

PHYS 2080: GENERAL PHYSICS II

Section: 004 (CRN: 16992)

Class meetings: T, TH 12:30 to 1:45 pm in Daniel Hall 100B+ (face-to-face at present+)

+The course modality may change temporarily due to pandemic situation, for additional details, check *Course Modality and Continuity Plan* section of the syllabus on page 2.

Time to Wait: 15 min after the class start time.

Course TA: Danielle Markowski

Virtual Office hours (via Zoom): By appointment only. Please sign up using the **Canvas "Calendar"** (available under the main canvas menu on the left side) to make an appointment for a zoom meeting. (**Zoom Meeting link:** <https://clemsun.zoom.us/j/7842072533>).

I have set up several 15 min slots in your Canvas "Calendar". Please sign up for the time slot you would like to meet with me (you can sign up for 2 slots if you need more time) by going to the Calendar link, selecting your PHYS 2080 course, and then reserving a specific time slot (for step-by-step sign-up instructions, please see [this link](#)).

Face-to-face office hours can be arranged through prior email appointment if needed.

IMPORTANT NOTE: Please ensure that your canvas settings allow the announcements and canvas emails forwarded to your Clemson email ID so that you can receive any important notifications in a timely manner.

[*tentative, subject to change- may be re-scheduled or cancelled (any changes and alternate options will be announced via email)]



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My teaching philosophy:

"The value of a college education is not the learning of many facts but the training of the mind to think."

— Albert Einstein

Please do not hesitate to reach out to me if you have any specific concerns any time during this semester; I will work with you to address those. I can only help you if you let me know.

COURSE DESCRIPTION

(Credit hours: 3) General Physics II is a continuation of PHYS 2070 and covers topics such as electricity, magnetism, electromagnetic waves, optics, and modern physics. Credit for a degree will be given for only one of PHYS 2080 or 2210.

This course is part of the Clemson Thinks2 (CT²) program, which is designed to improve your critical thinking ability. It is important to develop critical thinking ability rather than mere memorization of facts, as it is a vital skill set for your successful career in various fields. Critical thinking is a self-aware process of thinking in a clear and systematic way to gain a deeper understanding. Physics teaches you to think critically and logically using first principles approach. Most people need training in developing good critical thinking abilities. I have high expectations from you, and I am determined to provide scaffolded instruction and assistance so you can reach this goal and be successful. You are expected to complete assignments in a timely manner, review materials daily and seek help when needed. To develop this ability, you would work on

several in-class activities/assignments and homework assignments that involve defining and analyzing problems related to physics, identifying and evaluating options, inferring likely outcomes and probable consequences, evaluating and explaining the reasons. For more information, please visit: <http://www.clemson.edu/assessment/thinksz/>.

PREREQUISITES

The students are required to take PHYS 2070 or PHYS 1220 prior to taking this course.

COURSE MODALITY AND CONTINUITY PLAN

This is a fully in-person course. **Class attendance is required.** Students who may be unable to attend classes in-person due to medical reasons, quarantine, or other official excuses should reach out to the instructor for alternate arrangements within 24 hours of the missed class.

If the course needs to be moved to online modality temporarily during the semester for any reason (including but not limited to, significant number of students being in quarantine, instructor being unwell or requiring quarantine, etc.), an alternative method (e.g., synchronous online class meetings, or access to asynchronous video materials,) will be arranged depending on the situation. The detailed information will be emailed to students through canvas announcement if the course modality changes during the semester. If classes are held synchronously online via zoom during the semester, the zoom meetings will be treated as the regular class meetings and attendance will be expected. All class recordings (synchronous or in-person) will be posted in your canvas course for review later.

GENERAL EDUCATION REQUIREMENTS

Physics is a foundational science, forming a framework for the world around us, informing many of our daily activities and scientific inquiries. This course satisfies the general education competency (Ways of Knowing) for mathematics and natural sciences with the lab as evident in the lab reports of PHYS 2100. Students will demonstrate the process of scientific reasoning through experimental activity and critical comparison of their results to those predicted by accepted natural science principles. Students will also demonstrate the ability to assemble information relevant to a significant, complex issue, evaluate the quality and utility of the information, and use the outcome of the analysis to reach a logical conclusion about the issue.

Signature Assignment: The signature lab assignment is the 'Boiling Beets Lab'. Students follow experimental procedures, collect data, and analyze data to compare their results to accepted physical principles. For the lab, students collect calorimeter data to calculate the specific heat of an unknown material. The material is determined by comparing the determined specific heat to accepted values. Also, students experimentally determine the latent heat of water and compare it to the accepted value based on physical principles.

STUDENT LEARNING OBJECTIVES

1. Students will develop the ability to read, interpret and evaluate general scientific and numerical information.
2. Students will develop conceptual understanding and problem-solving skills for various topics such as thermodynamics, electricity, magnetism, optics, and modern physics.

- Students will demonstrate critical thinking ability using appropriate physics concepts to analyze relevant problems or situations qualitatively.
- Students will demonstrate the ability to use appropriate mathematical techniques and concepts for obtaining quantitative solutions to the real-world problems in physics.

Detailed topical outline and learning objectives for each topic are available in the canvas course: Modules.

REQUIRED MATERIALS

- Textbook (cost: \$0.00):** To reduce the overall course costs, we will use Open Access Resources (OERs) for this course. The link to the free online College Physics e-textbook will be available in canvas course. Additionally, other course materials such as video-recorded lectures, worksheets, and links to other relevant free OERs will be posted in your Canvas course.
- Expert TA for online homework assignments (cost: \$32.50):** We will use *Expert TA* as our Interactive Homework Assignment system (accessed through Canvas) for this course. This HW system costs \$32.50 for a single-semester access. The details for the registration process are posted below in next section as well as Canvas course announcements. The access can be purchased using a debit/credit card through canvas link. All students receive 14-day grace period in case additional time is needed for purchasing access.
- iClicker Reef Polling for In-Class Assignments (cost: \$15.99/6 months):** An internet device such as a laptop, tablet or cell phone with subscription/access to *iClicker Reef* audience response system is required. Students can purchase an iClicker Cloud subscription from within the iOS or Android applications (apps) through canvas. All first-time users receive a free 14-day trial when they sign up for an iClicker Cloud account. A 6-month (or 1 year) subscription costs \$15.99 (\$24.99). For details on signing up and purchasing access, please see Class Activities and Assignments section. No clicker remotes are allowed for this course.
- ClutchPrep for Class prep assignments (Cost: \$0.00-this system is available for free this semester):** *ClutchPrep platform* will be used to assign materials and video lectures as Pre-class assignments and Practice problems. The detailed instructions for the assignments and registration process can be found in the next section (Class Activities and Assignments) of course syllabus.
- Calculator:** Any kind of calculator is allowed.

TIPS FOR SUCCESS

- ✓ Carefully read/watch assigned pre-class readings/videos prior to lectures and complete PCQs. Watching/ Reading materials ahead of time will benefit and complement the in-class learning. Research shows that we must be exposed to materials at least three times for it to sink in.
- ✓ Download/ print the provided lecture notes for the day to fill in the details during the lecture (rather than copying down all the material from the slides). This will help you focus on the explanations.
- ✓ Engage fully in class by listening carefully and taking good notes. Maintaining your focus in class will be crucial for learning physics.
- ✓ The key to success in this class is PRACTICE, PRACTICE, and PRACTICE some more! Several resources will be provided for additional practice. Solve these practice problems by yourself before looking at the solutions- it will help you identify where you need to focus on.
- ✓ Complete your HW by yourself. Do not rely on internet! Start early and seek help if needed.
- ✓ Familiarize yourself with provided equation sheet and use it regularly for HW problems.
- ✓ Ask questions and utilize Free resources available to you: Instructor/ TA Office hours, ASC tutoring, Physics Tutoring).

6. Laptop or desktop computer.
7. Reliable internet service.
8. Web browser either firefox, chrome, or safari.
9. Ancillary information (lecture notes, recorded lectures, equation sheets, etc.) is provided in the Canvas course site and through Internet links (under the “Files” and “Modules” sections of Canvas).
10. Adobe Reader, Flash Player, Java, QuickTime Player.

CLASS ACTIVITIES AND ASSIGNMENTS

This section details the course assignments for this course.

1. **Research Project-** This assignment is designed to help you connect the physical concepts learned in this course with the real-world applications or your own field of interest. The project requires you to create a dynamic presentation (with audio) in PechaKucha (20 × 20) format illustrating the real-life applications of the concepts of physics learned in this course. For the details instructions and due dates, please check the relevant module section in your Canvas course. You will also be required to provide peer-reviews on this project. This assignment is worth a total of **10% of the final grade**.
2. **Pre Class Quiz(PCQ):** *Canvas, Clutch Prep and iClicker* will be used to conduct pre class quizzes which will be due the night before regularly scheduled class meetings. These quizzes will be worth **10% of your total grade** and the lowest 3 scores will be dropped at the end of the semester. These quizzes will be connected to video lessons that will introduce you to the materials that will be covered in class on that day. The clutch prep video lessons as well as other resources will be used to provide the information while iClicker will be used to administer the quiz. You are expected to spend 40-50 minutes on each pre class quiz (including video lessons). Your first PCQ assignment (PCQ-1) will be due January 18th. Concerning scoring, you will receive 80% credit (8 points) for every answer (participation credit; regardless of correctness) and 20% credit (2 points) for each correct answer, and zero points are recorded for no answer/an absence.
3. **Clutch Prep Practice (CP):** Clutch Prep makes specific video-based concept and practice content for this course. This semester our class will be using Clutch Prep to assign practice problem assignments that will account for **5% of your total grade**. **Clutch Prep** platform is available **free of cost** to students this semester. Your *ClutchPrep* account must be activated and registered as soon as possible. The Clutch Prep practice problems (assignment is listed as “CP” in your course calendar) will be due Thursdays at 11:59 pm each week before the HW due date. **We will have our first graded assignment due on January 20th**. The instructions for registering and accessing your Clutch Prep account will be posted separately on canvas course-Announcement page.

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For Clutch Prep practice problems, you will be assigned a set of computational problems and you will complete these assignments in ClutchPrep after we cover the examples in class. Every question in ClutchPrep assignments comes with a video solution. You will get credit based on answering the problems and watching the video solutions. If you answer a question incorrectly, you can earn back credit by watching the video solution.

Clutch Prep Technical Difficulties or Account Questions:

If you run into any technical issues or have questions about your Clutch Prep account, message the Clutch Prep Customer Service using the blue help chat button in the bottom right corner of the screen. This will be the fastest and most effective way to resolve your issues. The help button looks like this:



4. **In-class Quiz (ICQ):** For this activity, we will use *iClicker Reef polling* (you only need one subscription to access Polling and Assignments both). Each class session, there will be several questions posed through iClicker polling throughout class based on the materials being presented to strengthen your critical thinking ability, which you will answer using your internet device (cellphone, tablet, laptop, etc.). The **mobile iClicker Reef app is highly recommended for better experience** but is not necessary. We will begin using iClicker for a grade starting January 18th. Concerning scoring, you will receive 80% credit for every answer (participation credit; regardless of correctness) and 20% credit for each correct answer (zero points are recorded for no answer/an absence). Your grade for this portion is **10% of the overall course grade**. The **lowest three daily quiz scores (including zeroes) will be dropped near the end of the semester**. Each quiz day score is worth the same amount of credit regardless the number of questions asked on that day.

iClicker Cloud (in-class quiz) makeup: If you miss more than three class days due to university excused absences or illnesses documented by a physician, you will have an opportunity to make up iClicker points or receive an excuse for the day. In order to take advantage of this, you must email your instructor pdf copy of your excuses. Your instructor will then give you an assignment for each day (or exemption) that you miss in order to make up the points. The student will only be allowed a make-up if he/she shows written documentation *within one week of a particular iClicker session*.

5. **Homework:** Homework is a crucial component of this course. The total homework points earned over the semester will be averaged to **15% of the final course grade**. We will be using **Expert TA** as our interactive homework submission system. Homework must be submitted after each chapter. Homework sets are posted in the Canvas course under Assignments tab. Every student will have a free access to ExpertTA in the first two weeks of classes. The cost for using ExpertTA is \$32.50/semester. Students have the option to purchase the access code directly using a credit/debit card through Canvas by clicking on any HW assignment link.

Homework is intended to take you between 2 and 3 hours per chapter. For each problem, students are given 5 trial submissions to a correct answer. Homework assignments will be due at **11:59 pm (ET)** on the days indicated in the course calendar. There is a 1%/hour score reduction for a late homework with a maximum of 50% score reduction. All due dates are posted in the Expert TA HW system that is linked with our Canvas course. Each homework is worth the same amount of credit (regardless of the number of raw homework points). The **lowest homework score will be dropped** at the end of the semester.

Log in to ExpertTA

All students will have two-week grace period from the start date of the course to use ExpertTA for free, students have to pay for the access after the grace period for completing assignments. To access your Expert TA account directly from Canvas, please follow the steps below:

- Log in to Canvas and click Assignments, then click “HW-1 Temperature and Heat” under Homeworks to access Expert TA assignment page. If you already used the Expert TA last semester, please use the same login information. These steps will log you in your Expert TA account and will sync the grades to canvas gradebook.
- If this is your first time accessing ExpertTA through Canvas, you will be ported into Expert TA immediately, where you will have the option to pay with a credit card, bookstore access code, or choose a 14-day free trial. After the shopping card page, you can start working on your assignments.

6. **Examinations:** There will be total 6 exams in this course, including **five tests (hour exams) and 1 final exam** in this course. Each of the six exams is worth 10% of your final course grade. With the lowest of the 6 exam grades being dropped, the total exam grade, including five tests (hour exams) and the final exam, is worth 50% of your total grade. The tests (hour exams) are scheduled at the class start time and you will be given 65 mins on your timer to complete the tests (for the exam dates, see course calendar at the end of syllabus). Please be sure to start the exams at the start of your class time (i.e., 12:30 pm) to receive credit, and inform me of any technical difficulties immediately. The final exam is cumulative (covering Modules 1–14) and is scheduled for **Monday, May 2, 3:00-5:30 pm**.

All tests and exams will be administered online through Canvas and will be remotely proctored using the **Respondus Lockdown browser with Webcam**. This browser must be downloaded through the Clemson University download page. It is the student’s responsibility to ensure that the browser is working prior to taking each exam.

Items allowed: The exams are closed notes/text. You may use a calculator and the course equation sheet (available in canvas modules page) during the tests. You will also want several blank sheets of scratch paper. **You may NOT use any internet-based devices (including but not limited to cell phones) during the exam.** The test will be administered through Canvas. You can take the exam in the classroom (will need to notify the instructor if you wish to use this option) or find a quiet place to take the exam. All audio and video will be recorded during the exam.

Make-up exam policy: If the scheduled exams are missed due to technical difficulties or other official excuses, the instructor must be informed promptly (within 24 hours of the actual exam) and the make-up exam should be scheduled and completed within a week of the actual exam. The make-up exams will need to be approved by the instructor based on the relevant documents/ explanation provided. Makeup exams not requested within the week following the actual exam will be given a zero.

7. **Extra-credit (EC)-** There are several extra credit opportunities listed under modules with their due dates shown in the course schedule. EC assignments will be due on **Wednesdays of alternate weeks at 11:59 pm ET**. The total extra credit will amount for 2% of the total grade and will be added at the end of the semester. *These are the ONLY extra points offered in the course.* There will be NO ADDITIONAL POINTS awarded at the end of the semester. There will be no rounding of grades. If you feel you might be borderline, you will want to complete these assignments. No late assignments will be accepted.

A note on artifacts for CT² course: There are a variety of assignments (quizzes, homework assignments, research project, and exams) in this course that can be utilized as artifacts to demonstrate your refinement of critical thinking skills over the term.

GRADING POLICIES

The final letter grade will be calculated using the following grading scheme:

Best 5 exams (each 10% or 100 points) (The lowest of all 6 exams—5 tests (hour exams) and 1 final exam— will be dropped)	50%
Class Prep Practice (CP) Assignments	5%
Pre-class Quiz (PCQ)	10%
In-class quiz (ICQ)	10%
Homework	15%
Research Project (Pecha Kucha presentation)	10%
Extra-credit (EC)	2%
Total possible	102%

The following scale (%) will be used:

- A: 90% or higher
- B: 80 - 89.99%
- C: 70 - 79.99%
- D: 60 - 69.99%
- F: 0 - 59.99%.

Extra Credit adds for a total of 1% of your final course grade. No further changes to grades will be made after the last day of class. It is the responsibility of students to ensure that the correct grades have been entered in the Canvas gradebook and notify the instructor of any discrepancies.

Contesting grades: Grades will be updated typically weekly on Canvas. The students have one week to contest any grade after it is posted. It is the responsibility of students to ensure that the correct grades have been entered in the Canvas gradebook and notify the instructor of any discrepancies. For Homework (Expert TA) grades to sync correctly to canvas grade book, students must access each HW assignments through appropriate canvas link. Any requests for re-examination of scores more than one week after the grades are posted will not be granted. Scores for the pre-class and in-class quiz assignments are typically posted weekly, so there should be plenty of time to contest a score within the allotted week. Requests for make-ups of the *in-class assignments* must also be made within the week of the question and must be backed up by a written document validating conflict.

MINIMUM TECHNICAL SKILL REQUIREMENTS

Students are expected to have a minimum working knowledge of computers and a word processing program to be successful in an online class. You must be comfortable with your computer system and willing to deal with any problems that may arise. Lack of technical knowledge can greatly interfere with

your learning a new subject. If you do not have these skills, consider taking a short computer course prior to enrolling in an online course.

- Get your password and login to your class before the semester begins (if available)
- Attach files to email messages
- Compose written documents in a Word processor such as Microsoft Word
- Word processing tasks (type, cut, paste, copy, name, save, rename, etc.)
- Download information from the Internet
- Use of a Web browser
- Completing online forms
- Backup your files
- Install and maintain anti-virus and other software

Students are expected to be comfortable accessing the online course site and downloading files such as Microsoft Office documents, YouTube videos, and PDFs. In addition, students should be able to use Microsoft Office to compose written documents, spreadsheets, and PowerPoint presentations.

For technical assistance with the online course site, students should contact ithelp@clemson.edu or visit CCIT's website: (http://www.clemson.edu/ccit/help_support/).

COURSE EXPECTATIONS AND POLICIES

1. Faculty Response Time:

Communications Response Time: Instructor response time is 24 hours for questions posted in the Learning Management System and sent via email. This response times excludes weekends, official University closures, and other times as noted by the instructor. Should you need live assistance, email me (ppuneet@clemson.edu) to arrange an office (online) or phone consultation.

Important Note: Refer to the course calendar for specific meeting dates and times. Activity and assignment details will be explained in detail within each week's corresponding learning module. If you have any questions, please contact your instructor.

2. Class Roll:

Students can use iROAR to add courses through August 24, to drop courses without record through August 31, and to drop with a W grade through October 26, 2021. Students that have not participated in in-class activities by the second week, after the last day to add a class (August 24), may be removed from the roll. For students in a course where Canvas is used, instructors can view students' date of last activity and total activity under the "People" tab. A student with an excessive number of absences may be withdrawn at the discretion of the course instructor. For the Fall 2021 semester, "excessive absences" will apply to students that never engage in-class activity (in person and/or online), to keep the class roll accurate. Students will not be penalized for absences related to COVID-19 (e.g., illness, isolation, quarantine) but must contact the instructor to discuss make-up work.

3. Classroom Behavior:

The Clemson Office of Community and Ethical Standards maintain expectations for Student Classroom Behavior: <https://www.clemson.edu/campus-life/student-conduct/classroom-behavior.html>. The students must adhere to the online code of conduct while attending the online synchronous class sessions.

Adhering to Online Conduct: Appropriate academic conduct includes doing assigned work, meeting deadlines, participating in online discussions, and completing all the required elements of the course. It also means following basic rules of Netiquette. Netiquette or Network Etiquette is a set of rules for behaving properly online. When you enter any new culture, you're liable to commit

a few social blunders. You might offend people without meaning to. Or you might misunderstand what others say and take offense when it's not intended. In general, there are two basic guidelines:

1. Don't waste people's time.
2. Don't say anything to a person online that you wouldn't say to face-to-face.

More specific guidelines for proper behavior in an online learning course are listed below.

- **Avoid Flaming**- using derogatory, obscene, or inappropriate language. This can either be on a discussion board or in email.
- **Use emoticons to smooth online communication:** Emoticons are keyboard produced pictorial representations of facial expressions used in email or discussion boards to indicate an emotion or attitude, as to indicate intended humor [:-)].
- **Don't SHOUT.** Use of all capital letters and exclamation marks indicates SHOUTING.
- **Avoid grammatical and spelling errors** by using Spelling and Grammar checker tools when they are available.

Furthermore, appropriate academic conduct means maintaining a safe learning environment based on mutual respect and civility. All participants in Clemson online courses are expected to behave professionally by adhering to these standards of conduct:

- **Never transmit or promote content known to be illegal.**
- Respect other 's privacy as well as your own.
- Forgive other people's mistakes.
- Never use harassing, threatening, embarrassing, or abusive language or actions.

Online communication that fails to meet these standards of conduct will be removed from the course. Repeated misconduct may result in being blocked from online discussions, receiving a grade penalty, or being dismissed from the course. Such misconduct in the online environment may also be reported to officials for appropriate action in accordance with University policy. If you ever feel as though our online classroom is inappropriate or uncomfortable, please first contact your instructor with your concerns.

4. **Inclement Weather Policy:** Any exam that was scheduled at the time of a class cancellation due to inclement weather or national emergency will be given at the next class meeting unless contacted by the instructor. Any assignments due at the time of a class cancellation due to inclement weather will be due at the next class meeting unless contacted by the instructor. Any extension of postponement of assignments or exams must be granted by the instructor via email or Canvas within 24 hours of the weather-related cancellation.
5. **Email Communication:** Because of privacy regulations, University faculty and staff may email students only through Clemson email. Therefore, you must use your Clemson email account in this course for all email communications. It is student's responsibility to check the Clemson email or any possible announcements in Canvas DAILY for important messages.
6. **Copyright Notice:** The materials found in this course are strictly for the use of students enrolled in this course and for purposes associated with this course; they may not be retained for further disseminated. Clemson students, faculty, and staff are expected to comply fully with institutional copyright policy as well as all other copyright laws.

UNIVERSITY POLICIES

1. **Academic Integrity:** As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a "high seminary of learning." Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form.

All infractions of academic dishonesty by undergraduates must be reported to Undergraduate Studies for resolution through that office. In cases of plagiarism instructors may use the Plagiarism Resolution Form. See the [Undergraduate Academic Integrity](#) Policy website for additional information and the [current catalogue](#) for the policy.

Engagement activities fall under the provisions of our campus's academic honesty policy. Students must not engage in academic dishonesty while participating in the in-class engagement activities. This includes but is not limited to answering polling questions while not physically in class, looking at other students' devices while answering live questions, requesting for answers to assignment problems in chat apps or other web-based platforms, or using more than one Expert TA account at a time. TEST QUESTIONS ARE NOT TO BE DISCUSSED UNTIL THE TEST GRADES ARE RELEASED TO YOUR CLASS. Breach of this policy will constitute academic dishonesty.

2. **Academic Grievances:** Undergraduate students are advised to contact the Ombuds' Office prior to filing an academic grievance. If the undergraduate academic ombudsman agrees that a grievable issue has occurred, students can contact Undergraduate Studies (656-3022) for assistance filing official paperwork within 30 days of the semester following the awarding of a disputed grade.
3. **Student Disability Services:** Student Disability Services coordinates the provision of accommodations for students with disabilities in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990.

Reasonable and specific accommodations are developed with each student based on current documentation from an appropriate licensed professional. All accommodations are individualized, flexible, and confidential based on the nature of the disability and the academic environment. Housing accommodations for a disability or medical condition are also coordinated through this office.

Students with disabilities requesting accommodations should make an appointment with Dr. Margaret Camp (656-6848), Director of Disability Services, to discuss specific needs within the first month of classes. Students should present a Faculty Accommodation Letter from Student Disability Services when they meet with instructors. Accommodations are not retroactive and new Faculty Accommodation Letters must be presented each semester. Visit the Student Disability Services website for location, contact information, as well as official policies and procedures. To learn more information or request accommodations contact Student Disability Services (SDS) at sds-l@clemsun.edu or 864.656.6848 or visit [SDS's website: http://www.clemson.edu/campus-life/campus-services/sds/about.html](http://www.clemson.edu/campus-life/campus-services/sds/about.html).

4. **Commitment to Diversity:** *Clemson University aspires to create a diverse community that welcomes people of different races, cultures, ages, genders, sexual orientation, religions, socioeconomic levels, political perspectives, abilities, opinions, values and experiences.*

The Clemson University Title IX statement regarding non-discrimination: The Clemson University Title IX statement: Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veteran's status, genetic information or protected activity in employment, educational programs and activities, admissions and financial

aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972. This Title IX policy is located on the Campus Life website. Ms. Alesia Smith is the Clemson University Title IX Coordinator, and the Executive Director of Equity Compliance. Her office is located at 223 Brackett Hall, 864.656.0620. Remember, email is not a fully secured method of communication and should not be used to discuss Title IX issues.

5. **Academic Continuity Plan:** Clemson has developed an Academic Continuity Plan for academic operations. Should university administration officially determine that the physical classroom facility is not available to conduct classes, class will be conducted in a virtual (online) form. The university issues official disruption notifications through email, website, text notification and Social Media. When notified, use one of the following links to navigate to Clemson Canvas where you will find important information about how we will conduct class:

- Primary access link: <http://www.clemson.edu/canvas>
- Secondary access link, if needed: <https://clemson.instructure.com/>
- You can also use the Canvas Student App. [Visit the downloads page](#) for this app.

Course activities will occur through the Canvas course.

6. **Emergency Preparedness:** Emergency procedures have been posted in all buildings and on all elevators. Students should be reminded to review these procedures for their own safety. All students and employees should be familiar with guidelines from the Clemson Police Department. [Visit here for information about safety.](#)

Clemson University is committed to providing a safe campus environment for students, faculty, staff, and visitors. As members of the community, we encourage you to take the following actions to be better prepared in case of an emergency:

- Ensure you are signed up for [emergency alerts](#)
- Download the [Rave Guardian app](#) to your phone (<https://www.clemson.edu/cusafety/cupd/rave-guardian/>)
- Learn what you can do to [prepare yourself](#) in the event of an active threat (<http://www.clemson.edu/cusafety/EmergencyManagement/>)

ACADEMIC SUPPORT SERVICES

Students may access a variety of academic support services to support your learning in the classroom. Here are links to services available:

- [Academic Success Center](http://www.clemson.edu/asc/staff.html) <http://www.clemson.edu/asc/staff.html>
- [The Writing Center](http://www.clemson.edu/centers-institutes/writing/) <http://www.clemson.edu/centers-institutes/writing/>
- [Online Library Resources](http://www.clemson.edu/library/) <http://www.clemson.edu/library/>
- [CCIT \(Tech Support\)](http://www.clemson.edu/ccit/help_support/) http://www.clemson.edu/ccit/help_support/ or [CCIT \(Tech Support\) email: ithelp@clemson.edu](mailto:ithelp@clemson.edu)
- [Academic Advising](http://www.clemson.edu/academics/advising/index.html) <http://www.clemson.edu/academics/advising/index.html>
- [Registrar](http://www.registrar.clemson.edu/html/indexStudents.html) <http://www.registrar.clemson.edu/html/indexStudents.html>

AVAILABLE HELP

In addition to the instructor's availability outside of regular class time, there are other opportunities for students to get help on course materials:



Academic Success Center (ASC): This course is supported by the ASC tutoring program. The ASC tutors have completed and done well in this course, and they understand the concepts well enough to help you work through questions you have. The ASC tutoring program is certified by the College Reading and Learning Association, which means that our tutors are trained to share learning and study strategies during tutorial sessions. While tutors will not complete/correct homework for you or help you on take-home tests or quizzes, they will help you understand and reinforce concepts that you are learning in your classes. Tutoring should be used to discuss course materials and ask questions but not as a replacement for class or office hours. For details on policies, please visit <https://www.clemson.edu/asc/courses/tutoring/index.html>.

Additionally, ASC offers other free learning opportunities and course support listed below. Details can be found at <https://www.clemson.edu/asc/courses/>.

- Help with courses
- Peer-assisted learning (PAL)
- LearningLab;
- Learning and Success Strategies
- Academic coaching
- Success strategy workshops
- College success skills course CU 1010, for those experiencing academic difficulty

Student Health and Wellness Resources: [Student Health Services](https://www.clemson.edu/campus-life/student-health/) (<https://www.clemson.edu/campus-life/student-health/>) locally known as “Redfern” Health, strengthens Clemson University by providing quality medical and mental health care and the health, safety and well-being of the campus community. Student Health Services strives to be an innovative health care system providing integrated quality services that are responsive to the needs of the University community. Information on who to contact for help in a crisis situation, visit <https://www.clemson.edu/campus-life/student-health/contact/index.html> and on the emergency/crisis page <https://www.clemson.edu/campus-life/healthy-campus/suicideprevention/get-help.html>.

I am available to help you during my regular office hours. Please feel free to email me to make an appointment, if you need to see me privately for any special needs or accommodations in the course. Additionally, your TA will host regular office hours and HW help sessions for assistance. Please check course homepage for updated information on available help.

IMPORTANT DATES

January 26: Last day to drop a class or withdraw from the University without a W grade

March 18: Last day to drop a class or withdraw from the University without final grades

April 29: All homework grades finalized at 11:59 pm.

Exam dates:

All the exams will be online and administered through Canvas **this term**. You will require Respondus Lockdown browser and Respondus Monitor for taking exams. (Chromebooks are not supported but iPads will be allowed upon request; requires a webcam). Instructions for downloading Respondus Lockdown browser and Monitor will be posted separately on canvas announcements page.

Tests: The tests (hour exams) will be scheduled at the regular class start time and the dates are provided below as well as in the course calendar:

Test 1: Tuesday, February 1

Test 2: Tuesday, February 22

Test 3: Tuesday, March 15

Test 4: Tuesday, April 12

Test 5: Tuesday, April 26

Final Exam (cumulative): Monday, May 2 from 3:00 to 5:30 pm ET.

COURSE CONTENT

The course organization is presented below. You will find the course materials organized by the Modules (as listed below) with the relevant lecture materials and assignments related to each module in **Canvas Modules** page. The summary of due dates for each assignment is also available in Course Calendar and can be accessed by clicking the **Syllabus button** in the **Course Menu**.

Module 1 (M1): *Temperature and Heat*

Module 2 (M2): *Specific and latent heats, Ideal gases, and Kinetic Theory*

Module 3 (M3): *Laws of Thermodynamics*

Module 4 (M4): *Electrical charges, forces, and fields*

Module 5 (M5): *Electrical potential and electric potential energy*

Module 6 (M6): *Electric current and DC circuits*

Module 7 (M7): *Magnetism, Magnetic fields, and forces*

Module 8 (M8): *Magnetic flux and electromagnetic induction*

Module 9 (M9): *Electromagnetic waves*

Module 10 (M10): *Geometrical optics: Reflection and Refraction*

Module 11 (M11): *Wave Optics- Interference and Diffraction*

Module 12 (M12): *Relativity*

Module 13 (M13): *Modern Physics- Intro to Quantum Physics*

Module 14 (M14): *Modern Physics- Intro to Atomic and Nuclear Physics*

COURSE CALENDAR

(NOTE: This schedule is tentative and is subjected to change. All the assignments (including extensions) MUST be submitted by April 29, 2022.) **PCQ assignments are due at 7 am on class days.**

Monday	Tuesday	Wednesday	Thursday	Friday
January 10	11 No class	12	13 Intro/Module 1 (M ₁)	14
17 MLK Jr. Holiday	18 M ₁ PCQ 1	19 EC-1	20 M ₂ PCQ 2/ CP-1	21 HW: M ₁ due
24	25 M ₂ /M ₃ PCQ 3	26	27 M ₃ PCQ 4/ CP-2	28 HW: M ₂ due HW: M ₃ due
31	February 1 Test 1 (Modules 1-3)	2 EC-2	3 M ₄ PCQ 5/CP-3	4
7	8 M ₄ PCQ 6	9	10 M ₅ PCQ 7 /CP-4	11 HW: M ₄ due
14	15 M ₅ /6 PCQ 7	16	17 M ₆ PCQ 8 /CP-5	18 HW: M ₅ due HW: M ₆ due
21	22 Test 2(Modules 4-6)	23 EC-3	24 M ₇ PCQ 9 /CP-6	25
28 Research Proposal due	March 1 M ₇ PCQ 10	2	3 M ₇ /M ₈ PCQ 11/ CP-7	4 HW: M ₇ due
7	8 M ₈ PCQ 12	9 EC-4	10 M ₈ PCQ 13/CP-8	11 HW: M ₈ due
14	15 Test 3(Modules 7,8)	16	17 M ₉ PCQ 14/ CP-9	18
21 Spring break	22 Spring break	23 Spring break	24 Spring break	25 Spring break
28	29 M ₉ /10 PCQ 15	30 EC-5	31 M ₁₀ PCQ 16/ CP-10	April 1 HW: M ₉ due
4 Research Final project due	5 M ₁₀ /11 PCQ 17	6	7 M ₁₁ PCQ 18/ CP-11	8 HW: M ₁₀ due HW: M ₁₁ due
11	12 Test 4(Modules 9, 10, 11)	13 EC-6	14 M ₁₂ PCQ 19/ CP-12	15
18 Research Project Peer Reviews due	19 M ₁₂ PCQ 20	20	21 M ₁₃ PCQ 21 / CP-13	22 HW: M ₁₂ due HW: M ₁₃ due
25	26 Test 5 (Modules 12-13)	27 EC-7: COURSE EVAL	28 M ₁₄ PCQ 22 / CP-14	29 HW: M ₁₄ due
May 2 Final Exam (M ₁₋₁₄)	3	4	5	6

Final Exam (cumulative): Monday, May 2 from 3:00 to 5:30 pm ET.