

**Mechanical Engineering 332:
Thermodynamics**

Course Syllabus – Spring 2022

INSTRUCTOR:	Matthew Mione Campus Office: O’Connell 423 Campus Phone: 530-898-4960 mmione@csuchico.edu Office Hours: TR 1:00 – 3:00 PM Additionally, by appointment in person or on Zoom.
CLASS	MWF 9:00 – 9:50 AM
PREREQUISITES:	PHYS 204A, Mechanics

Course Description:

Analyze the performance of thermal-fluid devices and systems by applying the conservation of energy principle (1st Law of Thermodynamics) and the limitations imposed by the 2nd Law of Thermodynamics, properties of substances, ideal gas equation of state, heat and work, steady-state analysis of closed and open systems, entropy, gas and vapor power cycles, introduction to renewable energy sources.

Course Usage of Blackboard Learn:

This course will make use of the Blackboard Learn course management system. All PowerPoint lectures, handouts, homework solutions, grades, announcements, etc. will be available on the course Blackboard page. Required course materials include textbook, engineer’s pad, and scientific calculator. You are responsible for regularly checking the online resources.

Textbook:

Required:	<i>Thermodynamics: Engineering Approach</i> by Cengel & Boles 9th edition – ISBN: 978-1259822674 7th or 8th editions are ok as well (hardcopy)
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Communication:

If you need to meet or contact me, please attend office hours or email. Please use my contact information listed above to communicate, and do not go through the Blackboard channels. Email is by far the best way to get a hold of me.

In the event that I need to contact the class (schedule, assignment, etc.), it will be done via your university email account linked to the Portal. University policy requires students to monitor campus email accounts and it is suggested that you set up email forwarding if you have another preferred email account.

Dropping and Adding:

You are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. found <http://www.csuchico.edu/catalog/>. You should be aware of the deadlines and penalties for adding and dropping classes. I do not handle adding into the course, you need to see or email our MMEM Administrative

Support Coordinator, Martha Layne (mlayne@csuchico.edu), to do so. You are the only one responsible for dropping the class.

Grading:

Homework 20%
Tests (3) 55%
Final Exam 25%

*Subject to change as COVID requirements change

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F
	93.33	89.50	86.67	83.33	79.50	76.67	73.33	69.50	65.00	59.50	0.00

Homework & Activities:

There will be 10 or 11 homework problem sets assigned during the semester. Problem solutions must be neat, legible, numbered, arranged in assigned order, written on only one side of the paper, and stapled. Fold the problem set lengthwise and write your name, assignment number, and section number on the outside.

Solution analysis must follow a specific methodology, which is outlined in section 1-11 of the textbook and used for all text examples. No homework points will be given for solutions that appear to be copied from a solutions manual.

Unannounced activities will be sporadically assigned in the lectures. They will be typically 10 to 20 minutes long and be due at the end of lecture.

Tests:

There will be three (3) 50-min Midterm Exams and a 110-min Final Exam. The Final Exam will be comprehensive but have emphasis on those topics covered after the last midterm exam.

The exams are open book (hard copy only). Use of a Thermodynamics Property Tables booklet is allowed. A scientific calculator is permitted but other electronic devices must be put away. The formula sheets provided on Bb Learn are permitted.

If you know you are going to miss an exam due to illness or other legitimate reason, you must contact me before the exam. Make-up exams are only allowed for pre-arranged, legitimate absences.

Submitting Work:

Homework is due at the **beginning** of the designated class period. Assignments will be accepted late the same day with a one letter grade deduction. Homework submitted after the first few minutes of class is considered late and will receive a letter grade deduction (be on time). Assignments will not be accepted after their due date. Homework cannot be submitted in stages (the initial submission is all that is accepted). **I do not accept assignments via email.**

COVID-19 Face Mask Requirement:

Reminder: The CSU requires students to be fully vaccinated and boosted against COVID-19 by **February 28, 2022**, unless you have an approved exemption. Currently, Chico State is requiring everyone on campus to wear an approved face covering in all indoor campus spaces. Accordingly, all students are required to wear an appropriate face mask covering the nose and mouth in order to participate in this course. Policies and requirements regarding COVID-19 are subject to change pursuant to campus, local, state and/or federal guidelines.

Please note that dishonesty relating to the vaccination policy and/or your failure to comply with any other COVID-19 related safety policy or mandate, including the face covering requirement, may result in disciplinary action against you through the office of Student Conduct, Rights and Responsibilities, which can include suspension or expulsion from the California State University system.

Individuals unable to wear a face covering due to a medical condition should contact the Accessibility Resource Center by phone at (530) 898-5959 or by email at arcdept@csuchico.edu.

University Policies and Campus Resources

Academic integrity

Students are expected to be familiar with the University's Academic Integrity Policy. Your own commitment to learning, as evidenced by your enrollment at California State University, Chico, and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the Office of Student Judicial Affairs. The policy on academic integrity and other resources related to student conduct can be found at: <http://www.csuchico.edu/sid/integrity.shtml>.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Students with disabilities requesting accommodations must register with the DSS Office (Disability Support Services) to establish a record of their disability.

Special accommodations for exams require ample notice to the testing office and must be submitted to the instructor well in advance of the exam date.

IT Support Services (<http://www.csuchico.edu/itss>)

The CAD lab with SolidWorks installed is located in OCNL 438. Other (non-CAD) computer labs for student use are located on the first and fourth floor of the Meriam Library, Room 116 and 450, Tehama Hall Room 131, and the Bell Memorial Union (BMU) basement.

Student Services (<http://www.csuchico.edu/current-students>)

Student services are designed to assist students in the development of their full academic potential and to motivate them to become self-directed learners. Students can find support for services such as skills assessment, individual or group tutorials, subject advising, learning assistance, summer academic preparation and basic skills development.

Americans with Disabilities Act (<http://www.csuchico.edu/arc>)

If you need course adaptations or accommodations because of a disability or chronic illness, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Please also contact Accessibility Resource Center (ARC) as they are the designated department responsible for approving and coordinating reasonable accommodations and services for students with disabilities. ARC will help you understand your rights and responsibilities under the Americans with Disabilities Act and provide you further assistance with requesting and arranging accommodations.

Accessibility Resource Center

530-898-5959

Student Services Center 170

arcdept@csuchico.edu

Student Learning Center (<http://www.csuchico.edu/slc>)

The mission of the Student Learning Center (SLC) is to provide services that will assist CSU, Chico students to become independent learners. The SLC prepares and supports students in their college course work by offering a variety of programs and resources to meet student needs. The SLC facilitates the academic transition and retention of students from high schools and community colleges by providing study strategy information, content subject tutoring, and supplemental instruction. The University Writing Center has been combined with the Student Learning Center.