Syllabus – Fall 2024
Version 240904a

PHYS 2125 University Physics Lab I

Laboratory Location- Room No. 379,
Science Building

PHYS 2125-Section Number 01- Monday 2-4:45

The first class session is Monday, September 9th
See calendar below.

Instructor: Dr. William Howard
Email: whoward@tamusa.edu
Office hours: By appointment any Friday. Please email a request to the lecturer by Thursday noon the week you wish to meet. Office hours will be by zoom.

Contact:

1. All contact should only be via TAMUSA email (whoward@tamusa.edu). Expect a reply within 24-48 business hours.
2. The subject of the email messages should contain your course and section number followed by a brief description of the subject. For example- "PHYS 2125-01L - Question about units and dimensions"

Course Description:

1. Physics is the foundation of all the natural sciences and is a tool for all engineering disciplines.
2. This course is a laboratory experience for students enrolled in PHYS 2325.
3. The course will start with a review of the math, equipment, Excel, and lab equipment skills needed for the labs. Students will complete several labs during the course.
4. Topics include motion, forces, conservation of energy, and momentum. Laboratory experimentation reinforces concepts in mechanics.
5. The course emphasizes scientific communication and collaboration as well as measurement methods, uncertainty in measurement, and basic error analysis.
6. Co-requisite: PHYS 2325. Prerequisite: TSI Reading/Writing/Math.

Course Objectives:

1. **Critical Thinking:** Students will understand the use of logical discussion and analysis through one or more activities such as comparing and contrasting multiple viewpoints and explaining the use of the scientific method.
2. **Communication Skills:** Students will understand the use of writing, oral, and visual literacy skills to communicate persuasively and exchange information appropriate to the subject, occasion, and audience.
3. **Empirical & Quantitative Skills:** Students will understand mathematical concepts and explain mathematical, technological, and quantitative tools for use in science and everyday life, resulting in informed conclusions.
4. **Teamwork:** Students will understand the use of teamwork skills for collaborative lab activities

Learning Outcomes:
Upon successful completion of this course, students will:

1. Demonstrate skills necessary to set up and perform experiments, collect data, and formulate conclusions from an experiment.
2. Record experimental work completely and accurately and communicate experimental results clearly in written reports.
3. Determine the components of linear motion, including displacement, velocity, acceleration, and motion under conditions of constant acceleration.
4. Apply Newton's laws to physical problems including gravity.
5. Solve problems using principles of energy.
6. Use principles of impulse and linear momentum to solve problems.

Textbook:
There is no published laboratory manual or required textbook for this course. All lab write-ups and reading assignments will be available on Blackboard (https://tamusa.blackboard.com) prior to the lab date. A printed copy of the lab procedure will be provided during the lab.

Course website:
Blackboard, https://tamusa.blackboard.com

Requirements:

1. **Attendance policy:** Regular and punctual attendance is mandatory and expected. Class will start promptly at the appointed time. A sign-in sheet will be provided, and students must sign in. The sign-in sheet is the official record of your attendance. Absences are recorded, without exception, from the official date of enrollment. If you are unable to do a lab for personal reasons, please communicate to me by email and let me know as soon as possible. If there is an emergency, please let me know as soon as possible.
2. **Tardy policy**- Students who arrive more than 10 minutes late will also be marked absent. If you plan to have an excused absence, please communicate with your instructor.

3. **Participation Policy**-Students who accumulate absences equivalent to **two weeks** of instruction may be asked by the instructor to drop the class.
4. **Lab homework**: Before you begin the experiment, read the theory part of the lab manual, and complete the online lab homework, if assigned, on Blackboard. These homework assignments prepare you to maximize the learning during the lab and ensure that you are ready to start with the lab once the class starts.
5. **There will be no opportunities to make up labs that you miss.** If you know you are going to miss a lab, contact the instructor by email as soon as you know. Contact the instructor within 24 hours of the scheduled Lab for emergency cases. Any missed Lab counts as a 0 unless the student has a valid documented excuse.
6. The following are considered excusable absences and require documentation to substantiate the claim of excused absence: US military functions, student sickness documented with a note from a doctor, a death in the immediate family within 1 day of the class period documented with a note to the instructor at the time of the class session and then followed by an official notice of death when available, the funeral of an immediate family on the day of class documented with a notice of death, attending a university sponsored event.
7. **Lab Reports**
    a. Lab groups will generally consist of 3-4 students. Generally, students can choose their own group for each lab session. However, special considerations such as limited lab equipment might require that the instructor assign students to a specific group as needed.
    b. Each group submits one lab report for the whole group.
    c. Lab reports are due at 11 pm one week after the end of the lab. Example: If there is a lab on Monday 1 March, then the lab report is due at 11 pm on 8 March.
    d. <u>Late labs are not accepted and will be graded as a zero. The labs have been timed so that all or most of the work can be done during the lab. You should prepare by reading the lab materials in advance. Hence, there should be few problems submitting your lab on time and, in most cases, at the end of the lab.</u>
    e. Labs must be sent to the instructor using the email address at the top of the syllabus. A completed lab report consists of an Excel file <u>sent as an attachment, not a link</u>.
    f. Lab groups should exchange contact information. The person submitting the lab report via email must copy all other lab members in the group on that email. Everyone in the group is responsible for delivering the lab report on time. If you do not see the lab report submitted on time, contact your group.
    g. The subject line of the email should have the course, section (S), lab group (G) and lab. For example: “PhysLab1, S2, G4, Spring Oscillations”.

h. The excel template provided to the lab group will have sections to record the lab member names and who worked on what part of the lab. These must be completed without exception.

8. **A student who does not turn in 4 or more lab reports will receive an automatic 'F' in the lab course.**
9. **Lecture** – Students who drop the lecture portion **should** drop the lab course. If you drop the lab, it is your responsibility to go online and officially drop the course.
10. **Grade Rebuttals** – If you think there was an error in grading you have one week to report it to your lab instructor from the time the graded work was returned to you. After this time, the grades are considered final.

Technology Requirements:

1. Please contact I.T. (helpdesk@tamusa.edu/ call 210 784 4357) at TAMUSA with any technology related questions, as soon as possible.
2. You will need the following:
    a. A working computer /Laptop, with Windows, Mac, or Chromebook Operating system.
        i. You can bring your own laptop or use the one from the lab. The lab computer must be first connected to the internet and only after logging into your account, you can use it. To connect to the internet, use the Amazon ethernet cord and connect the computer to the ethernet port on any of the ports available near the wall of the lab. After logging into your account, you can disconnect and use the laptop at your lab table.
    b. Proper internet connection
    c. Software to read/write/edit Excel and to read PDF documents.
    d. A basic-level scientific calculator will only be needed for the math review sessions. All other calculations in the course will be done in Excel. Excel records the calculation process as well as the answer and this allows the instructor to understand what you have done wrong if you don't have the right answer – something that is not possible with a calculator.
        i. You can download **RealCalc** scientific calculator app from the Play Store and install it on your cell phone. This is a very user-friendly app and I strongly recommend all of you to use this for all lab calculations.

Lab Rules and Expectations:

1. Cell phones will be turned off and always put away.
2. No food or drink is allowed in the lab.
3. Students must clean and organize their work area before leaving the lab.
4. Only students enrolled in the class are allowed in the lab room.

5. **<u>You are not permitted to leave early unless given explicit permission from the lab instructor. The following lab will be previewed at the end of the current lab. The instructor will inform the class if it is permissible to leave early.</u>**
6. Students are highly encouraged to ask the instructor to review their lab report prior to leaving the lab.
7. Submission by email with a copy to all group members constitutes signing your lab report.

Lab safety and policies:

1. The instructor will discuss certain rules and safety guidelines particular to the Physics laboratory and will provide a hand-out at the beginning of the semester that the students must sign before proceeding.
2. Please follow these policies for your own safety and good lab experience.
3. Any issue about broken, missing, or defective equipment must be brought to the attention of the lab instructor or the lab technician.

Course Schedule:

The complete academic calendar is available online in the following link
http://www.tamusa.edu/provost/academicresources/academiccalendar.html

This is the tentative schedule. Some adjustments should be expected.

Session	Date	University Physics Lab 1
1	Monday, September 9	Intro to course, Math Review 1
2	Monday, September 16	Math Review 2, Excel, Vernier Equipment
3	Monday, September 23	1D Kinematics
4	Monday, September 30	Motion on an incline and gravity
5	Monday, October 7	Projectile motion 1
6	Monday, October 14	Projectile motion 2
7	Monday, October 21	Force Table
8	Monday, October 28	Atwood's Machine
9	Monday, November 4	Collisions
10	Monday, November 11	Simple Pendulum
11	Monday, November 18	Spring Motion - Simple Harmonic Motion, Course review
	Monday, November 25	NO CLASS - Thanksgiving Week

Grading:

1. Each lab has a variable number of raw points. Your grade is the percent score you lab group received on the lab. Thus, each lab has a final score using a 100-point basis.
2. Each homework assignment will be between 30 and 100 points, and these are not scaled. Students will be allowed at least 1 week to complete all labs and homework.
3. Class attendance is 10 points per class. Students will not receive the 10 points if they are absent or more than 10 minutes tardy to the class.
4. No class quizzes or tests are planned. Non-graded, in-class exercises will be used to evaluate learning.
5. Your current and final grade is based on the averages calculated in the table below.

Lab reports average	70%

Daily quizzes average	20%
Class attendance	10%
Total	100%

Letter Grade:

A = 90 - 100	B = 80 - 89	C = 70 - 79	D = 60 - 69	F = 0 - 59

Lab Report Format

1. Go to https://tamusa.blackboard.com, select your course and go to Course Content on the left side and look for the lab report for the current lab. It will generally consist of two components: An Excel file and a Word or PDF document. Download these as needed.
2. The Excel file is the main lab report and the only one the lab members will need to edit and complete.
3. Each lab will have its own unique requirements including any combination of the following: Excel components that must be configured, references to site, tables of data to complete, error analysis, graphing, answering questions.
4. The lab report rubric is included with each Excel file template.

PHYS 2125 assumes that all work submitted by students will be generated by the students themselves, working individually or in groups. Students should not have another person/entity do the writing of any portion of an assignment for them, which includes hiring a person or a company to write assignments and/or using artificial intelligence (AI) tools like ChatGPT. Use of any AI-generated content in this course qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity.

Academic Calendar:
http://www.tamusa.edu/provost/academicresources/academiccalendar.html

Important Dates:

August 26	First day of class
September 2	Labor Day Holiday
November 11	Last day to drop with an automatic "W"
November 19	Last day to drop a course or withdraw from the University
November 27	Study Day – No classes
November 28-30	Thanksgiving Holiday – No classes
December 5	Last day of classes
December 6	Study Day – No classes

December 7-13 Final exams

The complete academic calendar is available online:
https://www.tamusa.edu/academics/academic-calendar/index.html.

ACADEMIC INTEGRITY:
We take this very seriously!!!
(See
https://www.tamusa.edu/studentengagementsuccess/studentrightsandresponsibilities/academicmis conduct/index.html
"According to the Student Code of Conduct, the following are violations of Academic misconduct: Cheating,Plagiarism,MultipleSubmissions,Collusion,Lying,andBribery.

Plagiarism, or copying the words of others with the intent of making it look like your own. Whether you use someone else's phrase word for word, or whether you try and change a few words, or even if you just borrow someone else's original idea and don't give them credit, that's unethical. Use your own words whenever possible, give credit to wherever, and put direct quotes inside quotation marks. **Cheating**
Involves trying to trick me or others into thinking you did work that you did not do.

Searching the Internet for homework solutions and copying what you find is considered cheating.

Searching the Internet for help on a topic is okay. For example, suppose a question asks, "What are Newton's Laws of Motion." Typing that phrase into any internet search engine and cutting and pasting the text in the answer box is considered cheating. Typing "What are Newton's Laws of Motion" into any internet search engine, reading a few web pages, and summarizing the information in your own words is not cheating. *Borrowing a previous student's homework, exams, or solution sets is considered cheating.*

Collusion is defined as working with another person to cheat. This can include copying someone else's answers to an exam or assignment, doing work for another student, buying or otherwise obtaining homework/exam solutions from any source online or offline, or any other instance of multiple people engaging in some form of Cheating or Dishonesty. Working with other students on an assignment is fine as long as everyone contributes, and each student does their work."

If you have any doubt whatsoever whether a specific action is considered dishonest, please ask me *before* engaging in the activity. There is no need to be embarrassed about asking, and I will not penalize you for asking!

IMPORTANT POLICIES AND RESOURCES

Academic Accommodations for Individuals with Disabilities: Texas A&M University-San Antonio is committed to providing all students with reasonable access to learning opportunities and accommodations in accordance with The Americans with Disabilities Act, as amended, and Section 504 of the Rehabilitation Act. If you experience barriers to your education due to a disability or think you may have a disability, Disability Support Services is located in the Central Academic Building, Suite 210. You can also contact us via phone at (210) 784-1335, visit us https://www.tamusa.edu/Disability-Support-Services/index.html or email us at **dss@tamusa.edu**. Disabilities may include, but are not limited to, attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability-related needs with Disability Support Services and their instructors as soon as possible.

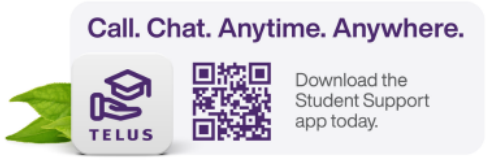
Academic Learning Center: The Academic Learning Center provides free course-based tutoring to all currently enrolled students at Texas A&M University-San Antonio. Students wishing to work with a tutor can make appointments through the Brainfuse online tutoring platform. Brainfuse can be accessed in the *Tools* section of Blackboard. You can contact the Academic Learning Center by emailing tutoring@tamusa.edu, calling (210) 784-1307, or visiting the Central Academic Building, room 202.

Counseling/Mental Health Resources: As a college student, there may be times when personal stressors interfere with your academic performance and negatively impact your daily functioning. If you are experiencing emotional difficulties or mental health concerns, support is available to you through the Student Counseling Center (SCC). To schedule an appointment, call 210-784-1331 or visit Madla 120.

All mental health services provided by the SCC are free and confidential (as the law allows). The Student Counseling Center provides brief individual and group therapy, crisis intervention, consultation, case management, and prevention services. For more information on SCC services visit tamusa.edu/studentcounseling

Crisis support is available 24/7 by calling the SCC at 210-784-1331 (after-hours select option '2').

Additionally, the TELUS Student Support App provides a variety of mental health resources to including support for in the moment distress, an anonymous peer to peer support network, mental health screenings, podcasts, and articles to improve your mental wellbeing.



Emergency Preparedness: JagE Alert is Texas A&M University-San Antonio's mass notification. In the event of an emergency, such as inclement weather, students, staff and faculty, who are registered, will

have the option to receive a text message, email with instructions and updates. To register or update your information visit: https://tamusa.bbcportal.com/.

More information about Emergency Operations Plan and the Emergency Action Plan can be found here: https://www.tamusa.edu/about-us/emergency-management/.

Download the SafeZone App (https://safezoneapp.com/) for emergencies or call (210) 784-1911. Non-Emergency (210) 784-1900.

Financial Aid and Verification of Attendance: According to the following federal regulation, 34 CFR 668.21: U.S. Department of Education (DoE) Title IV regulation, a student can only receive Title IV funds based on Title IV eligibility criteria which include class attendance. If Title IV funds are disbursed to ineligible students (including students who fail to begin attendance), the institution must return these funds to the U.S. DoE within 30 days of becoming aware that the student will not or has not begun attendance. Any student receiving federal financial aid who does not attend by the census date will have their financial aid terminated and returned to the DoE. Please note that any student who stops attending at any time during the semester, a Care report will be submitted, and you will possibly be dropped from the class. Your financial aid may have to be recalculated and a portion of your federal aid may have to be returned to the DoE.

Writing, Language, and Digital Composing Center: The Writing, Language, and Digital Composing Center supports graduate and undergraduate students in all three colleges as well as faculty and staff. Tutors work with students to develop reading skills, prepare oral presentations, and plan, draft, and revise their written assignments. Our language tutors support students enrolled in Spanish courses and students composing in Spanish for any assignment. Our digital studio tutors support students working on digital projects such as eportfolios, class presentations, or other digital multimedia projects. Students can schedule appointments through JagWire under the Student Services tab. Click on "Writing, Language, and Digital Composing Center" to make your appointment. The Center offers face-to-face, synchronous online, and asynchronous digital appointments. More information about what services we offer, how to make an appointment, and how to access your appointment can be found on our website at https://www.tamusa.edu/academics/.

Meeting Basic Needs: Any student who has difficulty affording groceries or accessing sufficient food to eat every day or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to submit a CARE referral (https://www.tamusa.edu/university-policies/Student-Rights-and-Responsibilities/file-a-report.html) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to direct you to available resources.

Military Affairs: Veterans and active-duty military personnel are welcomed and encouraged to visit the Office of Military Affairs for any question involving federal or state VA Education Benefits. Visit the Patriots' Casa building, room 202, or to contact the Office of Military Affairs with any questions at military.va@tamusa.edu or (210)784-1397.

Religious Observances: Texas A&M University-San Antonio recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or course work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes for regular session classes.

The Six-Drop Rule: Students are subject to the requirements of Senate Bill (SB) 1231 passed by the Texas Legislature in 2007. SB 1231 limits students to a maximum of six (6) non-punitive course drops (i.e., courses a student chooses to drop) during their undergraduate careers. A non-punitive drop does not affect the student's GPA. However, course drops that exceed the maximum allowed by SB 1231 will be treated as "F" grades and will impact the student's GPA.

Statement of Harassment and Discrimination: Texas A&M University-San Antonio is committed to the fundamental principles of academic freedom, equal opportunity, and human dignity. To fulfill its multiple missions as an institution of higher learning, A&M-San Antonio encourages a climate that values and nurtures collegiality and the uniqueness of the individual within our state, nation, and world. All decisions and actions involving students and employees should be based on applicable law and individual merit. Texas A&M University-San Antonio, in accordance with applicable federal and state law, prohibits discrimination, including harassment, on the basis of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation, gender identity, gender expression, or pregnancy/parenting status. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the appropriate offices within their respective units.

Texas A&M University-San Antonio faculty are committed to providing a safe learning environment for all students and for the university as a whole. If you have experienced any form of sex- or gender-based discrimination or harassment, including sexual assault, sexual harassment, domestic or dating violence, or stalking, know that help and support are available. A&M-San Antonio's Title IX Coordinator can support those impacted by such conduct in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. The university strongly encourages all students to report any such incidents to the Title IX Coordinator. Please be aware that all A&M-San Antonio employees (other than those designated as confidential resources such as counselors and trained victim advocates) are required to report information about such discrimination and harassment to the university. This means that if you tell a faculty member about a situation of sexual harassment, sexual violence, or other related misconduct, the faculty member must

share that information with the university's Title IX Coordinator (titleix@tamusa.edu, 210-784-2061, CAB 439K). If you wish to speak to a confidential employee who does not have this reporting requirement, you can contact the Student Counseling Center at (210) 784-1331 or visit them in Madla 120.

Pregnant/Parenting Students: Texas A&M-San Antonio does not require a pregnant or parenting student, solely because of that status or issues related to that status, to (1) take a leave of absence or withdraw from their degree or certificate program; (2) limit the student's studies; (3) participate in an alternative program; (4) change the student's major, degree, or certificate program; or (5) refrain from joining or cease participating in any course, activity, or program at the University. The university will provide such reasonable accommodations to pregnant students as would be provided to a student with a temporary medical condition that are related to the health and safety of the student and the student's unborn child. These could include maintaining a safe distance from substances, areas, and activities known to be hazardous to pregnant individuals and their unborn child; excused absences because of illness or medical appointments; modified due dates for assignments; rescheduled tests/exams; taking a leave of absence; and being provided access to instructional materials and video recordings of lectures for excused absences, if these would be provided to any other student with an excused absence. Pregnant/parenting students are encouraged to contact the Title IX Coordinator with any questions or concerns related to their status (titleix@tamusa.edu; 210-784-2061; CAB 439K).

Texas A&M-San Antonio has also designated the Title IX Coordinator as the liaison officer for current or incoming students who are the parent or guardian of a child younger than 18 years of age. The Title IX Coordinator can provide students with information regarding support services and other resources.

Students' Rights and Responsibilities: The following statement of students' rights and responsibilities is intended to reflect the philosophical base upon which University Student Rules are built. This philosophy acknowledges the existence of both rights and responsibilities, which is inherent to an individual not only as a student at Texas A&M University-San Antonio but also as a citizen of this country.

Students' Rights

1. A student shall have the right to participate in a free exchange of ideas, and there shall be no University rule or administrative rule that in any way abridges the rights of freedom of speech, expression, petition and peaceful assembly as set forth in the U.S. Constitution.
2. Each student shall have the right to participate in all areas and activities of the University, free from any form of discrimination, including harassment, on the basis of race, color, national or ethnic origin, religion, sex, disability, age, sexual orientation, gender identity, gender expression, and pregnancy/parenting or veteran status in accordance with applicable federal and state laws.
3. A student has the right to personal privacy except as otherwise provided by law, and this will be observed by students and University authorities alike.

4. Each student subject to disciplinary action arising from violations of university student rules shall be assured a fundamentally fair process.

Students' Responsibilities

1. A student has the responsibility to respect the rights and property of others, including other students, the faculty, and administration.
2. A student has the responsibility to be fully acquainted with the published University Student Rules found in the Student Handbook, Student Code of Conduct, on our website, and University Catalog, and to comply with them, as well as with federal, state, and local laws.
3. A student has the responsibility to recognize that student actions reflect upon the individuals involved and upon the entire University community.
4. A student has the responsibility to recognize the University's obligation to provide a safe environment for learning.
5. A student has the responsibility to check their university email for any updates or official university notifications.

We expect that students will behave in a manner that is dignified, respectful, and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation, or disability. Conduct that infringes on the rights of another individual will not be tolerated. Students are expected to exhibit a high level of honesty and integrity in their pursuit of higher education. Students engaging in an act that violates the standards of academic integrity will find themselves facing academic and/or disciplinary sanctions. Academic misconduct is any act, or attempt, which gives an unfair advantage to the student. Additionally, any behavior specifically prohibited by a faculty member in the course syllabus or class discussion may be considered as academic misconduct. For more information on academic misconduct policies and procedures please review the Student Code of Conduct (https://www.tamusa.edu/university-policies/student-rights-and-responsibilities/documents/Student-Handbook-2022-23.pdf) or visit the resources available in the OSRR website (https://www.tamusa.edu/university-policies/student-rights-and-responsibilities/academic-integrity.html).