

Syllabus – Fall 2023
PHYS 1102-03L General Physics II Laboratory
Location- Room No. 379, Science Building
F 11 am-1.30 pm.

Instructor: Dr. G. Ajith Kumar

Email: agangadhara@tamusa.edu

Office hours-F 7.30 to 8.30 am in room no 379.

Contact: All contact should only be via TAMUSA email (agangadhara@tamusa.edu). Expect a reply within 24-48 business hours.

NOTE: The subject of the email messages to the instructor must begin with your course and section no followed by a brief description of the subject.

For example- sub: 1102-your section No?

An issue with lab No?

If you do not follow this convention, expect delays.

Course Description: A laboratory introduction to waves, electricity, and magnetism. The classical theory of fields will be used to study electric and magnetic phenomena. The course emphasizes scientific communication and collaboration as well as measurement methods, uncertainty in measurement, and Basic error analysis. Co-requisite: PHYS 1302. Prerequisite: TSI Reading/Writing/Math.

Course Objectives:

Critical Thinking: Students will understand the use of logical discussion and analysis through one or more such activities as comparing and contrasting multiple viewpoints, explaining logical discussion, inferring conclusions, and explaining the use of the scientific method.

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.

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.

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 in laboratory notebooks and communicate experimental results clearly in written reports.
3. Solve problems involving the inter-relationship of fundamentally charged particles, and electrical forces, waves, fields, and currents.

Textbook: There is no published laboratory manual or the 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**. So be **HERE** and be **ON TIME!** Absences are recorded, without exception, from the official date of enrollment. If you are unable to do a lab for personal reasons, you need to communicate by email. If there is an emergency, please let me know as soon as possible.

2. Tardy policy- Students who arrive more than **30 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 quiz: Before you begin the experiment, read the theory part of the lab manual, and complete the online lab quiz available on Blackboard. The quiz must be completed before you start the next experiment.

5. Lab Reports – Lab reports are due at the beginning of the following lab session and must be submitted as a printout. Example-If you do a lab on Monday then your report is due next Monday. For late lab reports, 10 points will be deducted every day and lab reports more than a week late will not be accepted and will be assigned a zero. **A student that does not turn in 4 or more lab reports will receive an automatic ‘F’ in the lab course. Also, lab reports are strictly not accepted via email.**

6. Lab Group: Students can choose their own group for each lab session. Each group must write their individual names on the submitted lab report. Laboratory groups must have **NO MORE THAN FOUR (4) STUDENTS EACH!** One group has to submit a joint lab report only with all their names on the report.

7. 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.

8. 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. You can verify your answers by comparing them with the lab solution manual.

9. No make-up Labs, but in case you miss a lab, you should contact me by email, at least one week in advance, or 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. **Examples of valid documented excuses are sickness documented with a doctor's note, death in the family documented with a copy of the death notice, attending university-sponsored events, and US military functions.**

Technology Requirements:

Please contact I.T. (helpdesk@tamusa.edu/ call 210 784 4357) at TAMUSA with any technology-related questions, ASAP. You can keep me in the loop, and please ask all IT-related questions to IT department.

You need.

- A working computer /Laptop, with Windows, Mac, or Chromebook Operating system. 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 disconnect and use. **NB-If you bring a Mac computer please learn how to use it properly especially Excel. I will be using only Windows for all lab activities.**
- Proper internet connection
- Software to read/ write Word, to plot graphs with Excel and PDF documents.
- A basic-level scientific calculator. If you have an advanced scientific calculator, make sure that you know how to use it properly. 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

1. Cell phones should be turned off and 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. You are not permitted to leave early unless given explicit permission from the lab instructor, and your group members indicate that you are done with the lab. Leaving before the lab work is completed will result in you being counted absent from that lab. Before leaving the class, please get a verification signature from the instructor on your lab data to make sure that your data are correct.
6. When you submit the lab report, please sign to verify that you submitted the report.
7. **Lab safety and policies:** 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. Please follow these policies for your own safety and good lab experience. 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>

Room NO 379 Science building Tentative Laboratory Schedule.

	Day	Lab Activity
1	09/01	Introduction, Basic mathematics, and, plotting graph
2	09/08	Math skill test(no class)
3	09/15	Standing Waves on a String
4	09/22	Resonance and speed of sound
5	09/29	Simple harmonic motion
6	10/06	Conservation of angular momentum
7	10/13	Coulomb`s law (Online)
8	10/20	No class
10	10/27	Capacitors
11	11/03	No class
12	11/10	Ohms Law, factors affecting electrical resistance
13	11/17	Series, and Parallel Circuits

GRADE BREAKDOWN FOR THE LABS

Lab reports average	70%
Daily quizzes average	20%
Class Participation credit	10%
Total	100%

LETTER GRADE

A = 90 - 100	B = 80 - 89	C = 70 - 79	D = 60 - 69	F = 0 - 59
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NB: Please do not look at the default total grade on the blackboard. Your total grade was calculated using the formula 10% attendance average+20% quiz average+70% lab report average.

Lab Report Format

Please go to <https://tamusa.blackboard.com>, select your course and go to **Course content** on the left side and look for the sample **lab report**. Download the sample lab report.

1. Cover page – It is to be filled out, with the correct course no, section, date of submission, and group member's name. Don't make your own cover page, but instead, use the template provided along with the lab manual.

2. Introduction – A short paragraph explaining the purpose of the lab, the theory the lab examines, and what the lab consists of you doing. In most cases, you can keep the content the same as in the lab manual.
3. Theory- keep the content the same as in the lab manual.
3. Experimental setup- keep the content the same as in the lab manual.
4. The completed worksheets – They are to be neat, and clean, the material organized in order, and with the work or calculations shown. You can either type them or manually write them.
5. Any graphs or additional work that could not fit on the provided worksheets are to be attached behind the worksheets and organized in the order they are asked for on the worksheets. You can plot graphs either manually on graph paper or plot them in Excel.
6. Conclusion-About 300 words. Please write clearly how you conclude your experiments based on the data and analysis.

1102-03L 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.

Follow these rules during report submission and lab experiments.

- Only one printed report for each group
- Enter all data into the lab manual Word file, write an analysis, show important calculations, and graphs, answer all questions, add a conclusion, convert into a PDF form, and print the report.
- It is strongly recommended to enter all data into the lab manual file on your computer instead of writing them in the printed manual.
- Do not modify anything in the lab manual. All analysis questions must be answered in the same way as appears in the manual.
- In case you do not want to work as a group, you can submit an independent report.
- Complete the lab quiz before you start the next experiment.
- Before you start the experiment, read the manual carefully and follow the instructions.
- Before you leave the class show me all the data so that I can verify that it is good.

Lab report Rubric

Items	Points		
	Excellent	Good	Poor
Cover page	5	4	3
Introduction	5	4	3

Theory	10	8	6
Experimental setup	5	4	3
Data	30	24	18
Analysis	40	32	24
Conclusion	5	4	3

Excellent-All components are neatly presented and no improvements are needed. Good-Overall good report with enough data, analysis, and conclusion. Poor-Need a lot of improvements and missing several components. Wrong data, analysis, graphs, and conclusions.

Academic Calendar:

<http://www.tamusa.edu/provost/academicresources/academiccalendar.html>

ACADEMIC INTEGRITY:

We take this very seriously!!!

(See

<https://www.tamusa.edu/studentengagementsuccess/studentrightsandresponsibilities/academicmisconduct/index.html>

"According to the Student Code of Conduct, the following are violations of Academic misconduct: Cheating, Plagiarism, multiple submissions, Collusion, Lying, and bribery.

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.

O *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."

Overall, 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 Persons with Disabilities: The Americans with Disabilities Act Amendments Act (ADAAA) of 2008 and the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights protection for persons with disabilities. Title II of the ADAAA and Section 504 of the Rehabilitation Act require that students with disabilities be guaranteed equal access to the learning environment through the provision of reasonable and appropriate accommodation of their disability. If you have a diagnosed disability that may require an accommodation, please contact Disability Support Services (DSS) for the coordination of services. The phone number for DSS is (210) 784-1335 and email is dsupport@tamusa.edu.

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 Resources: As a college student, there may be times when personal stressors interfere with your academic performance and/or 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 Modular C, Room 166 (Rear entrance).

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.

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

For more information and self-help resources, please visit www.tamusa.edu/studentcounseling

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 Preparedness and the Emergency Response Guide can be found here:

<https://www.tamusa.edu/uploadfile/folders/sdbowen23/pdf/pdf-635073426137928167-10.100.20.116.pdf>

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. Faculty will provide the Office of Financial Aid with an electronic notification if a student has not attended the first week of class. Any student receiving federal financial aid who does not attend the first week of class will have their aid terminated and returned to the DoE. Please note that any student who stops attending at any time during the semester may also need to return a portion of their federal aid.

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 contact the Dean of Students (DOS@tamusa.edu) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to provide any resources they may possess.

Military Affairs: Veterans and active-duty military personnel are welcomed and encouraged to communicate, in advance if possible, and special circumstances (e.g., upcoming deployment, drill requirements, disability accommodations). You are also encouraged to visit the Patriots' Casa in person room 202, or to contact the Office of Military Affairs with any questions at military@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 traditions. Under the policy, students are provided an opportunity to make up any examination, study, or 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.

Respect for Diversity: We understand that our students represent diverse backgrounds and perspectives. When we are equity-minded, we are aware of differences and inequalities and are willing to discuss them so we can act to resolve them. The University is committed to building cultural competencies, or the attitudes, skills, and knowledge that enable individuals and organizations to acknowledge cultural differences and incorporate these differences in working with people from diverse cultures. Respecting and accepting people different than you is vital to your success in the class, on campus, and as a future professional in the global community. While working together to build this community we ask all members to:

- Share their unique experiences, values, and beliefs.
- Be open to the views of others.
- Honor the uniqueness of their colleagues.
- Value each other's opinions and communicate respectfully.
- Keep confidential discussions that the community has of a personal (or professional) nature.
- Use this opportunity together to discuss ways in which we can create an inclusive environment in this course and across the A&M-San Antonio community.

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, equality of 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, diversity, pluralism, 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, or gender expression. 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 or 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 responsibility, you can contact the Student Counseling Center at (210) 784-1331, Modular C.

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, 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, University Catalog and to comply with them, as well as 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 an environment for learning.
5. A student has the responsibility to check their university email for any updates or official university notification.

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. Behaviors that infringe 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](#).

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://bit.ly/WLDCCenter>.

Important Dates:

August 28	First day of class
November 10	Last day to drop with an automatic "W"
November 21	Last day to drop a course or withdraw from the University
November 22	Study Day – No classes
November 23-25	Thanksgiving Holiday – University closed
December 7	Last day of classes
December 8	Study Day – No classes
December 9-15	Final exams

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

Covid -19 Protocol

Indicators for positive COVID-19 cases are no longer posted to the [Community. Safety. TOGETHER](#) microsite as of May 15.

- COVID-19 case management will no longer be conducted.
- The reporting portal will no longer be used to make second-hand reports about individuals who have revealed they are a positive, exposure, or symptomatic case.
- Exposure cases and symptomatic cases are no longer required/asked to report; only positive cases are required to report. Students and employees are required to complete the online [COVID-19 Reporting Portal form](#) if they test positive for COVID-19. This includes results from a home Rapid Test.
- Once a positive report is made, individuals will receive automated feedback documenting their status and will receive information about completing a Return to Campus form at the conclusion of their expected period of isolation. Once the Return to Campus form is submitted, they will receive automated feedback whether they are able to return to campus or not.
- As it pertains to COVID-19, faculty/supervisors will no longer receive a formal letter from the University (Dean of Students Office or Human Resources Department) documenting the release of a student or employee to return to campus. It is the responsibility of the student/employee to fill out the [Return to Campus form](#) and present to their respective professors and/or supervisor documentation of their approved return to campus.
- The Self Wellness Screen (Health Self-Screen Form) found on the Jaguar App may still be accessed and used to help determine if an individual should be on campus or not. Continued self-screening is encouraged for all, as is the continued practice of refraining from coming to campus if symptomatic.

In addition, there have been significant changes to our [Community. Safety. TOGETHER.](#) microsite to consolidate and condense information. Resources and updated information will still be available on the microsite, including archives of what was previously communicated and featured on the site.

If you have questions regarding updates to our COVID-19 guidelines, here are sources you can reach out to depending on your question:

- General questions regarding COVID-19 protocol: safety@tamusa.edu
- Student concerns: dos@tamusa.edu
- Instructional or classroom needs: officeofacademicaffairs@tamusa.edu