SYLLABUS

AE 461, Spring 2026

Instructor: Ioannis Chasiotis
chasioti@illinois.edu
Class: Tue, Thu 10:00-10:50 A.M. (1320 Digital Computer Laboratory)
Office hours: Tue 9:00-9:45 A.M. on Zoom (link provided on Canvas)

LAB TEACHING ASSISTANTS		
Kathiresan Karunakaran kk51@illinois.edu	**Oluwadara Moronkeji** om6@illinois.edu	**Anshul Agrawal** anshula4@illinois.edu
Responsibilities: Lab 1,3,4,5,6 supervision Office hours, Labs #1,3,4,5,6	**Responsibilities:** Lab 1,3,4,5,6 supervision Office hours, Labs #1,3,4,5,6	**Responsibilities:** Lab 1,3,4,5,6 supervision Office hours, Labs #1,3,4,5,6
Office Hours: Mondays 13:00 – 15:00 Location: Zoom (link provided on Canvas)	**Office Hours:** Thursdays 12:00 – 14:00 Location: Zoom (link provided on Canvas)	**Office Hours:** Wednesdays 10:00 – 12:00 Location: Zoom (link provided on Canvas)
Sean Lee slee518@illinois.edu	**Hyeongju Lee** hl72@illinois.edu	
Responsibilities: Lab 2 supervision Office hours, Lab #2 New lab assignment development	**Responsibilities:** Lab assignment grading Canvas maintenance New lab assignment development	
Office Hours: Fridays 10:00 – 12:00 Location: Zoom (link provided on Canvas)	**Office Hours:** Upon request, only on report grading questions Location: Zoom	

CANVAS: Lab manual, course slides, lab preparation videos, all assignments.
Course slides will be posted before each lecture.

LECTURE SCHEDULE

Week	Date		Topic
1	**January**	20 (Tu)	Introduction
		22 (Th)	Manufacturing of Composites I
2		27 (Tu)	Teaming meeting
		29 (Th)	Engineering Ethics **(Quiz: No make-up)**
3	**February**	3 (Tu)	Manufacturing of Composites II
		5 (Th)	Photoelasticity I
4		10 (Tu)	Photoelasticity II
		12 (Th)	Bending and Torsion of beams
5		17 (Tu)	Elastic Beam Buckling I
		19 (Th)	Elastic Beam Buckling II
6		24 (Tu)	Structural Dynamics I
		26 (Th)	Structural Dynamics II
7	**March**	3 (Tu)	Composite Lamina Theory I
		5 (Th)	Composite Lamina Theory II
8		10 (Tu)	Composite Lamina Theory III
		12 (Th)	Theory of Failure of Materials I
10		24 (Tu)	Theory of Failure of Materials II
		26 (Th)	Digital Image Correlation I
11		31 (Tu)	Digital Image Correlation II
14	**April**	24 (Fri)	Final report (combined labs 1,6) due date

LABORATORY ASSIGNMENTS

Exp. #	Name
1	Manufacturing of Composite Laminates
2	Measurement of Stress using Photoelasticity
3	Bending and Torsion of Beams – Use of Strain Gauges
4	Buckling of Slender Rods
5	Structural Dynamics of a Cantilever Beam
6	Mechanical Testing of Composite Laminates

Experiment #	Location
1, 3, 4, 5	Talbot 205H
2, 6	Talbot 201

COURSE POLICIES

1. Lab Attendance

Lab attendance is mandatory; any absence must be cleared beforehand with the instructor and will only be approved in extraordinary circumstances. In such cases, make-up labs **must be scheduled** through consultation with the instructor, and only if possible. Keep in mind that many labs run only for one week in the entire semester and will not be possible to make up in the following weeks. If you fall sick, you must provide a doctor's not promptly to the instructor via email BEFORE your lab takes place to make arrangements. Unexcused absence from a lab will automatically lead to zero grade for the technical note/report associated with that lab.

IMPORTANT:

(a) **All group members MUST watch the lab preparation videos on Canvas BEFORE coming to each lab**, and if necessary prepare your notes for what you plan to do at the actual lab and what data you need to collect. The TAs will provide general instructions but the details are in the videos that will be posted on Canvas. There will be NO make up lab if you fail to collect the data required for your lab assignment.

(b) **You must bring your own safety goggles to ALL lab assignments.** You will not be able to enter the lab space without them. Eye glasses are NOT a substitute for safety goggles. You can buy your safety goggles at any place; Google "eye goggles" to see several options. **The safety glasses should be ANSI Z87.1 + certified to protect against impact.**

(c) **You MUST always wear closed shoes while at the lab**. No sandals, flip flops, or other types of open shoes are permitted.

(d) **Before you enter the labs of AE461 you MUST complete the online laboratory safety training administered by the University of Illinois. The deadline is posted on Canvas.** Login to complete all laboratory training modules showing as pending in your account under:

https://ovcrportal.research.illinois.edu/Training/Overview.aspx?TrainingId=67

When you finish, upload a PDF copy of your completed training certificate to Canvas. If you have completed this training before (e.g. for AE460), go to the website above, create a PDF file of your certificate and upload it to Canvas. You must redo the online laboratory safety training if your certificate has expired.

YOU WILL NOT BE ALLOWED TO THE LAB IF YOU HAVE NOT SUBMITTED YOUR SAFETY TRAINING CERTIFICATE.

2. In-class Quizzes

There will be an in-class quiz at the end of each lecture. **There will NOT be any make up quizzes or remote options**. You can miss up to 3 graded quizzes (except for the ethics quiz) during the semester with no impact on your grade. There are no further excused absences for in-class quizzes.

3. Pre-lab Assignments

A total of 6 pre-lab assignments are required during the semester. Each student should complete their pre-lab assignment individually on Canvas. The pre-lab assignments will prepare you for the actual lab experiment. Consequently, they are to be done before the lab assignment takes place. **They will be available to you one week before each lab and until the night before your lab assignment. In this time interval you can submit your prelab assignment up to 3 times. The highest score will be counted towards your grade. You will NOT be able to complete your lab assignment after the deadline.**

4. Technical Notes

A total of 4 Technical Notes are required during the semester. The technical note is a report compacted into few pages. Conciseness is key! **Only one technical note is required from each lab group**. Each student in a group receives the same grade for each technical note or the full length lab report. An important aspect of your technical career will be the ability to communicate your ideas and findings to your colleagues through Technical Notes. **Your complete MATLAB code (or code from any other software that you used) MUST BE INCLUDED in the Appendix of your technical note.**

Technical notes are due on Canvas, the latest **one week** after the lab assignment is completed. Late technical notes will not receive a grade.

5. Full Length Lab Report

This is a full-length comprehensive lab report on the combination of **lab assignments #1 and #6**. The report entails **detailed** discussion of the experimental background, analysis, and results. **Your complete MATLAB code (or code from any other software that you used) MUST BE INCLUDED in the Appendix of your full length report.**

The full-length report is due on Canvas by 11:59 p.m. on April 24, 2026.

6. Grading:

Pre-labs	12.5%*
In class quizzes	12.5%**
Ethics Quiz	5%***
Technical Notes	50%*
Full Length Report	20%

* All Technical Notes and prelab assignments contribute equally to the respective total score. No late prelab assignments or technical notes will be accepted.

** There are no make up in-class quizzes.

*** There is no make up ethics quiz.

7. Lab policy

Your approach to this course should be one of opportunity. This laboratory represents an opportunity to gain valuable experience in "hands-on" engineering and in the application of basic engineering theories. The following basic rules will ensure a productive experience:

- Group members must work together on the technical notes. You will be working as a team during the experiment and the write-up. Learn to work in groups because your engineering career will require this skill every day.
- Copying another group's reports/notes will not be tolerated. ***Both groups' reports/notes will receive zero credit and such event will be considered plagiarism. There will be no first time warning.***
- The experiments you will perform involve expensive and often powerful equipment. Not following the teaching assistant's instructions or not using common sense could put you at risk of injury. Horseplay and willful misconduct have no place in the laboratory. You will receive a failing grade and be expelled from the course.
- The use of cell phones for leisurely activities or making/receiving personal calls is strictly prohibited in the labs. All cell phones should be switched to silent mode during labs. The TA has right to ask you to leave the lab if you use your cell phone in the laboratory. *You may use your cell phone to take photos of the lab apparatus or for purposes related to the lab assignment as long as it is safe to do so.*

8. General Health

All students are required to follow the campus health protocols to protect the health and safety of the community. Students who fall ill must not come to class or the labs.

9. Academic Integrity

Violations of academic integrity are unacceptable. The University of Illinois at Urbana-Champaign Student Code should also be considered as a part of this syllabus. Students should pay particular attention to Article 1, Part 4: Academic Integrity. Read the Code at the following URL: http://studentcode.illinois.edu/.

Academic dishonesty will result in a sanction proportionate to the severity of the infraction, with possible sanctions described in 1-404 of the Student Code (https://studentcode.illinois.edu/article1/part4/1-404/). Every student is expected to review and abide by the Academic Integrity Policy as defined in the Student Code: https://studentcode.illinois.edu/article1/part4/1-401/. As a student it is your responsibility to refrain from infractions of academic integrity and from conduct that aids others in such infractions. A short guide to academic integrity issues may be found at https://provost.illinois.edu/policies/policies/academic-integrity/students-quick-reference-guide-to-academic-integrity/. Ignorance of these policies is not an excuse for any academic dishonesty. It is your responsibility to read this policy to avoid any misunderstanding. Do not

hesitate to ask if you are ever in doubt about what constitutes plagiarism, cheating, or any other breach of academic integrity.

10. Inclusivity Statement

This course is committed to the creation of an inclusive community that welcomes diversity along a number of dimensions, including, but not limited to, race, ethnicity and national origins, gender and gender identity, sexuality, disability status, class, age, or religious beliefs. The effectiveness of this course is dependent upon each of us to create a safe and encouraging learning environment that allows for the open exchange of ideas while also ensuring equitable opportunities and respect for all of us. Everyone is expected to help establish and maintain an environment where students, staff, and faculty can contribute without fear of personal ridicule, or intolerant or offensive language. If you witness or experience racism, discrimination, micro-aggressions, or other offensive behavior, you are encouraged to bring this to the attention of the course director if you feel comfortable. You can also report these behaviors to https://diversity.illinois.edu/diversity-campus-culture/belonging-resources. Based on your report, the University will follow up and reach out to students to make sure they have the support they need to be healthy and safe. If the reported behavior also violates university policy, staff in the Office for Student Conflict Resolution may respond as well and will take appropriate action.

11. Preparation for Emergencies

Emergencies can happen anywhere and at any time, so it's important that we take a minute to prepare for a situation in which our safety could depend on our ability to react quickly. Take a moment to learn the different ways to leave this building. If there's ever a fire alarm or something like that, you'll know how to get out and you'll be able to help others get out. Next, figure out the best place to go in case of severe weather – we'll need to go to a low-level in the middle of the building, away from windows. And finally, if there's ever someone trying to hurt us, our best option is to run out of the building. If we cannot do that safely, we'll want to hide somewhere we can't be seen, and we'll have to lock or barricade the door if possible and be as quiet as we can. We will not leave that safe area until we get an Illini-Alert confirming that it's safe to do so. If we can't run or hide, we'll fight back with whatever we can get our hands on. If you want to better prepare yourself for any of these situations, visit ***police.illinois.edu/safe***. Remember you can sign up for emergency text messages at ***emergency.illinois.edu***. Watch the short video: ***http://police.illinois.edu/emergency-preparedness/run-hide-fight***

Emergency Response Recommendations

Emergency response recommendations can be found at the following website:
http://police.illinois.edu/emergency-preparedness
For more information, review this website and the campus building floor plans.
http://police.illinois.edu/emergency-preparedness/building-emergency-action-plans

Run > Hide > Fight

Emergencies can happen anywhere and at any time. It is important that we take a minute to prepare for a situation in which our safety or even our lives could depend on our ability to react quickly. When we're faced with any kind of emergency – like fire, severe weather or if someone is trying to hurt you – we have three options: Run, hide or fight.

Run

Leaving the area quickly is the best option if it is safe to do so.

- Take time now to learn the different ways to leave your building.
- Leave personal items behind.
- Assist those who need help, but consider whether doing so puts yourself at risk.
- Alert authorities of the emergency when it is safe to do so.

Hide

When you can't or don't want to run, take shelter indoors.

- Take time now to learn different ways to seek shelter in your building.
- If severe weather is imminent, go to the nearest indoor storm refuge area.
- If someone is trying to hurt you and you can't evacuate, get to a place where you can't be seen, lock or barricade your area, silence your phone, don't make any noise and don't come out until you receive an Illini-Alert indicating it is safe to do so.

Fight

As a last resort, you may need to fight to increase your chances of survival.

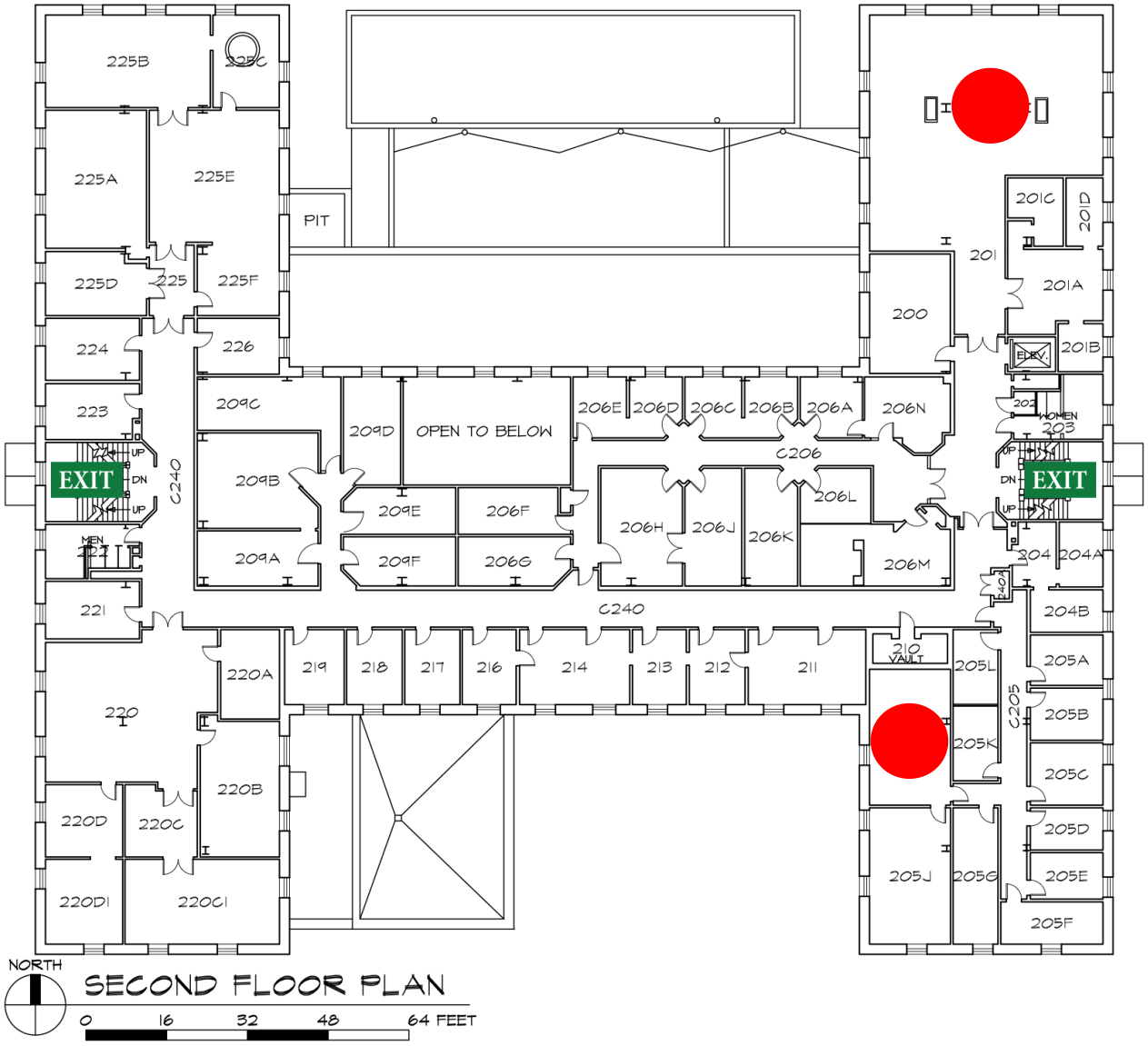
- Think about what kind of common items are in your area which you can use to defend yourself.
- Team up with others to fight if the situation allows.
- Mentally prepare yourself – you may be in a fight for your life.

Please be aware of persons with disabilities who may need additional assistance in emergency situations.

Other resources

- **police.illinois.edu/safe** for more information on how to prepare for emergencies, including how to run, hide or fight and building floor plans that can show you safe areas.
- **emergency.illinois.edu** to sign up for Illini-Alert text messages.
- **Follow the University of Illinois Police Department** on Twitter and Facebook to get regular updates about campus safety.

BUILDING FLOOR PLANS



Evacuation Assembly
Grainger Library

Evacuation Assembly
Engineering Quad

Area of Rescue Assistance

Storm Refuge Area

FLOOR: SECOND

FILE NAME: B0013-02.DWG

UIUC BLDG. #: #0013

DATE PRINTED: 13 DEC 2011

NAME AND LOCATION OF STRUCTURE:

TALBOT LABORATORY

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

facilities & SERVICES
PLANNING DIVISION