

# ENGT 3310, 80460, Applied Thermodynamics

Fall 2020

Texas A&M University-Central Texas

## COURSE DATES, MODALITY, AND LOCATION

This is a Synchronous Distributed Course

This course meets from August 24 – December 11

**On M and W from 3:30 – 4:45 pm**

**Online Via Webex (meeting links in the WebEx Meeting tab in Canvas)**

Go to Canvas click on the WebEx Meeting tab under announcements and select the meeting

**Supplemental materials** made available online through the A&M-Central Texas Canvas Learning Management System [<https://tamuct.instructure.com/>]

## INSTRUCTOR AND CONTACT INFORMATION

**Instructor: Dr. Claudia Beck**

**Phone: 254-519-5775**

**Email: [cbeck@tamuct.edu](mailto:cbeck@tamuct.edu) (prefer direct email)**

### Office Hours

Thursday 11:00 am-12:00 pm

Available by appointment (via email) at other times.

### Student-instructor interaction

You are strongly encouraged and expected to communicate with the instructor! If you get stuck on a concept or homework problem, don't wait until office hours! Send me an email with a screenshot or photo of the problem you are having difficulty with and we can solve the problem sooner. I will reply to any email within 48 hours

(but probably a lot sooner). If you need more help, send me an email and schedule a Webex session. But make sure you are communicating with me!

## WARRIOR SHIELD

### Emergency Warning System for Texas A&M University-Central Texas

Warrior Shield is an emergency notification service that gives Texas A&M University-Central Texas the ability to communicate health and safety emergency information quickly via email, text message, and social media. All students are automatically enrolled in Warrior Shield through their myCT email account.

Connect to Warrior Shield by [911Cellular](https://portal.publicsafetycloud.net/Account/Login) [https://portal.publicsafetycloud.net/Account/Login] to change where you receive your alerts or to opt out. By staying enrolled in Warrior Shield, university officials can quickly pass on safety-related information, regardless of your location.

## COVID-19 SAFETY MEASURES

To promote public safety and protect students, faculty, and staff during the coronavirus pandemic, Texas A&M University-Central Texas has adopted policies and practices to minimize virus transmission. All members of the university community are expected to adhere to these measures to ensure their own safety and the safety of others. Students must observe the following practices while participating in face-to-face courses, course-related activities (office hours, help sessions, transitioning to and between classes, study spaces, academic services, etc.) and co-curricular programs:

- **Self-monitoring**—Students should follow CDC recommendations for self-monitoring. Students who have a fever or exhibit symptoms of COVID-19 should participate in class remotely and should not participate in face-to-face instruction. Students required to quarantine must participate in courses and course-related activities remotely and must not attend face-to-face course activities. Students should notify their instructors of the quarantine requirement. Students under quarantine are expected to participate in courses and complete graded work unless they have symptoms that are too severe to participate in course activities.
- **Face Coverings**— Face coverings must be worn inside of buildings and within 50 feet of building entrances on the A&M-Central Texas Campus. This includes lobbies, restrooms, hallways, elevators, classrooms, laboratories, conference rooms, break rooms, non-private office spaces, and other shared spaces. Face coverings are also required in outdoor spaces where physical distancing is not maintained. The university will evaluate exceptions to this requirement on a case by case basis. Students can request an exception through the Office of Access and Inclusion in Student Affairs.

If a student refuses to wear a face covering, the instructor should ask the student to leave and join the class remotely. If the student does not leave the class, the faculty member should report that student to the Office of Student Conduct. Additionally, the faculty member may choose to teach that day's class remotely for all students.

- **Physical Distancing**—Physical distancing must be maintained between students, instructors, and others in the course and course-related activities.
- **Classroom Ingress/Egress**—Students must follow marked pathways for entering and exiting classrooms and other teaching spaces. Leave classrooms promptly after course activities have concluded. Do not

congregate in hallways and maintain 6-foot physical distancing when waiting to enter classrooms and other instructional spaces.

- The university will notify students in the event that the COVID-19 situation necessitates changes to the course schedule or modality.

## **COURSE INFORMATION**

### **Course Overview and description**

Theory and application of energy methods in engineering; conservation of mass and energy; energy transfer by heat, work and mass; thermodynamic properties; analysis of open and closed systems; the second law of thermodynamics and entropy; gas, vapor and refrigeration cycles.

### **Student Learning Outcomes**

1. Apply thermodynamics fundamentals and concepts
2. Apply the first law of thermodynamics in different engineering systems
3. Explain heat engines, heat pumps, refrigeration cycles, and power cycles
4. Select appropriate plant equipment for different thermodynamic problems

### **Required Reading and Textbook(s)**

Yunus Cengel , Michael Boles , Thermodynamics: An Engineering Approach McGraw-Hill Science/Engineering/Math; 9th edition.

Required Online Homework: McGraw-Hill Connect - One Semester Activation

## **COURSE REQUIREMENTS**

The course will involve homework and exams.

Periodic homework (35 weighted pts in total) will be assigned throughout the semester (SLO 1-4).

Two midterm exams (20 weighted pts each) and a **comprehensive** final exam (25 weighted pts) will be given during the semester. (SLO 1-4)

## Grading Criteria Rubric and Conversion

Activity	Points	% of Final Grade
Midterm Exams	40	40
Homework	35	35
Final Exam	25	25

Course Grades will be assigned by the following scale based on weighted grade percentage

Grade	Weighted Grade (%)
A	$\geq 90.00$
B	80.00 - 89.99
C	70.00 - 79.99
D	60.00 - 69.99
F	$< 60.00$

## Posting of Grades

All turned in work will be graded within 2 weeks and results posted on Canvas.

## Grading Policies

### *Late Work*

Late work will not be excepted without **prior** approval. You must plan your time well in order to turn things in on time. If there are extenuating circumstances, an individual extension may be granted after speaking with the instructor.

### *Appeals*

If the student wishes to appeal a grade, they must do so within 1 week of receiving the graded paper. Students should save all their work to ensure that no clerical errors are made in grade reporting.

## **COURSE OUTLINE AND CALENDAR**

### Complete Course Calendar

Week/Date	Topics
1- Aug 26, 31	Chp 1
2- Sept 2, 9	Chp 2
3- Sept 14, 16	Chp 3
4- Sept 21, 23	Chp4
5- Sept 28, 30	Chp 5
6- Oct 5, 7	Chp 6
7- Oct 12, 14	Review, Exam 1
8- Oct 19, 21	Chp 7
9- Oct 26, 28	Chp 7
10- Nov 2, 4	Chp 8
11- Nov 9, 11	Chp 9
12- Nov 16, 18	Chp 10
13- Nov 23, 25	Chp 11
14- Nov 30,	Review
15- Dec 2,	Exam 2
16- Dec 7, 9	Review, Final

The following dates there will be no lecture: Sept 7 (Labor Day) and Nov 11 (Veteran's Da

### **Important University Dates**

See the Academic Calendar: <https://www.tamuct.edu/registrar/academic-calendar.html>

## **TECHNOLOGY REQUIREMENTS AND SUPPORT**

### **Technology Requirements**

For courses offered via synchronous virtual learning, students will be required to

have:

1. A computer or laptop
2. A reliable and fast internet connection
3. A webcam and microphone

Computer access will be needed to complete homework and projects. Use of a graphing calculator will be permissible on exams

This course will use the A&M-Central Texas Instructure Canvas learning management system. We strongly recommend the latest versions of Chrome or Firefox browsers. Canvas no longer supports any version of Internet Explorer.

Logon to A&M-Central Texas Canvas [<https://tamuct.instructure.com/>] or access Canvas through the TAMUCT Online link in myCT [<https://tamuct.onecampus.com/>]. You will log in through our Microsoft portal.

Username: Your MyCT email address. Password: Your MyCT password

## **Canvas Support**

Use the Canvas Help link, located at the bottom of the left-hand menu, for issues with Canvas. You can select “Chat with Canvas Support,” submit a support request through “Report a Problem,” or call the Canvas support line: 1-844-757-0953.

For issues related to course content and requirements, contact your instructor.

## **Online Proctored Testing**

A&M-Central Texas uses Proctorio for online identity verification and proctored testing. This service is provided at no direct cost to students. If the course requires identity verification or proctored testing, the technology requirements are: Any computer meeting the minimum computing requirements, plus web camera, speaker, and microphone (or headset). Proctorio also requires the Chrome web browser with their custom plug in.

## **Other Technology Support**

For log-in problems, students should contact Help Desk Central

24 hours a day, 7 days a week

Email: [helpdesk@tamu.edu](mailto:helpdesk@tamu.edu)

Phone: (254) 519-5466

[Web Chat](http://hdc.tamu.edu): [<http://hdc.tamu.edu>]

*Please let the support technician know you are an A&M-Central Texas student.*

## UNIVERSITY RESOURCES, PROCEDURES, AND GUIDELINES

### Drop Policy

If you discover that you need to drop this class, you must complete a [Drop Request Form](#)

[[https://www.tamuct.edu/registrar/docs/Drop\\_Request\\_Form.pdf](https://www.tamuct.edu/registrar/docs/Drop_Request_Form.pdf)].

Professors cannot drop students; this is always the responsibility of the student. The Registrar's Office will provide a deadline on the Academic Calendar for which the form must be completed, signed and returned. Once you return the signed form to the Registrar's Office, you must go into Warrior Web and confirm that you are no longer enrolled. If you still show as enrolled, FOLLOW-UP with the Registrar's Office immediately. You are to attend class until the procedure is complete to avoid penalty for absence. Should you miss the drop deadline or fail to follow the procedure, you will receive an F in the course, which may affect your financial aid and/or VA educational benefits.

### Academic Integrity

Texas A&M University -Central Texas values the integrity of the academic enterprise and strives for the highest standards of academic conduct. A&M-Central Texas expects its students, faculty, and staff to support the adherence to high standards of personal and scholarly conduct to preserve the honor and integrity of the creative community. Academic integrity is defined as a commitment to honesty, trust, fairness, respect, and responsibility. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. Academic misconduct is any act that improperly affects a true and honest evaluation of a student's academic performance and includes, but is not limited to, cheating on an examination or other academic work, plagiarism and improper citation of sources, using another student's work, collusion, and the abuse of resource materials. All academic misconduct concerns will be reported to the university's Office of Student Conduct. Ignorance of the university's standards and expectations is never an excuse to act with a lack of integrity. When in doubt on collaboration, citation, or any issue, please contact your instructor before taking a course of action.

For more [information regarding the Student Conduct process](#), [<https://www.tamuct.edu/student-affairs/student-conduct.html>].

If you know of potential honor violations by other students, you may [submit a report](#), [[https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout\\_id=0](https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0)].

## Academic Accommodations

At Texas A&M University-Central Texas, we value an inclusive learning environment where every student has an equal chance to succeed and has the right to a barrier-free education. The Office of Access and Inclusion is responsible for ensuring that students with a disability receive equal access to the university's programs, services and activities. If you believe you have a disability requiring reasonable accommodations please contact the Office of Access and Inclusion, WH-212; or call (254) 501-5836. Any information you provide is private and confidential and will be treated as such.

For more information please visit our [Access & Inclusion](https://tamuct.instructure.com/courses/717) Canvas page (log-in required) [https://tamuct.instructure.com/courses/717]

### Important information for Pregnant and/or Parenting Students

Texas A&M University-Central Texas supports students who are pregnant and/or parenting. In accordance with requirements of Title IX and related guidance from US Department of Education's Office of Civil Rights, the Dean of Student Affairs' Office can assist students who are pregnant and/or parenting in seeking accommodations related to pregnancy and/or parenting. Students should seek out assistance as early in the pregnancy as possible. For more information, please visit [Student Affairs](https://www.tamuct.edu/student-affairs/index.html) [https://www.tamuct.edu/student-affairs/index.html]. Students may also contact the institution's Title IX Coordinator. If you would like to read more about these [requirements and guidelines](http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf) online, please visit the website [http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf].

Title IX of the Education Amendments Act of 1972 prohibits discrimination on the basis of sex and gender—including pregnancy, parenting, and all related conditions. A&M-Central Texas is able to provide flexible and individualized reasonable accommodation to pregnant and parenting students. All pregnant and parenting students should contact the Associate Dean in the Division of Student Affairs at (254) 501-5909 to seek out assistance. Students may also contact the University's Title IX Coordinator.

## Tutoring

Tutoring is available to all A&M-Central Texas students, both on-campus and online. Subjects tutored on campus include Accounting, Advanced Math, Biology, Finance, Statistics, Mathematics, and Study Skills. Tutors are available at the Tutoring Center in Warrior Hall, Suite 111. Tutor.com tutoring **will not** offer writing support beginning August 1, 2019.

If you have a question regarding tutor schedules, need to schedule a tutoring session, are interested in becoming a tutor, or have any other question, contact Academic Support Programs at (254) 519-5796, or by emailing Dr. DeEadra Albert-Green at [deeadra.albertgreen@tamuct.edu](mailto:deeadra.albertgreen@tamuct.edu).

Chat live with a tutor 24/7 for almost any subject from on your computer! Tutor.com is an online tutoring platform that enables A&M-Central Texas students to log in and receive online tutoring support at no additional cost. This tool provides tutoring in over 40 subject areas. Access Tutor.com through Canvas.



Located in Warrior Hall 416, the University Writing Center (UWC) at Texas A&M University–Central Texas (TAMUCT) is a free workspace open to all TAMUCT students from 10:00 a.m.-5:00 p.m. Monday thru Thursday with satellite hours in the University Library Monday thru Thursday from 6:00-9:00 p.m. This semester, the UWC is also offering online only hours from 12:00-3:00 p.m. on Saturdays.

Tutors are prepared to help writers of all levels and abilities at any stage of the writing process. While tutors will not write, edit, or grade papers, they will assist students in developing more effective composing practices. By providing a practice audience for students' ideas and writing, our tutors highlight the ways in which they read and interpret students' texts, offering guidance and support throughout the various stages of the writing process. In addition, students may work independently in the UWC by checking out a laptop that runs the Microsoft Office suite and connects to WIFI, or by consulting our resources on writing, including all of the relevant style guides. Whether you need help brainstorming ideas, organizing an essay, proofreading, understanding proper citation practices, or just want a quiet place to work, the UWC is here to help!

Students may arrange a one-to-one session with a trained and experienced writing tutor by visiting the UWC during normal operating hours (both half-hour and hour sessions are available) or by making an appointment via [WCOnline](https://tamuct.mywconline.com/) [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at [bruce.bowles@tamuct.edu](mailto:bruce.bowles@tamuct.edu) if you have any questions about the UWC and/or need any assistance with scheduling.

## University Library

The University Library provides many services in support of research across campus and at a distance. We offer over 200 electronic databases containing approximately 250,000 eBooks and 82,000 journals, in addition to the 85,000 items in our print collection, which can be mailed to students who live more than 50 miles from campus. Research guides for each subject taught at A&M-Central Texas are available through our website to help students navigate these resources. On campus, the library offers technology including cameras, laptops, microphones, webcams, and digital sound recorders.

Research assistance from a librarian is also available 24 hours a day through our online chat service, and at the reference desk when the library is open. Research sessions can be scheduled for more comprehensive assistance, and may take place on Skype or in-person at the library. Assistance may cover many topics, including how to find articles in peer-reviewed journals, how to cite resources, and how to piece together research for written assignments.

Our 27,000-square-foot facility on the A&M-Central Texas main campus includes student lounges, private study rooms, group work spaces, computer labs, family areas suitable for all ages, and many other features. Services such as interlibrary loan, TexShare, binding, and laminating are available. The library frequently offers workshops, tours, readings, and other events. For more information, please visit our [Library website](http://tamuct.libguides.com/index) [http://tamuct.libguides.com/index].

**For Fall 2020, all reference service will be conducted virtually. Please go to our [Library website](http://tamuct.libguides.com/index) [http://tamuct.libguides.com/index] to access our virtual reference help and our current hours.**

## OPTIONAL POLICY STATEMENTS

### A Note about Sexual Violence at A&M-Central Texas

Sexual violence is a serious safety, social justice, and public health issue. The university offers support for anyone struggling with these issues. University faculty are mandated reporters, so if someone discloses that they were sexually assaulted (or a victim of Domestic/Dating Violence or Stalking) while a student at TAMUCT, faculty members are required to inform the Title IX Office. If you want to discuss any of these issues confidentially, you can do so through Student Counseling (254-501-5955) located on the second floor of Warrior Hall (207L).

Sexual violence can occur on our campus because predators often feel emboldened, and victims often feel silenced or shamed. It is incumbent on ALL of us to find ways to actively create environments that tell predators we don't agree with their behaviors and tell survivors we will support them. Your actions matter. Don't be a bystander; be an agent of change. For additional information on campus policy and resources visit the [Title IX webpage](https://www.tamuct.edu/departments/compliance/titleix.php) [https://www.tamuct.edu/departments/compliance/titleix.php].

### Behavioral Intervention

Texas A&M University-Central Texas cares about the safety, health, and well-being of its students, faculty, staff, and community. If you are aware of individuals for whom you have a concern, who are exhibiting behaviors that pose a threat to safety, or individuals causing a significant disruption to our community, please make a referral to the Behavioral Intervention Team. You can complete the [referral](https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=2) online [https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout\_id=2].

Anonymous referrals are accepted. Please see the [Behavioral Intervention Team](https://www.tamuct.edu/student-affairs/bat.html) website for more information [https://www.tamuct.edu/student-affairs/bat.html]. If a person's behavior poses an imminent threat to you or another, contact 911 or A&M-Central Texas University Police at 254-501-5800.

## INSTRUCTOR POLICIES

### Missed exams

If you cannot make an exam session, you **must** schedule an alternative period beforehand. Missed exams should be taken before the scheduled time, but must be taken within a week of the actual exam.

### Appeals

If the student wishes to appeal a grade, they must do so within 1 week of receiving the graded paper. Students should save all their work to ensure that no clerical errors are made in grade reporting.

## Copyright Notice

Students should assume that all course material is copyrighted by the respective author(s). Reproduction of course material is prohibited without consent by the author and/or course instructor. Violation of copyright is against the law and Texas A&M University-Central Texas' Code of Academic Honesty. All alleged violations will be reported to the Office of Student Conduct.

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