



**PHYS 1310L G-Calculus-Based Physics I Lab** section name section credit  
hours Credits  
Syllabus

## Course Information

**Meeting times and location:** section meeting\_times section location

**Catalog description:** A series of laboratory experiments associated with the material presented in Calculus-based Physics I. Students will apply the principles and concepts highlighting the main objectives covered in coursework for Calculus-based Physics I. Co-requisite: Calculus-based Physics I

**Prerequisites:** PHYS-1310(PHYS-215) and MATH-1510(MATH-188) as a Pre or Corequisite PHYS-1115(PHYS-121)

**Terms offered:** Spring Only

**Section-specific Course Description:**

## Course Level Objectives

Upon completion of this course, the student will be able to:

1. Develop a reasonable hypothesis.
2. Work effectively as part of a team.
3. Take measurements and record measured quantities to the appropriate precision.
4. Estimate error sources in experimental techniques.
5. Apply appropriate methods of analysis to raw data, including using graphical and statistical methods via computer-based tools.
6. Determine whether results and conclusions are reasonable.
7. Present experimental results in written form in appropriate style and depth.
8. Experience the relationship between theory and experiment.

# General Education Student Learning Outcomes

This course meets the requirements set forth by the state of New Mexico for a general education course that is transferable to any public institution of higher education in New Mexico. Each general education course addresses three essential skills as outlined in the table below.

<b>General Education Content Area</b>	<b>Essential Skills Associated with the Content Area</b>
Communication	Communication, Critical Thinking, Information & Digital Literacy
Creative and Fine Arts	Communication, Critical Thinking, Personal & Social Responsibility
Humanities	Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
Mathematics	Communication, Critical Thinking, Quantitative Reasoning
Science	Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
Social & Behavioral Sciences	Communication, Critical Thinking, Personal & Social Responsibility

For further information on the Essential Skills, visit the [General Education Essential Skills](#) page.

## Required Texts and/or Materials

**No textbook is required for this course. Lab project instructions will be available on Canvas and handed out by the instructor.**

**Students will need:**

**Scientific or Graphing Calculator  
protractor  
straight edge (ruler).**

**Lab Notebook. All data, observations, calculations, and graphs must be recorded into a laboratory composition book with graphing paper. The lab book must contain a table of contents and each page clearly numbered. All information must be presented on one side of a page and occasionally they will be collected for a grade.**

## Required Technology and Software

- Canvas
- Chrome, Safari, or Firefox

## Technical Support

Technical support is available through the San Juan College Help Desk 24/7/365. The help desk can be reached at 505-566-3266 or by creating a ticket at [San Juan College Help Desk](#).

For tickets and password reset: [San Juan College Help Desk](#)

For Canvas support information: [Canvas Support](#)

## Accessibility/Privacy Policies for all Technology Tools Used

[Accessibility/Privacy Policies for all Technology Tools Used](#)

## Course Requirements

**OUTLINED LAB REPORTS:** All reports must be typed and follow the Format Guidelines for a Formal Report (See below). The outlined content must be presented in bullet format and its grade will depend upon presentation and compliance to follow the format guidelines.

**CLASS PRESENTATION:** The results of each experiment will be presented to the class in the form of an oral report by a team of presenters. The presenters must be dressed in professional attire and present their information using presentation software such as

Microsoft Power Point. Presentations should be no longer than 15 minutes and will be followed by an additional 5-minute question and answer period. Team members are expected to equally share the responsibility of presenting and organizing the report. Grades are determined by peer review methods and based on the presenter's ability to quantitatively and qualitatively analyze their results.

**FORMAL LAB REPORT FOR CLASS PRESENTATION:** Within seven days of completing a class presentation the presenting team is required to submit a formal group report of their presentation. The contents of the report must follow the Guidelines for Formal Reports (See below). Before the group report can receive a grade two actions must occur. First, each member of the team must acknowledge that they approve of the final draft of the formal report by signing the cover page of the report. Second, each team member must submit a confidential review of themselves and their teammate's efforts and performance.

**HOMEWORK:** Occasionally you will be asked to submit homework that might include but not be limited to; creating graphs, analyzing data, performing error propagation, and writing short reports. These assignments will be assigned at the discretion of your instructor.

#### **GUIDELINES FOR PRESENTING WRITTEN LAB REPORTS:**

1. **Title Page:** The title page should include the title of the experiment, date of the experiment, the date of the report, the name of the author ("written by..."), and the names of the team members that assisted with the experiment ("in collaboration with...").
2. **Abstract:** A brief summary of the experiment. It should state the objective of the experiment, your hypothesis, the methods used, and outcome of the experiment.
3. **Background Information:** Establish the history and background information about the physics involved in the experiment. Additionally it should be used to derive of all equations for the experiment or explain their origins.
4. **Methods and Materials:** Clearly establishes the methods and materials used to test your hypothesis. It should be written in such a manner that anyone could duplicate the experiment.
5. **Summarized Results:** Final results should be presented into a table, in compressed form, for easy analysis (reams of raw data are not necessary).
6. **Graphs:** Should be included if they are used to analyze data.
7. **Formulas:** List important formulas.
8. **Uncertainty in measurement, Sources of Error, and Error Calculations:** List the uncertainty of each measuring device used. Identify reasonable sources of systematic and random error that are unique to the experiment. Provide the results of any important error calculations performed.
9. **Analysis:** Discuss the correlations between trends in the data and correlate it to your hypothesis. Go beyond the obvious and make "discoveries".

10. Conclusion: A quick summary of the key results that act as an aid to refresh the reader's memory. State if your hypothesis is agreement with your results. Identify methods that might be used to improve the experiment for future research. Point out the significance of the experiment and point out how it relates to the field of interest.
11. Bibliography.

## COVID Safe Practices for Being on Campus

Masks / cloth face coverings must be worn while on campus in accordance with the New Mexico public health order. If you feel that you cannot wear a mask due to health complications, please contact Disabilities Services:

[disabilityservices@sanjuancollege.edu](mailto:disabilityservices@sanjuancollege.edu) or call (505) 566-3271. Hand sanitizer stations are at all building entrances, please "wash in, wash out"--clean your hands when you enter and before you leave. Classrooms and labs have been arranged to allow for social distancing; please respect your classmates and instructors by staying 6 feet away from everyone. You will be expected to disinfect your table or area prior to class and after class, cleaning products will be provided for this purpose. Check with your instructor for specific policies for their course. Please do not congregate in hallways or common areas, instead utilize our beautiful outside spaces and weather to visit with your friends and colleagues from a safe distance.

If you have been in contact with anyone who has tested positive for COVID-19, has symptoms, or is waiting on test results, contact your instructor and DO NOT come to class. If you have tested positive, have symptoms or are waiting on test results, contact your instructor and DO NOT come to class. Your health care provider or the assigned contact tracer will let you know when it is safe for you to be around others.

## Student Support

### **Student Services and Support**

The Student Support webpage provides information on counseling, tutoring, technical support, and many other support services available to San Juan College students.

[Student Support](#)

### **Academic Support**

Academic Support webpage provides information on academic advising, the library, Testing Center, and the honors program.

[Academic Support](#)

## Participation and Attendance Policy

Attendance for the labs is critical in this course! Missing excessive labs (number to be determined by the instructor) will cause you to fail the course.

Students who must miss a lab for a valid reason, need to notify the instructor prior to the start of the lab to make arrangements if a make-up lab is possible. Unexcused labs cannot be made up.

## Other Classroom Policies and Expectations

Unless your instructor has given you approval, your cell phone must be turned off and put away for the duration of the class. During lecture, you will not be allowed to that leave the classroom to make or receive cell phone calls. Students, that violate these rules or check email and other non-course materials on a computer during class, will be asked to leave the class immediately and will not be allowed to return until the next class meeting. This policy will be strictly enforced.

## Canvas Participation and Expectations

Student are expected to log into Canvas at least twice a week to check grades and check for messages from the instructor.

## Instructor Response Time

Monday through Thursday the instructor responds within 48 hours, usually sooner. Friday through Sunday, the instructor may not respond until Monday. The instructor typically grades and returns work within 7 days.

## Course Time Commitment

Most of the coursework will be completed during lab time. However, some out-of-class time will be required to complete lab reports and submit the work.

## Grading

Final grades are calculated based on the following...

Category	Weight
Attendance	10%
Reports and Homework	70%
Class Presentation	10%
Formal Report	10%

## Key Dates to Remember

[Full Academic Calendar](#)

## Course Schedule

Exact schedule with due dates will be determined by instructor. See Course Requirements for general information on assignment expectations.

## College Policies

The following information also applies to your work in this class. If you have special needs for campus emergency situations, please inform me immediately.

### 1. **Academic Accommodations - American with Disabilities Act (ADA)**

If you believe you need academic accommodations due to physical or learning disabilities, you are encouraged to inform them as soon as possible. The coordinator can work with you in verifying your disabilities and developing accommodation strategies. Please go to [Disability Services Office](#), click the button for "Request for Services" and complete all the steps.

You can also contact the college's disability coordinator in the Advising/Counseling Center at 566-3271 or [disabilityservices@sanjuancollege.edu](mailto:disabilityservices@sanjuancollege.edu). More information is available on the website listed above.

### 2. **The Family Educational Rights and Privacy Act (FERPA)**

Your personal information and grade are confidential. Aside from routine reporting to the college required for this course, I will not share such information with anyone unless I have your permission.

### 3. **Academic Honesty Rules**

San Juan College expects all students to adhere to the [Academic Honesty Rules](#) as posted online. These are the official guidelines for all classes at San Juan College (July 2006).

#### **4. Student Conduct Statement**

College is preparation for professional opportunities, and professional conduct is expected in courses, including online classes, as well as any written communications, and interactions with members of the college community. As part of our learning community, students are expected to interact and communicate in a mature, respectful, thoughtful, and supportive manner. Students who demonstrate disrespectful, hostile, belittling, bullying or other disruptive behavior will be subject to potential consequences and possible dismissal from the college. The college will take appropriate action when students demonstrate threatening behavior (to others or self). Students should refer to the Code of Conduct in the Student Handbook for additional information.

#### **5. Student Safety**

Keeping students safe is a priority, and part of that is ensuring that we have the ability to communicate emergency messages – whether for school closures due to weather or for more or urgent situations. Rave is San Juan College’s emergency messaging system. Through your SJC student email, you will automatically receive email messages, however, it is also vital that you receive text messages. In order to receive the messages, you must register in a simple process with [Rave](#). When registering, please make sure that your mobile status is “confirmed.”

The Department of Public Safety is available 24 hours per day. In an emergency, they can be accessed by calling 215-3091 or 566-3333.

In the event of an emergency, a Rave message will be sent, and depending on the situation, you will be instructed to do one of the following:

- Evacuate the building
- Shelter in place (Campus doors are locked, and operations continue as normal. During this situation, no one other than law enforcement is allowed in or out of the campus.)
- Lockdown (Campus doors are locked. All operations cease, and you should take cover in your immediate area. No one other than law enforcement is allowed in or out of the campus.)

#### **6. Non-Discrimination, Sexual Harassment, and Retaliation.**

San Juan College does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age, genetic, veteran’s status, or on the basis of any other category protected under federal, state and local laws. If you have experienced sexual harassment, sexual assault, or any other form of protected class discrimination, we encourage you to make a report. If you report to a faculty member, she/he/they are obligated by policy to share knowledge, notice, and/or reports of harassment, discrimination, and/or retaliation with the Title IX Coordinator. These disclosures include but are not limited to reports of sexual assault, dating/domestic violence, and stalking. You



may also make a confidential report to a SJC Counselor. Please refer to San Juan College's [Title IX](#) site for further details.

San Juan College's Title IX Coordinator is Stacey Allen, Assistant Director of Human Resources/Equity, Diversity, and Inclusion Officer. The office is located at the Educational Services Center Building, 2nd Floor, Human Resources, Room 4243 at (505) 566-3515 or [allens@sanjuancollege.edu](mailto:allens@sanjuancollege.edu).

## **7. Drop for Non-Attendance and/or Non-Participation**

### **Class Attendance and Participation Expectation:**

Face-to-Face -- Students are expected to attend and participate in class regularly. Any student missing more than 10% of consecutive class time, (For example, in a regular 15-week class that meets twice a week, this equates to the student missing 3 consecutive classes) without consultation with the instructor may be considered as having abandoned the course.

On-line -- Students are expected to participate regularly and submit all course assignments, based on the course guide definition. A student who does not submit any assignments during a consecutive 10% of the course (1.5 weeks of a 15-week semester) without consulting the instructor, may be considered as having abandoned the course. Logging in does not meet the attendance standard.

Competency-Based Education Classes -- Students are expected to have regular and substantive interactions with their instructor and to actively work on course content. A student who has not submitted coursework, nor had substantive interactions with the instructor over a consecutive 10% of the term, without the instructor's prior approval, will be considered to have abandoned the competency progression. Last date of attendance will be recorded as the last date that coursework was submitted or that the student met with the instructor. For on-line learners, logging in does not meet the attendance standard.

## **8. Failure to Meet Class Participation Expectation:**

Students who fail to meet participation expectations will have their last date of attendance recorded. This date will be used to recalculate any financial aid received/veteran's benefits received, and the student may be required to repay the institution/government. If the student does not drop the course, an 'X' grade will be recorded. An 'X' grade impacts the grade point average the same as an 'F'.

## 9. Grading Policies

### **Incomplete: Incomplete Grade Assignment** ([Incomplete Grades Information](#))

The grade of I (Incomplete) is given for passing work that could not be completed during the semester because of circumstances beyond the student's control. Ordinarily, the assignment of an I is given by the course instructor at the time final grades are due

In no case is an I grade to be used to avoid assignment of D or F grades for marginal or failing work or to require a student to enroll in the class the next semester because work was not completed on time. Circumstances warranting the issuance of an I grade must be beyond the student's control and must be documented on the appropriate form prior to approval.

I grades can be removed only during the subsequent 16 weeks from the end of term, or within the time limit set by the instructor. Removal of an I is accomplished by completing the work in a manner acceptable to the instructor. Re-enrollment in the course under the repeat option does not remove the prior grade of I. Students should not re-enroll for the course. An I not made up within 16 weeks or within the time limit set by the instructor will change to an F grade thereafter and cannot be changed by work completion.

## 10. Grade Appeals

The policy for grade appeals is in the Academic Catalog. ([Grade Appeal Policy](#))

# Student Handbook

The Student Handbook provides information on Student support, student organizations, and San Juan College policies.

[Student Handbook](#)