

ENGT 3302-110, 10450, Manufacturing Processes

Spring 2023

Texas A&M University-Central Texas

COURSE DATES, MODALITY, AND LOCATION

16-week class, 01/17/23 – 05/12/23

Weekly classes are Tuesdays and Thursdays 12:30 pm -1:45 pm (Warrior Hall, Room 313).

Classes will focus on problem-solving. Students are expected to already be familiar with the material BEFORE class by reading the textbook.

INSTRUCTOR AND CONTACT INFORMATION

Instructor: Sam Jackson

Office

Phone:

Email: sam.jackson@tamuct.edu

Office Hours

I will be available for students on an appointment-basis, please send me an email to set an appointment.

Student-instructor interaction

The instructor will reply to the students' emails within 24 hours. The students need to make an appointment with the instructor if the student need to meet the Instructor during the office hours.

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

SAFEZONE. SafeZone provides a public safety application that gives you the ability to call for help with the push of a button. It also provides Texas A&M University-Central Texas the ability to communicate emergency information quickly via push notifications, email, and text messages. All students automatically receive email and text messages via their myCT accounts.

Downloading SafeZone allows access to push notifications and enables you to connect directly for help through the app.

You can download SafeZone from the app store and use your myCT credentials to log in. If you would like more information, you can visit the [SafeZone](http://www.safezoneapp.com) website [www.safezoneapp.com].

To register SafeZone on your phone, please follow these 3 easy steps:

1. Download the SafeZone App from your phone store using the link below:
 - [iPhone/iPad](https://apps.apple.com/app/safezone/id533054756): [https://apps.apple.com/app/safezone/id533054756]
 - [Android Phone / Tablet](https://play.google.com/store/apps/details?id=com.criticalarc.safezoneapp)
[https://play.google.com/store/apps/details?id=com.criticalarc.safezoneapp]
2. Launch the app and enter your myCT email address (e.g. {name}@tamuct.edu)
3. Complete your profile and accept the terms of service

For updates on COVID information, please monitor the University [website](https://www.tamuct.edu/covid19/)
[<https://www.tamuct.edu/covid19/>]

COURSE INFORMATION

Course Overview and description

Introduction to metal and non-metallic manufacturing processes; casting, forging, rolling, extrusion, sheet metal forming, cutting tools turning and milling operations, abrasive machining, welding and joining powder compaction, molding, forming of plastics, surface treatment, human factors and safety.

Course Objective or Goal

Student Learning Outcomes

1. *Explain mechanical behavior, testing, and manufacturing properties of materials*
2. *Describe the physical properties of materials*
3. *Explain rolling, casting, and forging of metals*
4. *Describe the fundamentals of machining*

Competency Goals Statements (certification or standards)

Required Reading and Textbook(s)

Manufacturing Engineering and Technology, eighth Edition by Serope Kalpakjian, Steven R. Schmid

COURSE REQUIREMENTS

The course will involve homework, exams, and team project reports.

Homework: (30 weighted pts in total) will be assigned on an approximately weekly basis throughout the semester. (SLO 1-4)

Team Project: (5 weighted pts total) will be conducted during the semester. Students will select a peer reviewed article and have it approved by the instructor. The final project deliverables will be 5 page report evaluating the article and an 8 minute in class presentation. The project will be graded up to 100 pts and then scaled to the 5 pt weight. Grading will be according to the rubric at the end of the syllabus. The project can utilize any style guide, but must be formatted and referenced. (SLO 1-4)

Exams: Midterm Exam (25 weighted pts) and a Comprehensive Final Exam (40 weighted pts) will be given during the semester. (SLO 1-4)

Grading Criteria Rubric and Conversion

Activity	Points	% of Final Grade
Midterm Exams	25	25%
Homework	30	30%
Team Project	5	5%
Final Exam	40	40%

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

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

Posting of Grades

Combined grades will be posted on TAMUCT Canvas after each test.

COURSE OUTLINE AND CALENDAR

Complete Course Calendar

Week # (Tuesday, Thursday)	New Material
#1 Jan 17, 19	Chapter 10
#2 Jan 24, 26	Chapter 11
#3 Jan 31 Feb 2	Chapter 12
#4 Feb 7, 9	Chapter 13
#5 Feb 14, 16	Chapter 14
#6 Feb 21, 23	Chapter 15
#7 Feb 28 Mar 2	Chapter 16
#8 Mar 9	Midterm Exam
Mar 14, 16	Spring Break
#9 Mar 21, 23	Chapter 17
#10 Mar 28, 30	Chapter 18
#11 Apr 4, 6	Chapter 19
#12 Apr 11, 13	Chapter 20
#13 Apr 18, 20	Chapter 21

#14 Apr 25, 27	Chapter 22
#15 May 2, 4	Chapter 23
#16 May 9	Final Exam

Important University Dates

see <https://www.tamuct.edu/registrar/academic-calendar.html>

TECHNOLOGY REQUIREMENTS AND SUPPORT

Technology Requirements

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

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

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 Warrior Center for Student Success, Equity 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]

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. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. All academic misconduct concerns will be referred to the Office of Student Conduct. 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), [https://www.tamuct.edu/student-affairs/student-conduct.html].

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

Drop Policy

If you discover that you need to drop this class, you must complete the [Drop Request](#) Dynamic Form through Warrior Web.

[https://federation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdId=https://eis-prod.ec.tamuct.edu:443/samlssso&SpSessionAuthnAdapterId=tamuctDF&TargetResource=https%3a%2f%2fdynamicforms.ngwebsolutions.com%2fSubmit%2fStart%2f53b8369e-0502-4f36-be43-f02a4202f612].

Faculty 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. Once you submit the completed 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.

Important information for Pregnant and/or Parenting Students

Texas A&M University-Central Texas supports students who are pregnant, experiencing pregnancy-related conditions, 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/pregnant-and-parenting-students.html) [https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.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 virtually and in-person. Student success coaching is available online upon request.

If you have a question, are interested in becoming a tutor, or in need of success coaching contact the Warrior Center for Student Success, Equity and Inclusion at (254) 501-5836, visit the Warrior Center at 212 Warrior Hall, or by emailing WarriorCenter@tamuct.edu.

To schedule tutoring sessions and view tutor availability, please visit [Tutor Matching Services](https://tutormatchingservice.com/TAMUCT) [https://tutormatchingservice.com/TAMUCT] or visit the Tutoring Center in 111 Warrior Hall.

Chat live with a remote 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 except writing support. Access Tutor.com through Canvas.

University Library & Archives

The University Library & Archives provides many services in support of research across campus and at a distance. We offer over 350 electronic databases containing approximately 631,525 eBooks and 75,149 journals, in addition to the 97,443 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 virtually through WebEx, Microsoft Teams or in-person at the library. [Schedule an appointment here](https://tamuct.libcal.com/appointments) [https://tamuct.libcal.com/appointments]. 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](https://tamuct.libguides.com/index) [https://tamuct.libguides.com/index]

University Writing Center

University Writing Center: Located in Warrior Hall 416, the University Writing Center (UWC) at Texas A&M University–Central Texas (A&M–Central Texas) is a free service open to all A&M–Central Texas students. The hours of operation are from 10:00 a.m.-5:00 p.m. Monday thru Thursday in Warrior Hall 416 (with online tutoring available every hour as well) with satellite hours available online only Monday thru Thursday from 6:00-9:00 p.m. and Saturday 12:00-3:00 p.m.

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 making an appointment via [WCOonline](https://tamuct.mywconline.com/) [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu if you have any questions about the UWC, need any assistance with scheduling, or would like to schedule a recurring appointment with your favorite tutor.

OTHER 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 Wellness and 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/compliance/titleix.html) [<https://www.tamuct.edu/compliance/titleix.html>].

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, please make a referral to the Behavioral Intervention Team. Referring your concern shows you care. 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/bit) website for more information [<https://www.tamuct.edu/bit>]. If a person's behavior poses an imminent threat to you or another, contact 911 or A&M-Central Texas University Police at 254-501-5805.

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.

Primary Research Article Critique - Grading Rubric

Category	Excellent (A) 95%	Good (B) 85%	Fair (C) 75%	Poor (D) 65%	Fail (F) 0%	Score
Title (5%)	Clearly describes the content of the current lab exercise. Uses descriptive words that are associated with the lab.	Describes the content but the usage of descriptive words is not appropriate	The content is not clearly described. Fair use of descriptive words	No title. Poor description or poor use of descriptive words.	No submission/No effort exhibited	
Introduction & Objectives (15%)	Clear background information based on a thorough literature search. Uses proper “in text” citations. Includes a rationale for the study along with a hypothesis.	Contains background information but is not complete. The hypothesis is partially stated.	Background information is not complete and lacks proper “in text” citations. The hypothesis is not clearly stated.	Very little or no background information. No “in text” citations. Unrelated introduction	No submission/No effort exhibited	
Materials and Methods (15%)	Contains a complete list of the experimental procedures. Steps taken during the lab are easy to follow in a paragraph form. The section is organized in a way that the reader understands the logical flow of the lab. Proper use of third person and past tense.	One or more relevant pieces of information are missing. The section is not very well organized. Use of first person or improper use of verb tense appears in part of the text.	Misses several components of the experimental procedures. There is a lack of organization and there is not proper use of grammar standards.	Procedural steps are incorrect, illogical, unrelated or plagiarized.	No submission/No effort exhibited	
Results (20%)	Key results are presented in an orderly and logical sequence using both text and illustrative materials (Tables and Figures). All the relevant information obtained in the experiment is included. All calculations are provided in a logical manner using	One or more key results are missing. Figures and tables are present but contain minor errors.	Misses several key results. Figures lack proper identification in the Y and X axis. Tables have missing titles. The text doesn't follow the	Major results are not included. Figures and tables are poorly constructed or not present.	No submission/No effort exhibited	

	proper units		sequence of the tables and/or figures.			
Discussion and Conclusion (15%)	Proper interpretation of results. Summarizes data used to draw conclusion Discusses applications or real-life situations. Addresses hypothesis and cites sources of errors Connects the conclusion with the introduction by way of the stated hypothesis and literature cited.	Interpretation of results is presented. However, there is a disconnection between the discussion and the testable hypothesis identified in the introduction.	Misses the interpretation of key results. There is little connection between the discussion and the introduction.	Very poor interpretation of the results. No connection between discussion and introduction. Evidence of plagiarism.	No submission/No effort exhibited	
Literature Cited (5%)	Provides a complete list of the “in text” references provide in the text of the paper. Uses a correct style (i.e. APA, MLA) for citations.	Most but not all “in text” references are provided. Some inconsistency in the style used is evident.	Misses several references or doesn’t adhere to the correct style.	Most references are not included and/or the style used is incorrect.	No submission/No effort exhibited	
Report format and quality (10%)	Lab report submitted as directed, and on time. Directions were followed, questions (if any) were answered correctly.	Minor errors in format or procedures were encountered.	Directions were not explicitly followed.	Directions were not followed.	No submission/No effort exhibited	
Class Presentation (15%)	Language use and delivery (6%) Effectively uses eye contact. Speaks clearly, effectively and confidently using suitable volume and pace. Fully engages the audience. Selects rich and varied words for context and uses correct grammar.	Maintains eye contact. Speaks clearly and uses suitable volume and pace. Takes steps to engage the audience. Dresses appropriately. Selects	Some eye contact, but not maintained. Speaks clearly and unclearly in different portions. Occasionally engages audience. Dresses inappropriately.	Poor eye contact. Not audible and uses unsuitable pace. No audience engagement. Uses incorrect words or grammar	No submission/No effort exhibited	

		words appropriate for context and uses correct grammar.	Selects words inappropriate for context; uses incorrect grammar.			
	Visual Aids Simple and focused (2%)	Simple but not focused	Aids are poorly prepared and not used appropriately	Aids were not used and was difficult to read and follow		
	Appropriate and relevant to topic (2%)	Some material not relevant	Most of the information not relevant to the topic	No appropriate or relevant information		
	Neatness and quality (2%)	Quality not appropriate	Most of the slides were of poor quality	All slides were of very poor quality No		
	Organization and Preparation (3%) Introduces the topic clearly and creatively. Maintains clear focus on the topic. Effectively includes smooth transitions to connect key points. Ends with logical, effective and relevant conclusion.	Introduces the topic clearly. Maintains focus on the topic. Include transitions to connect key points. Ends with coherent conclusion based on evidence.	Introduces the topic. Somewhat maintains focus on the topic. Includes some transitions to connect key points. Ends with a conclusion based on evidence.	Does not clearly introduce or focus on the topic. Points rarely connect. No conclusion.		