

SYLLABUS
Engineering Materials Laboratory
ENGR 3450-Section 101
Summer 2025

Laboratory Instructor:

Dan Nguyen, CSWA, Ph.D. Candidate, Department of Mechanical Engineering

Telephone: (806) 656-1884

E-mail Address: Dan.Nguyen@unt.edu

Office: F-102K, Discovery Park

Available Office Hours: by appointment: Tuesday and Thursday 11:00AM-1:30PM, meeting can be also schedule by zoom on Mondays, Time: TBD

Brief Description:

The purpose of this laboratory is to give students practical experience in materials engineering through hands-on experiments, data acquisition and analysis, technical report writing, and oral presentations.

Course Materials:

There is no textbook required for this laboratory. Handouts will be posted on the UNT Canvas website website <https://unt.instructure.com/> throughout the semester. Students are expected to read the materials, including safety rules and guidelines for laboratory reports, before attending each lab session. A printed copy of the lab handout will be provided by the instructor during the lab session.

References:

1. *Metals Handbook*, ASM International, Materials Park, Ohio. (Available online through UNT library)
2. Annual Books of ASTM on Materials Testing. (Available online through UNT library)
3. Textbook for ENGR 3450-Materials Engineering course.

Laboratory Guidelines

I. Overview:

- **Laboratory guidelines** will be posted by the lab instructor on the UNT Canvas website during the first week of class.
- Each student should have their own laboratory notebook.
- Students must **review** the provided materials before attending each lab session.
- Students are expected to take notes during lectures as part of their responsibility for active learning and course success.

II. Laboratory Reports:

1. Technical lab written reports:

- There are 1 main guideline and 1 grading rubric provided to assist students in completing the lab report.
- The lab report structure remains unchanged throughout the semester; students are required to adhere to the provided rubric to ensure full credit.
- More importantly, high-quality writing is also mandatory for receiving full credit on the lab report.

2. Team Formation:

- ✓ Groups will be established for the submission of group laboratory reports and team projects. Group formation will be finalized by the end of Lab 4.
- ✓ Weekly laboratory reports must be submitted exclusively by the designated team leader. For detailed instructions, refer to the weekly assignments posted on Canvas.
- ✓ The final team laboratory project report is due during the pre-final exam week, coinciding with the scheduled oral presentation.

3. Final Oral Presentations/Discussions:

Students will prepare up to 10 slides to highlight your findings for your project. You will present these during the pre-final exam week at your lab hour's section. In order to make sure that everyone has the opportunity to participate in the discussion, each member of a lab partner group must lead at least one section of the presentation and participate in discussions and answering questions. Team members will score other team members in the final quiz on their participations and contributions.

Evaluation and Grading Policy:

Attendance	10%
Laboratory report	50%
Lab Quiz 1- After Lab 3	20%
Lab Quiz 2- After Lab 5	20%
Total	100%

COURSE POLICIES

1. *Class Attendance:* Attendance during scheduled class hours is **mandatory**. Punctuality is expected.
2. *Dress Code:* Long pants, half or full long sleeve shirt. If students do not dress correctly, the instructor will remove the students from the lab room.
3. *Late Submissions:* Late submission of lab assignments will result in grade deductions. **A 50% deduction** will be applied for submissions within 24 hours after the due time, and **a 100% deduction** will be applied for submissions beyond 24 hours.
4. *Collaborative Work:* If a teammate fails to contribute to the group's work and discussion, please inform the instructor promptly.
5. *Attendance:* Students will lose attendance grade if they are absent. No excuses needed, unless University excuses.
6. *University Excuses:* University-excused absences must be submitted to the instructor **at least one week** in

advance of the scheduled absent day(s).

7. *Makeup Policy*: There will be **NO** makeup opportunities for missed quizzes, assignments, or lab experiments/reports on days when attendance was not recorded.
8. *Lab Etiquette*: Consumption of food and beverages **is strictly prohibited** during laboratory sessions.
9. This syllabus is subject to change at any time during the semester with changes to be announced during the class hours and will be posted on Blackboard.
10. Cell phones, iPhones, iPods, iPads, laptops **must be turned off or in silent mode** before the start of the class and left in your pocket, purse, or book bag. Cell phones and other electronic devices **are not allowed** during quizzes or examinations. Only permitted calculators are allowed.
11. *Dishonesty*: The UNT Catalog procedures on cheating and plagiarism will be vigorously enforced. It is the duty of each student to protect their work, so it is not available to others for submission as their efforts. This is especially true of files that are generated on the computer. Students that knowingly allow others to use their work are partners in this unethical behavior. All rules relating to academic dishonesty will be enforced in accordance with university policies.
12. *Distribution of Course materials*: State common law and federal copyright laws protect this course lectures and materials. They have my own original expression and revisions to the textbook author(s) and I record them at the same time that I deliver. Whereas you are authorized to take notes in class, thereby creating a derivative work from my lecture, and/or make a print of my lecture notes/slides. The authorization extends only to making one set of notes for your own personal use and no other use. You are not authorized to record my lectures, to provide your notes to anyone else or to make any commercial use of them without express prior permission from me.
13. *Absence for Religious Holidays*: In accordance with state law, a student absent due to the observance of a religious holiday may take examinations or complete assignments scheduled for the day(s) missed, including those missed for travel, within a reasonable time after the absence. The student is responsible to notify the instructor of each class of the date of the anticipated absence as early in the semester as possible. Only holidays or holy days observed by a religion whose place of worship is exempt from property taxation under Section 11.20 of the Tax Code may be included. A student who is excused under this provision may not be penalized for the absence.
14. *Student Perceptions of Teaching (SPOT)* is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider the SPOT to be an important part of your participation in this class.

DISABILITIES ACCOMMODATION

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodations at any time; however, ODA notices of reasonable accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information see the Office of Disability Accommodation website at <http://www.unt.edu/oda>. You may also contact them by phone at 940.565.4323.

CLASS POLICY ON DISCRIMINATION AND RELATED ACTS

Non-Discrimination: This class is open to all individuals regardless of their race, color, religion, gender, gender identity or expression, sexual orientation, national origin, disability, or any other protected status under applicable laws.

Respectful Conduct: All students and the instructor are expected to engage in respectful conduct towards one another. Discriminatory language, actions, or behaviors that create a hostile or offensive environment are strictly prohibited.

Reporting Discrimination: Any student who believes they have experienced or witnessed discrimination, harassment, or related acts within the class should report it promptly to the instructor. The instructor is committed to addressing such concerns discreetly and promptly.

Investigation: Upon receiving a report of discrimination or related acts, the instructor will conduct a thorough and impartial investigation. The confidentiality of all parties involved will be respected to the extent possible while conducting a fair investigation.

Consequences: Engaging in discriminatory acts, harassment, or related behaviors may result in consequences such as warnings, removal from the class discussion, or other appropriate disciplinary actions. The severity of the consequences will depend on the nature and severity of the violation.

Appeals: Students who are subject to disciplinary actions have the right to appeal the decision, following the established procedures outlined in the class syllabus or institutional policies.

ENGR 3450: Engineering Materials

Spring 2025

Weekly Schedule

Weeks	Laboratory Title
Week 1 (5/20)	Introduction/ Laboratory safety rule/ Writing training
Week 1 (5/22)	MECHANICAL TEST: Hardness Test
Week 2 (5/29)	MECHANICAL TEST: Impact Test
Week 3 (6/5)	METALLOGRAPHY: Microstructure Characterization
Week 4 (6/10)	Lab Quiz 1
Week 4 (6/12)	MECHANICAL TEST: Tensile Test (part 1)
Week 5 (6/17)	MECHANICAL TEST: Tensile Test (part 2)
Week 6 (6/24)	JOMINY QUENCH TEST (PART 1)
Week 6 (6/26)	JOMINY QUENCH TEST (PART 2)
Week 7 (7/1)	JOMINY QUENCH TEST (PART 3)
Week 8 (7/10)	Lab Quiz 2

****Details of lab quiz and lab final projects will be given in the lab lectures.**