

Basic Course Information

Semester:	Fall 25	Instructor Name:	Robert Malek
Course Title & #:	Fire 104 Fire Behavior and Combustion	Email:	Robert.malek@imperial.edu
CRN #:	10657	Webpage (optional):	
Classroom:	Online	Office #:	3200 Building
Class Dates:	8/11/25- 12/06/25	Office Hours:	Mon & Wed 9:30am-12pm By email, Phone, or appointment
Class Days:	Online	Office Phone #:	760-355-6160
Class Times:	Online	Emergency Contact:	Tricia Jones 760-355-6483
Units:	3	Class Format:	Online

Course Description

This course provides theory and fundamentals of how and why fires start, spread, and are controlled. An in-depth study of fire chemistry and physics, fire characteristics of materials, extinguishing agents, and fire control techniques will be covered. This is one of six CORE courses required for an associate degree in Fire Technology. (C-ID: FIRE 140 X) (CSU)

Course Prerequisite(s) and/or Corequisite(s)

The student must be able to navigate themselves through Canvas and be knowledgeable on the basics of a computer or mobile device (which ever platform being used to take the course. The student is highly recommended to have taken basic math (pre-algebra) and college level English. This is a standalone course and no other fire knowledge is required.

Student Learning Outcomes

Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to: demonstrated by being able to: 1. Define basic terms and concepts related to fire behavior and chemistry. (ILO2) 2. Analyze physical conditions which determine states of matter and influence fire behavior. (ILO2) 3. Demonstrate how to recall physical and chemical properties of fire. (ILO4)

Course Objectives

In addition to putting fires out, fire fighters also need to understand fire behavior in order to manage the fire scene and minimize risks to life and property. The book covered in this course will give us a comprehensive

grasp of how fires start and spread, informed decisions on how to best control and extinguish fires cannot be made.

The objectives in this course align with the Fire and Emergency Services Higher Education (FESHE) Initiatives, as well as FESHE course objectives.

What is FESHE? Working with coordinators of two- and four-year academic fire and emergency medical services (EMS) degree programs, the U. S. Fire Administration's National Fire Academy (NFA) has established the FESHE network of emergency services related education and training providers.

The FESHE mission is to: Establish an organization of post-secondary institutions to promote higher education and to enhance the recognition of the fire and emergency services as profession to reduce loss of life and property from fire and other hazards. The initiatives are supported by solutions identified from other industries that could be applied to fire and emergency services

Textbooks & Other Resources or Links

- Klinoff, Robert: *Introduction to Fire Protection and Emergency Services* (6th edition), 2021, Jones & Bartlett, Burlington, MA.
 - Textbook & Navigate Advantage Access (includes eBook)
 - ISBN 9781284180152
- *Where to Purchase or Rent*
 - IVC Bookstore
 - Purchase or rent in-person on campus
 - Direct from Publisher
 - They are currently offering a special 15% discount and free shipping
 - They also offer a digital version of the textbook that includes the e-book that you can purchase instead of a paperback textbook. This decision is optional.

Course Requirements and Instructional Methods

Important College Dates

Classes begin
Last day to add a full semester class
Last day to drop with refund
Holiday - no classes - college closed
Last day to drop and avoid transcript grade record
Census
Last day to withdraw with a grade of "W"
Last day of class and Spring semester
Grades Due

Reading Assignments

Students are responsible for reading and know the assigned material in the Introduction to Fire Protection and Emergency Services textbook, videos, and the detailed study guide. All test questions are taken from the reading material in the textbook. *The students must read and know the material to be successful in this class.*

Academic Integrity

Students are prohibited from resorting to unauthorized sources of information in fulfilling the requirements of this course. A student who displays academic dishonesty and is caught violating academic integrity will be removed from class and referred to the Office of Student Services. If the student should be guilty of one or more of the violations listed in the Standards of Conduct policy, then appropriate disciplinary action will be taken as listed in the policy.

Attendance

You are expected to participate in all course assignments, check Canvas course announcements daily, check Canvas gradebook comments daily, Discussion Board forums and threads daily, and check your student IVC e-mail daily. Daily participation is required for this course. Daily participation is defined as submitting all course work on or before the due dates. I will run daily activity reports from Canvas to ensure compliance with this requirement. You can always work ahead but never fall behind. **Failure to participate in this course daily will result in the student being dropped from the course and/or receive an "F" letter grade for the semester grade.**

Instructor Drop Policy

To promote student success, the Academic Senate and the college administration has approved the implementation of an instructor-initiated Drop Policy. When a student has been absent from classes to such an extent that his or her success is at risk, the instructor has the option of dropping the student. If a student has missed two consecutive weeks of the semester without notifying the instructor with a satisfactory explanation, the student may be dropped by the instructor. Students, however, should not rely on the instructor to drop them just because they stop attending. Students are responsible for their regular attendance in the courses in which they are enrolled and are responsible for notifying instructors when they are unable to attend class. Likewise, students are responsible for dropping a course they are no longer able to attend. Prior to dropping a student, faculty are encouraged but are not required to make an attempt to contact students who are no longer attending class. Faculty may adopt a drop policy that is more flexible if they feel it benefits student success. Faculty may drop a student after census and until the last day that students are allowed to drop a course. This faculty-initiated drop will result in a "W" appearing on the student's transcript, and it is the student's responsibility to learn how it affects financial aid and course repeatability.

Course Grading Based on Course Objectives

Discussion Boards (10pts x 12modules) 120 Points Total: (Points Complete a one paragraph entry. The entry should be an overview of the main points of the chapter and closely related to the instructions posted on each board. The first Discussion Board includes a self introduction component so that students get to know each other. The final week includes a student analysis of the course. This board is aimed at summarizing what the student took from this course.

Quiz 60 points (12 time 5 points each)

Mid-Term 60 points Final 60 points Case Study 60 points

Discussions Max 140 points Total of 300 points

Grading scale: A = 300 to 290 points; B = 289 to 280 points; C = 279 to 270 points; D = 269 to 260 and F = 259 to 0 points

Course Exams

All exams will be multiple-choice and will be administered electronically on Canvas. There will only be one correct answer per question. Module exams are located within each module. The Mid-Term

and Final Exams are in the same area but in separate module folders. All exams are time restricted. All chapter quizzes are not time restricted. You will have one minute per question to answer exam questions. Once you start the exam you must complete the exam. You cannot stop and then start the exam again. You will be given one attempt at each quiz and exam.

Make-up Quizzes & Exams

Make-up quizzes and exams will be authorized and administered to students who had an excused absence on the scheduled day of the exam. You must contact me to arrange a date no later than 7 days after the original scheduled exam date to take the make-up quiz or exam. Make-up quizzes or exams will only be administered during my regular scheduled office hours in my office, not during class time. Students who had an unauthorized absence during the scheduled quiz or exam date will not be allowed to take a make-up quiz or exam and will receive a zero score for that particular quiz or exam.

Assignment Due Dates

If you have an excused absence as defined in this course syllabus on the due date of the assignment you may submit the assignment on the first day of your return to class, no exceptions. If you fail to submit an assignment on the due date, you will receive a zero (0) for that assignment. No exceptions. Students are required to click on the "Syllabus" tab on the Canvas tool bar to view the individual due dates within each module for discussion board assignments, quizzes, module exams, midterm, and final exam. Due dates are also listed in Canvas on the individual discussion board assignments, quizzes, module exams, midterm exam, and the final exam.

Extra Credit

There are no Extra credit given in this class

Course Policies

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See [General Catalog](#) for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.
- What is netiquette? Netiquette is internet manners, online etiquette, and digital etiquette all rolled into one word. Basically, netiquette is a set of rules for behaving properly online.
- Students are to comply with the following rules of netiquette: (1) identify yourself, (2) include a subject line, (3) avoid sarcasm, (4) respect others' opinions and privacy, (5) acknowledge and return messages promptly, (6) copy with caution, (7) do not spam or junk mail, (8) be concise, (9) use appropriate language, (10) use appropriate emoticons (emotional icons) to help convey meaning, and (11) use appropriate intensifiers to help convey meaning [do not use ALL CAPS or multiple exclamation marks (!!!!)].

- Academic honesty in the advancement of knowledge requires that all students and instructors respect the integrity of one another's work and recognize the important of acknowledging and safeguarding intellectual property.
- There are many different forms of academic dishonesty. The following kinds of honesty violations and their definitions are not meant to be exhaustive. Rather, they are intended to serve as examples of unacceptable academic conduct.
- Plagiarism is taking and presenting as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to "cite a source" correctly, you must ask for help.
- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

Anyone caught cheating or plagiarizing will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the [General Catalog](#) for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service.

IVC Student Resources

Imperial Valley College offers various services in support of student success. The following are some of the services available for students. Please speak to your instructor about additional services which may be available.

- [CANVAS Support Site](#). The Canvas Support Site provides a variety of support channels available to students 24 hours per day.
- [Learning Services](#). There are several learning labs on campus to assist students through the use of computers and tutors. Please consult your [Campus Map](#) for the [Math Lab](#); [Reading, Writing & Language Labs](#); and the [Study Skills Center](#).
- [Library Services](#). There is more to our library than just books. You have access to tutors in the [Study Skills Center](#), study rooms for small groups, and online access to a wealth of resources.
- Any student with a documented disability who may need educational accommodations should notify the instructor or the [Disabled Student Programs and Services](#) (DSP&S) office as soon as possible. The DSP&S office is located in Building 2100, telephone 760-355-6313. Please contact them if you feel you need to be evaluated for educational accommodations.

Students have counseling and health services available, provided by the pre-paid Student Health Fee.

- [Student Health Center](#). A Student Health Nurse is available on campus. In addition, Pioneers Memorial Healthcare District provide basic health services for students, such as first aid and care

for minor illnesses. Contact the IVC [Student Health Center](#) at 760-355-6128 in Room 1536 for more information.

- [Mental Health Counseling Services](#). Short-term individual, couples, family, and group therapy are provided to currently enrolled students. Contact the IVC [Mental Health Counseling Services](#) at 760-355-6196 in Room 2109 for more information.
- Students have the right to experience a positive learning environment and to due process of law. For more information regarding student rights and responsibilities, please refer to the IVC [General Catalog](#).
- Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. The IVC [Library Department](#) provides numerous [Information Literacy Tutorials](#) to assist students in this endeavor.

Anticipated Class Schedule/Calendar

Subject to Change as needed to complete course objectives. Students are required to click on the “Syllabus” tab on the Canvas tool bar to view the individual due dates within each module for discussion board assignments, quizzes, module exams, midterm, and final exam. Due dates are also listed in Canvas on the individual discussion board assignments, quizzes, module exams, midterm exam, and the final exam. ***The date on canvas will be used when there is a discrepancy.***

week 1 Syllabus / Orientation on Canvas
Week 2 Fire Measurements One
Week 3 Chemical Elements Two
Week 4 Physical and Chemical Change Three
Week 5 Flow in Fluids Four
Week 6 Heat Transfer Five
Week 7 Combustion, Fire, and Flammability Six
Week 8 October Mid Term Week 1-7
Week 9 Fire Characteristics: Gaseous Combustibles Seven
Week 10 Fire Characteristics: Liquid Combustibles Eight
Week 11 Fire Characteristics: Solid Combustibles Nine 7
Week 12 Combustion Products Ten
Week 13 Smoke and Heat Hazards Eleven
Week 14]Fire Fighting Chemicals Twelve
Week 15 19-25 Vacation
Week 16 Nov-Dec Computational Modeling of Fires Fourteen
Week 17 3-8 Finals - Essay

END OF CLASS

*****Subject to change without prior notice*****