for the newly proposed Bachelor of Science in Wildfire Science and the Urban Interface

10. Mode of Instruction*
 For definitions of the Course Classification Numbers:
http://www.csusm.edu/academic_programs/curriculumsschedule/catalogcurricula/DOCUMENTS/Curricular_Forms_Tab/Instructional%20Mode%20Conventions.pdf

Type of Instruction	Number of Credit Units	Instructional Mode (Course Classification Number)
Lecture	3	C2
Activity		
Lab		

11. Grading Method:*
 Normal (N) (Allows Letter Grade +/-, and Credit/No Credit)
 Normal Plus Report-in-Progress (NP) (Allows Letter Grade +/-, Credit/No Credit, and Report-in-Progress)
 Credit/No Credit Only (C)
 Credit/No Credit or Report-in-Progress Only (CP)

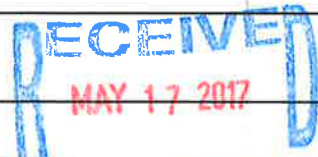
12. If the (NP) or (CP) grading system was selected, please explain the need for this grade option.

13. Course Requires Consent for Enrollment? Yes No
 Faculty Credential Analyst Dean Program/Department - Director/Chair

14. Course Can be Taken for Credit More than Once? Yes No
 If yes, how many times? (including first offering)

15. Is Course Crosslisted: Yes No
 If yes, indicate which course and check "yes" in item #22 below.

16. Prerequisite(s): Yes No



BY: _____

* If Originator is uncertain of this entry, please consult with Program/Department Director/Chair.

17. Corequisite(s): Yes No

18. Documentation attached: Syllabus Detailed Course Outline

19. If this course has been offered as a topic, please enter topic abbreviation, number, and suffix:* N/A

20. How often will this course be offered once established? * Once per academic year

PROGRAM DIRECTOR/CHAIR - COLLEGE CURRICULUM COMMITTEE SECTION:
(Mandatory information – all items in this section must be completed.)

21. Does this course fulfill a requirement for any major (i.e., core course or elective for a major, majors in other departments, minors in other departments)? Yes No

If yes, please specify:
 Fulfills requirement for new Bachelor of Science in Wildfire and the Urban Interface

22. Does this course impact other discipline(s)? (If there is any uncertainty as to whether a particular discipline is affected, check "yes" and obtain signature.) Yes No

If yes, obtain signature(s). Any objections should be stated in writing and attached to this form.

Discipline _____	Signature _____	Date _____	_____ Support	_____ Oppose
Discipline _____	Signature _____	Date _____	_____ Support	_____ Oppose

SIGNATURES : (COLLEGE LEVEL) :

(UNIVERSITY LEVEL)

1. Matt Rahn, PhD, JD November 20, 2016
 Originator (please print or type name) Date

2. [Signature] 11/10/17
 Program Director/Chair Date

3. Bill Krist 5/5/17
 College Curriculum Committee Date

4. Mamee Dotier 5/19/17
 College Dean (or Designee) Date

5. _____ Date
 UCC Committee Chair

6. _____ Date
 Vice President for Academic Affairs (or Designee)

7. _____ Date
 President (or Designee)

* If Originator is uncertain of this entry, please consult with Program/Department Director/Chair.

RP _____

Wildfire Science and the Urban Interface
California State University, San Marcos

Course Outline

FIRE 210
EMERGING TOPICS AND TECHNOLOGIES

COURSE DESCRIPTION

The field of wildfire science and the wildland urban interface is rapidly evolving. This course is designed to meet the demands of this dynamic field by providing current insights and review of emerging topics and technologies on wildland and urban interface fires through readings, case studies, and presentations. Subject matter experts will explain the technology and provide students with the tools to analyze and understand the legal, ethical, and operational requirements for new technologies. Students will also become familiar with cost benefit analysis and the processes for testing, adoption, and integration of new technologies, products, and procedures into the fire services. Topics will range from standards of practice in attack effectiveness, health and safety, aviation, investigations, resources, and equipment.

REQUIRED MATERIALS

We will use selected readings and resources from key agencies and institutions, including NIST, CAL FIRE, IAFF, NIOSH, FEMA/DHS, CDC, USFS, and peer-reviewed scientific literature. All resources will be available to download on the course website or on an agency/organization website.

Supplemental readings may be provided throughout the semester as topics or case studies are released. They will be uploaded to the course website, provided by a link to online materials, and/or emailed directly to students.

COURSE WEBSITE

This course is a fully-online course. As such, we will rely on the Cougar Courses course management software for all course interactions, materials, assignments, discussions, and quizzes. Recorded lectures, course notes, assignments, and supplemental readings will all be found there. There will also be an online forum for discussion boards and group conversations. Once you have successfully enrolled in the class you will have access to the course website at: <http://cc.csusm.edu>. Log in with your email user name and the same password as your email account.

GRADING POLICY

Your grade will be based on performance on quizzes, assignments, participation, and a final project. While we want each student to achieve the highest grade possible in the course, please remember that long-standing policy considers a grade of A to be indicative of outstanding achievement; available only for the highest accomplishment, while a grade of B indicates a praiseworthy performance; definitely above average. Of course a C is considered average. This course does not use particular numerical scores that must be achieved to get a specific letter grade. Instead, letter grades will be assigned to scores after each assignment on the basis of the class average and our judgment regarding class performance.

Most of your grade will be based on the final project. We encourage you to keep up with the course pace, and develop virtual study groups with other members of the class. Discussion and interaction can be an important part of understanding the topic. Your grades will be posted on the course website as they become available, for assessment of your progress throughout the semester. Please be sure to contact the instructor early on if you are having any difficulty in the course.

Quizzes: To understand the issues discussed in class, you need to commit basic factual information to memory, and apply concepts to new problems. To make sure that everyone is keeping up with the readings and lectures, periodic quizzes will be given throughout the semester, mostly to judge your understanding of the subject matter, and to encourage timely preparation. Each quiz will test your ability to apply course information and materials to questions and case studies to solve and communicate answers to real-world problems. Assessments will be open book and notes. Also quizzes are timed, meaning that students will have to complete the assessment in the period allotted, with the site automatically shutting off after time expires.

Assignments: You will provide critical assessment and periodic assignments for this class that will teach you to apply the techniques and information you are learning. Details of each assignment will be covered in separate instructions. In general, assignments are designed to allow us to evaluate your critical thinking skills, problem solving abilities, and original thought. We will also want to ensure that written materials are of the highest quality and standard. To prepare you for assignments, textbook, online readings and/or other supplemental materials may be provided. These materials cover the concepts pertinent to the assignment.

Participation: Topics discussed in this course may be unfamiliar, albeit extremely important for your development as scientists and wildfire/WUI professionals. Regardless of whether you could conceivably pass the class without participating with the instructor or other students, every student learns more if he or she actively engages with the material, which you cannot do if you don't participate. Therefore, participation points will be based on attending online forums and discussions along with real-time discussion as appropriate.

Final Project: The final project will be based on a case study and an analysis of an emerging topic or technology discussed during the semester. At the end of the semester, students will be required to complete a written paper of no less than ten pages. A goal of

the final paper is to assess the student's cumulative theoretical and applied interdisciplinary knowledge, providing an opportunity to apply this knowledge to a real-world setting through critical thinking, analysis, and the scientific method.

Final Grades will be calculated using the following:

Assignments	20 points	A = 100-95	C- = 73-70
Quizzes	20 points	A- = 90-94	D+ = 69-67
Participation	10 points	B+ = 89-87	D = 66-64
Final Project	100 points	B = 86-84	D- = 63-60
TOTAL	150 points	B- = 83-80	F < 59
		C+ = 79-77	
		C = 76-74	

Notes on Grading

Please check the grade for each assessment for errors. Any concerns (errors, disputes) be brought to our attention within **2 weeks**. Please double check your grade against the posted grades recorded on the website.

CLASS POLICIES

Getting help: Students often struggle with various concepts, particularly during the early stages of a class. If you are having difficulty, there are several ways to get help:

- Come to virtual office hours. In addition to my posted office hours, you are welcome to set up a meeting by appointment. Office hours are greatly under-used by students at this campus, don't be shy about making use of them!

Email notification: If I need to e-mail announcements about the class, I will use your CSUSM account. If you do not regularly monitor your CSUSM e-mail, please set up a forward from your campus e-mail to whatever account you regularly use.

Academic dishonesty: Academic misconduct has rarely been a problem, and warning you about the consequences may seem unnecessary and perhaps even offensive. The University takes standards of integrity very seriously. We are very strict with regard to cheating and plagiarism, and will respond accordingly. Please review the information on students' rights and responsibilities

Any work you submit for grading must represent your own thinking, and must be in your own words. Any cheating or plagiarism that is detected will be reported to the Dean of Students. You are expected to know what plagiarism is – refer to <https://microsites.csusm.edu/plagiarism-tutorial/> for a tutorial on plagiarism (including “unintentional” plagiarism) and how to avoid them. The instructor reserves the right to apply appropriate penalties for cases of academic dishonesty detected, up to and including assigning an F for the class. All cases of academic dishonesty will be reported to the Dean of Students.

Making up missed work: This class involves a great deal of online interaction and work. As a fully online course, the internet becomes the virtual classroom. It is critically important that students put in the time to view lectures, attend discussion sessions (as appropriate), and review all course materials. Missed assignments, quizzes will receive zeros, unless arrangements are made in advance, or unless documentation of a serious and compelling reason is presented for the absence.

Disabled student services: Students with disabilities who require academic accommodations must be approved for services by providing appropriate and recent documentation to the Office of Disabled Student Services (DSS). This office is located in Craven Hall 4300, and can be contacted by phone at (760) 750-4905, or TTY (760) 750-4909. Students authorized by DSS to receive accommodations should meet with me during my virtual office hours or in a more private setting in order to ensure your privacy.

All-University writing requirement: As a three-unit course, each student will complete a rigorous series of written assessments that will encompass at least 2,500 words (approximately 10 pages). The student will be responsible for original work, ideas, and concepts, ensuring that all written materials submitted are of the highest quality and standard. Assessment of this material will cover spelling and grammar, content, clarity, and organization. Evaluations will also address critical thinking skills, problem solving, and original thought.

LEARNING OUTCOMES

After taking this course you should be able to:

- Apply basic concepts and interdisciplinary perspectives to emerging topics, technologies, and issues in wildfires and the wildland urban interface (WUI)
- Understand how the scientific process informs decisions related to the development, testing, adoption, and implementation of new technologies or opportunities in the field, informing policy, regulation, management, and decision-making
- Demonstrate an understanding and application of administration, leadership, and management techniques and theories in analyzing emerging topics and technologies
- Identify and apply appropriate practices, tools, tactics, and strategies to avoid, minimize, and mitigate the risks of fires in the wildland and wildland urban interface using new tactics, technology, strategies, policies, and practices
- Demonstrate the ability to discuss and evaluate issues both verbally and written and apply perspectives, concepts, and theories related to emerging topics and technologies

RECOMMENDATIONS FOR STUDENT SUCCESS

You will find that the content in this class is familiar to you, but can certainly be challenging. However, the coursework will reinforce the principles of the scientific process, critical thinking, and problem solving. Students who are successful in this class are those that employ the following practices.

- Dedicate yourself to learning the course material – read and review.
- Never let yourself get behind on the materials or assignments.
- Use the help that is offered (instructor office hours, review sessions, and discussion boards).
- Study the material! While quizzes and assignments are open book/notes, you really need to know the materials; you will not have enough time to go through all your notes and materials to answer questions.
- Turn in all assignments quizzes, etc. – small points add up quickly and are very destructive of your grades
- Work in study groups. Or study alone. But whatever you do, study!

CLASS SCHEDULE

TO BE DETERMINED BASED ON COURSE TOPICS SELECTED