COURSE DESCRIPTION SPRING 2025

Course: General Physics Lab 205 (01:750:205)

Course Supervisor: Gabe Alba (alba@physics.rutgers.edu)

Sections, Days/Times, Locations

see the *Sections & Instructors PDF* in the Files section of Canvas for a list of sections, their days/times, and instructors (with email addresses)

This course is conducted in-person in one of the Physics lab rooms on Busch or Douglass; it is not an online or remote course (unless the University mandates a change of instructional mode). In-person attendance is mandatory - unless the student is required to quarantine due to illness or suspected illness.

If you are one of these students, you must first contact your TA to request prior permission to join your lab group via Zoom, otherwise you risk getting a zero on your lab report.

Learning Management System:

Canvas (https://rutgers.instructure.com/courses/331208)

Instructors – TAs and LAs

see the *Sections & Instructors PDF* in the Files section of Canvas for a list of sections, their days/times, and instructors (with email addresses)

Instructor Office Hours

Your TA will decide on their office hours upon consulting with the class, during or shortly after the first class meeting. TAs are required to devote at least one hour of total time per section, per week to this and must also be open to meeting with students at alternate times.

Technology Requirements:

A reasonably current (hardware and software) laptop, or a powerful tablet, with built-in webcam and microphone; the last two may be of use in case a lab partner needs to join their lab group remotely due to quarantine.

Since the vast majority of students have smartphones, they can also be used for incorporating pictures of hand drawings or equations into the electronic lab report, thanks to their very capable cameras. They may also be indispensable in cases of power outages in lab rooms, and for showing close-up of the apparatus to lab partners (as discussed above).

Lab reports will be written concurrently by lab partners on Google Docs and will be shared with TA and LA; they are to be submitted before the end of the lab period.

Learning Goals

This course is the first half of a two-semester survey course sequence that covers Introductory Physics at the university level. The topics to be covered include Newtonian Mechanics (Kinematics and Dynamics), Fluids, Thermodynamics and Waves. Students will be taught to collect, graph and analyze experimental data to either confirm a physical law already learned from lecture – or to discover the nature of a law themselves by using experimental techniques they have learned, to find relationships between variables and drawing scientific conclusions from these.

Academic Integrity

Although conversations with other groups in the same class are allowed, the work on each group's lab report is to be done only by its members; **sharing or copying of lab reports – whether in part or whole – with individuals or group from other lab groups in the same class or in another class is forbidden for both parties**. **Quizzes are strictly individual efforts; no sharing or copying with any individual or group is allowed**.

In addition, using "cheat" websites such as Chegg.com and CourseHero.com to find answers or solutions to questions on the lab write-up or quiz is also considered cheating – as is sharing these answers or solutions with others.

IMPORTANT: The use of A.I. (Artificial Intelligence) such as ChatGPT, Gemini or Copilot is not permitted in any stages of the writing process on any lab report or quiz.

Violations of any of the above can be construed as academic dishonesty. In addition, t**he use of others' work – not just from books and articles, but also from course material, including lecture slides, lecture recordings, presentations and other**

materials used in this course – constitutes theft of intellectual property. The University takes very seriously an author's rights to their intellectual property, which is protected by U.S. law. **Infringing on these rights is also a violation of academic integrity and can also have legal ramifications outside the University** (lawsuits by the owner of the intellectual property).

Please read this Guide For Students regarding Academic Integrity:

http://nbacademicintegrity.rutgers.edu/home/for-students/

as well as the University's Academic Integrity Policy:

https://policies.rutgers.edu/B.aspx?BookId=11914&PageId=459231

Additional Help

In addition to receiving assistance from your TA during their office hours, students are encouraged to take advantage of the University's academic support resources:

Learning Centers: https://rlc.rutgers.edu

Academic Advising for SAS students:

https://sasundergrad.rutgers.edu/advising/advising

Student Success resources: https://success.rutgers.edu

Course Material

There are no textbooks to purchase. Lab Manuals/Write-ups are provided at no extra cost, and can be found in the Files section of the Canvas:

https://rutgers.instructure.com/courses/331208/files

Self-Reporting Absence Application:

If you have been told to quarantine, or are experiencing symptoms of any transmittable disease, please remain at home and do not come to class. **Do contact your TA to inform them of your situation**; your TA may allow you to join your lab

group remotely if you are feeling well enough to do that. You should also report your absence to the Self-Reporting Absence Application. You can do this at this link (then press the *Continue to Report my Absence* button):

https://sims.rutgers.edu/ssra/

If you anticipate missing more than one week of classes for serious illness, confidential, or sensitive personal reasons, you should also consult with the Dean of Students who will help to verify your extended absences from classes.

Masking and COVID-19 Protocol

Wearing masks will **not** be required in the lab rooms, but **wearing a mask as personal choice is welcomed**.

Please note that *students are currently not required to provide proof of vaccination against COVID-19*.

Course Structure, Requirements, Policies

Assessment: The work to be submitted consists of Lab Reports and Quizzes. The final numerical grade is weighted from:

•Lab Reports (10/semester)…..60% of grade
•Quizzes (6/semester; lowest grade dropped)….40% of grade

Grading Scheme:

The final numerical grade is weighted from:
•Lab Reports (10/semester)…..60% of grade
•Quizzes (6/semester; lowest grade dropped)….40% of grade

The final letter grade will be determined by the following cutoffs:
•90 or above…A
•85 or above…B+
•80 or above…B
•75 or above…C+
•70 or above…C
•60 or above…D

•below 60……..F

All course material and announcements will be disseminated on Canvas, with email notifications sent from there. The class will be taught synchronously, meaning there will be a specific meeting time, **at which attendance is mandatory**, and will be led by a TA (Teaching Assistant), in most cases aided by an LA (Learning Assistant). Course material, in the form of PDF lab write-ups, and possibly Java or HTML5 simulations and short videos, will be posted on Canvas.

The lab class will consist of:

•An initial announcement by the TA pertaining to section information (during the first lab, e.g. TA office hours, email, etc). On subsequent labs, any announcement or assessment of previous lab or quiz, to discuss class performance on these and to clarify challenging parts encountered.

•A brief (~15min) introduction to the week's lab topic by the TA, including a demo of the lab apparatus, and discussion of associated theory and how it relates to the lab activities.

• Lab activities will include using lab equipment to perform experiments which students will observe and analyze, formulate theories to make predictions, or confirm theories, test and refine theories if necessary and draw conclusions.

•Submission of the group lab report, completed by the end of the period. The lab report grade will be shared by all group members. **Each lab partner will be required to contribute equally to the lab report, and this includes being on-time to your lab to collaborate with your lab group**. The *Version History* feature of Google Docs will enable the TA to see how much each lab partner contributed. Although the lab partners will share the lab report grade, points may be deducted from the lab partner who contributed relatively little to it, commensurate to the percentage less than a 100% contribution (where 100% is where a student contributed 1/3 to the total work of a trio of lab partners, or 1/4 to a quartet of lab partners).

• A quiz during 6 selected lab meetings, lasting ~15-20min and always at the start of the period. The quiz may be administered via paper, or through Canvas. In either case these are individual efforts and **collaboration is not allowed**. Quizzes may consist of multiple-choice, writing formulas, matching, ordering, numeric, file upload (including scans/photos of handwritten calculations and answers) - or a combination of any of these.

Make-up Labs: If you cannot attend your section, you should try to attend another one that same week; see the Sections & Instructors document in the Files section of Canvas. If that's not possible, usually only one special make-up lab is allowed during the semester, to be held near the end of the semester. If you have good reason for missing your lab:

- personal illness or injury
- special University work or research conflict, e.g. invited presentation
- serious illness or death in the family
- military service
- game or associated travel for University athletes

...please talk to your TA who will decide if you are entitled to a make-up lab. supporting evidence of your reason may be requested. Please consult the list of alternate sections, their instructors and emails in Files section of Canvas. Email your regular instructor as well as the instructor of the section in which you intend to make up your lab that same week, to ask for their permission. If granted, you should ask your lab partners in the make-up section to also share their Google Docs lab report with you.

Religious Holidays

Students should inform TAs in advance regarding missing class due to a religious observance. Here is a list of University-acknowledged religious observances. Students are strongly encouraged to make up the missed work in another section during that week (or that day, if applicable), if possible, so as to not lose any credit for the absence.

Instructor Complaints: Most of the instructors who teach in our Department are competent, respectful and fair individuals. Relatively rarely, we get serious complaints about ones who do not fit this description, and this detracts from their students' educational experience. Unfortunately, we get most of these complaints near the end of the semester, when students are concerned about their instructor's comportment or actions (or lack thereof) affecting their final grades.

We treat these complaints with the utmost seriousness and want to address the problem *as soon as possible* - and not near the end of the semester, when it is too late to do anything about it. We encourage you to first try to resolve the issue amicably with your instructor but, if that is not possible, you can contact us about your instructor issue - the complaint will be **anonymously (**you will not be identified) unless you expressly allow it. Feel free to email Gabe Alba at alba@physics.rutgers.edu regarding your serious instructor complaint.

Student Wellness Services

The university provides a number of resources to support your physical and mental well-being. Several valuable resources and listed here and you are encouraged to contact the Professor for more guidance about university resources.

Student Success Essentials: https://success.rutgers.edu
Student Support Services: https://www.rutgers.edu/academics/student-support
The Learning Centers: https://rlc.rutgers.edu/
Rutgers Libraries: https://www.libraries.rutgers.edu/
Bias Incident Reporting: https://studentaffairs.rutgers.edu/bias-incident-reporting

Dean of Students – Student Support Office: https://success.rutgers.edu/resource/dean-students-student-support-office
Office of Veteran and Military Programs and Services: https://veterans.rutgers.edu
Student Health Services: http://health.rutgers.edu/
Counseling, Alcohol and Other Drug Assistance Program & Psychiatric Services (CAPS): http://health.rutgers.edu/medical-counseling-services/counseling/
UWill: free immediate access to teletherapy; you can choose a therapist based on your preferences including issue, gender, language, ethnicity: http://health.rutgers.edu/uwill/
Office for Violence Prevention and Victim Assistance: http://vpva.rutgers.edu/
Office of Disability Services: https://ods.rutgers.edu/
Basic Needs Assistance (food, housing, and other essentials): https://ruoffcampus.rutgers.edu/basic-needs
Rutgers Student Food Pantry: https://ruoffcampus.rutgers.edu/food-pantry

Course Contacts and Administration

Your TA's name and email address can be found in the *Sections & Instructors PDF* document which lists all sections and TAs; it's in the Files section of Canvas.

Scheduling questions must be taken to Ms. Katherine Lam (klam@physics.rutgers.edu) of the Undergraduate Office, and not to a lab instructor. During the first lab session your TA will announce the course, section and day/time the class meets; make sure that it matches the class for what you had registered. If it isn't, check with the Registrar and have it fixed.

Contact the Course Supervisor (Gabe Alba, alba@physics.rutgers.edu) if you have any further questions. *Make sure you include your full name, course and section number*

in your email since the supervisor has over 1700 students every semester (hundreds in the summer).

Lab Schedule (**tentative – please check every before lab**)

WEEK BEGINNING Mon	**LAB**
1/20	**NO LAB**
1/27	Intro. to Experiment
2/3	Kinematics
2/10	Newton's Laws I
2/17	Newton's Laws II
2/24	**NO LABS**
3/3	Work, Energy & Circular Motion
3/10	Linear Momentum
3/17	**SPRING BREAK**
3/24	Rotational Dynamics
3/31	**NO LABS**
4/7	Fluids
4/14	Thermodynamics
4/21	Waves
4/28	**NO LABS**