

## PHYS 2210: Physics with Calculus II

**Class meetings:** 10:10 am – 11:00 am (Section 003- CRN: 80540) and  
11:15 am – 12:05 pm (Section 004- CRN: 82672)

**Class Location:** Humanities Hall G66

**Course dates:** August 24- December 14, 2022.

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

**Virtual Office hours (via Zoom):** Please use [Calendly link](#) to sign up for office hours or email me directly ([ppuneet@clemson.edu](mailto:ppuneet@clemson.edu)) to make an appointment for a zoom meeting. For requesting an in-person meeting, please send out an email directly to me.

**Course TA:** TBD

**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.

In this class, my purpose is to create an open and safe environment for all students, where you are encouraged to speak up and participate in class discussions without hesitation. For me, there is no such thing as a stupid question because I believe that it is the curiosity of our minds and ability to ask questions that helps us learn better. I support an inclusive learning environment where diversity and individual differences are understood, respected, appreciated, and recognized as a source of strength. I hope to bridge any learning gaps through this course and build a sense of community as we learn the content together.

**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.**



**Pooja Puneet, PhD**

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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

## COURSE DESCRIPTION

**(Credit hours: 3)** This is second part of calculus-based physics course sequence—Continuation of PHYS 1220. Topics include thermodynamics, electricity, magnetism, and modern physics. Credit for a degree will be given for only one of PHYS 2210, or 2080. Includes Honors sections.

This course is part of the Clemson Thinks2 (CT<sup>2</sup>) 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. To this end, you would work on several in-class activities/assignments (quizzes and exams) 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. These assignments can be treated as artifacts to demonstrate your critical thinking skills. Critical thinking does not come naturally to most people;

therefore, you must practice critical thinking – which is one of the goals of this course. For more information, please visit: <http://www.clemson.edu/assessment/thinksz/>.

## PREREQUISITES

Prerequisite or concurrent enrollment: MTHS 1080 and MTHS 1110.

## REQUIRED MATERIALS

1. **Textbook (\$0.00):** No textbook is required for this course, but we will use various resources for reading/ pre-class assignments in this course (listed below).
2. For **online homework assignments (\$100):** We will use **Enhanced WebAssign account** (accessed through canvas, see “Log in to WebAssign” below). A copy of the recommended eBook (*Physics for Scientists and Engineers: Foundation and Connections* by Debora M. Katz) is provided with your WebAssign account. Please see the Assignment section (Homework) of the syllabus for additional details. The cost of a single semester unlimited WebAssign access is \$100. *If you have purchased multiple-semester access in your Phys 1220 course last semester, you can use your login information to access course assignments.*
3. For **Pre-Class and In-Class Assignments (\$45):** An internet device such as a laptop, tablet or cell phone with subscription/access to *Top Hat audience response* system is required. The in-class polling (in-class assignments) and the interactive course pack with embedded questions (for pre-class assignments) will be used. You will receive an invite to join the course in Top hat. The total cost for polling and interactive course pack is \$45.
4. Laptop or desktop computer with webcam.
5. Reliable internet service.
6. Web browser either firefox, chrome, or safari.
7. Ancillary information (lecture notes, recorded lectures, equation sheets, etc.) is provided in the Canvas course site and through Internet links (under the “Modules” sections of Canvas).
8. Adobe Reader
9. Respondus Lockdown browser

## COURSE MODALITY AND CONTINUITY PLAN

This is a fully in-person course. Class attendance is expected. Students who may be unable to attend classes in-person due to medical reasons or official excuses should reach out to the instructor for alternate arrangements.

If the course needs to be moved to online modality during the semester for any reason, all lectures will be delivered online through Zoom meetings at the scheduled class time and the detailed information about the meeting link will be provided through canvas announcement at that time. In such a situation, the zoom meetings will be treated as the regular class meetings and attendance will be expected. If the instructor becomes unavailable due to exposure to the COVID-19 virus or other medical reasons during the semester, an alternative method (e.g., a guest lecturer, access to asynchronous video materials, or synchronous online class meetings) will be arranged depending on the situation. All class recordings will be posted in your canvas course for review later.

## STUDENT LEARNING OBJECTIVES

- Students will study simple thermodynamic systems, *i.e.*, ideal gases and learn to identify and calculate thermodynamic variables and changes in these variables.
- Students will analyze and compute, through the first and second law of thermodynamics, the work, heat and entropy associated with these changes in variables.
- Students will identify and calculate electric fields and electric potential for a charge distribution using first principles including Gauss's Law
- Students will compute current from free electron flow in conductors and apply Ohm's Law and Kirchoff's rules for analysis of basic DC circuits.
- Students will identify and calculate a current distribution's source of (and response to a) magnetic field through first principles including the Ampère-Maxwell relation
- Students will compute induced EMF, field and current from Faraday's Law and the Ampère-Maxwell relation and apply these induced quantities to analyze circuits with inductors.
- Students will identify the connection of light to the electromagnetic wave solution of Maxwell's equations (in vacuo) and will utilize this connection to compute its intensity, propagation, pressure and polarization.

## CLASS ACTIVITIES AND ASSIGNMENTS

This section provides details of the course assignments.

1. **Pre-class Quiz (PCQ):** We are using audience response systems in class called "**TopHat**". Your TopHat account must be activated and registered as soon as possible. You will soon receive an email with instructions to register for TopHat. Once you get this email, please purchase (with a valid credit or debit card) and register for your TopHat account ASAP.  
We will be using **Top Hat Course Pack (CP)** for our pre-class assignments. New for this semester is the Top Hat Course Pack which comes with your TopHat account. It is an interactive e-text which you will read and complete graded assignment questions before we cover the material in class. The course pack is part of our single TopHat course, so you do not need to get a separate account for the course pack. Course Pack due dates and schedule are included in the calendar on the last page of the syllabus. TopHat course pack assignments are worth **10% of your total course grade**.  
**PCQ Grading:** Each course pack assignment score (containing 2-3 assignments each) will be uploaded to Canvas as points after the due date, and each course pack point is worth the same amount of credit (irrespective of number of questions). For this assignment, you will receive 3 raw points for every incorrect answer (participation credit) and total of five raw points for each correct answer (zero points are recorded for no answer). Each TopHat course pack (CP) question will allow for two attempts and are **due at 7 AM on the respective due date** (see schedule on last page for due dates).
2. **In-class Quiz (ICQ):** For this assignment, we will be using **Top Hat polling** in class. Each day, there will be several questions posed throughout class to which you will respond with your internet device/ cell phones. ICQs are worth **10% of your total course grade**.  
**ICQ Grading:** Concerning TopHat in-class polling scoring, you will receive 3 raw points for every incorrect answer and total of 5 raw points for each correct answer (zero points are recorded for no answer/an absence). Participation points will be converted to a percentage in Canvas. TopHat daily percentages will not exceed 100%. **The lowest 3 daily TopHat scores (including zeroes) will be dropped.** Each TopHat day is worth the same amount of credit regardless of the number of questions asked on that day or raw points for a particular day.

**Getting TopHat:**

During the first week of class, you will receive an email with instructions on how to purchase and register for TopHat (including your join code). The rate for this semester of TopHat is \$15 for the in-class polling and \$30 for the Top Hat interactive Course Pack (\$45 total). Please purchase directly online at TopHat for this pricing (which should be the lowest price) after receiving the email invitation from TopHat with your join code.

**Tophat Quiz makeups:**

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 Tophat points. 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) over the three quizzes 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 Tophat session*.

3. **Homework:** Homework is a crucial component of this course. We will be using **WebAssign** as our interactive homework submission system. Homework must be submitted for each module listed in the syllabus and **accessed through canvas**. The total homework points earned over the semester will be averaged to **15% of the final course grade**.

**If you had Physics 1220 Spring 2021 at Clemson:**

If you purchased a year subscription to WebAssign, you would access WebAssign through Canvas as you normally would do (see instructions below to access through Canvas). You should then immediately see your assignments. If you only purchased a one semester subscription, WebAssign will prompt you to purchase another semester of WebAssign with your credit card.

**If you did not have Physics 1220 Spring 2021 at Clemson:**

You will always access WebAssign through Canvas (see instructions below). Students new to Clemson Physics will have a free access to WebAssign for the first two weeks of classes. Students can purchase the online access to WebAssign (with free e-text) using a credit card during the registration process (by going through Canvas). The Student Access Kit that comes with the textbook (physical copy- not required but can be purchased at bookstore) consists of a card with printed online registration instructions and a pull-tab revealing a student access code. Each code can be used by only one student.

Homework is intended to take you between 2 and 3 hours per chapter. Homework is due at 11:59 pm on the day indicated in the schedule. You may request an automatic extension (when in WebAssign) for up to 24 hours late (at 50% credit reduction on late problems only). All due dates are posted in WebAssign and in the calendar in the syllabus. 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 WebAssign**

You must always log into WebAssign through Canvas. To access your WebAssign account from Canvas, follow the steps below:

Log in to Canvas and click Assignments, then select the first homework assignment "Chapter 19". Those with a year subscription should immediately see the assignment. Otherwise, these steps will take you to WebAssign registration. Use the WebAssign access code received after online payment or from the book bundle to register or pay online.

4. **Examinations:** There will be **3 tests** and **1 final exam** in this course. All exams are mandatory, and there are no dropped exams, exam grade replacements, or final exam exemptions. Exams will be administered **online** through Canvas Quizzes using **Respondus Lockdown browser** and **proctored by Respondus Monitor system** (requires Webcam). The detailed instructions for downloading and testing the Respondus system will be provided on Canvas announcements page.
- **Tests/ Hour Exams:** There are three tests (common exams), given on **Thursday evening at 7 pm on September 22, October 20, and November 17**. Each test is worth **15% of your total grade** (150 points) and will have 15 multiple choice questions to be completed in the allowed time limit of one hour. Some (but not all) problems may be given partial credits. There are practice exams (from previous years) available in Canvas course page for students to practice and ensure that their computer works with the system before the exam. If you miss an exam because of an excused absence, you will be given a makeup exam. To obtain an excused absence from a test your reason must be serious and verified by the University sources. **Makeup exams will be given the following Thursday at 7:00 pm**. All exams will require **Respondus Lockdown Browser and Respondus Monitor (webcam)** so please see access guide in Modules > Respondus in Canvas for details.
  - **Final Examination:** The final exam is a cumulative multiple-choice exam (covering Modules 1-16) and you will be given 2 h 30 min for this exam. The final exam is scheduled for **December 14, 2022 (Wednesday) from 7:00 - 9:30 pm**. Like hour exams, final exam will require Respondus Lockdown browser and Monitor (webcam) and can be taken at any location, where there are no disturbances/disruptions. No exemptions from this examination will be given. **The final examination will be worth 200 points or 20% of your final grade.**

**Exam Aids:** During all the exams, students are allowed to bring and use the printed copy of equation sheets (provided by instructor; available as Canvas modules: Equation sheets (Phys 2210)), which they will be required to show at the beginning of the exam in their webcam. This equation sheet can have no writing on it. You will also be allowed to bring in several blank scratch papers. You will need to use your computer with good internet connection for the exam. University offers free hotspot service to students who do not have good internet connectivity, so please check this service ahead of time (if needed). **No calculators, notes, multiple computers, books, tablets, other electronic devices (including cell phones), other people, or any other study materials are allowed during the exam.**

## GRADING POLICIES

Letter grades will be calculated by Canvas total percentage. It is your responsibility to ensure that your grades are recorded correctly. Please check after each test to ensure that your grade is correctly reported in canvas gradebook and notify the instructor of any discrepancies immediately. Grades will be considered finalized as soon as the next test occurs. No further changes to grades will be made after the last day of class. The final letter grade will be calculated using the following assignment weight and grading scheme:

3 tests/ hour exams (each 15%)	45%
1 Final exam	20%
Pre-class quizzes (PCQ)- Top Hat CP (32 in 16 modules)	10%
In-class quizzes (ICQ)	10%
Homework	15%
<b>Total</b>	<b>100%</b>

The following scale (%) will be used: A: 89.45-100; B: 79.45-89.44; C: 69.45-79.44; D: 59.45-69.44; F: 0-59.44.

You are treated as a professional in the course. Accordingly, the grading is strict, but fair. Reading the directions and grading criteria provided for each assignment is the key to understanding how you will be graded. Following those directions is the key to doing well.

**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.

## GENERAL EDUCATION REQUIREMENTS

This course satisfies the general education competency for mathematics and natural sciences with the lab as evident in the lab reports of PHYS 2230. 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 ‘Specific Heat Lab’. Students follow experimental procedures, collect data, and analyze data to compare their results to accepted physical principles. Calorimeter data is collected and used to calculate the specific heat of an unknown material by comparing the determined specific heat to accepted values. Students experimentally determine the latent heat of water and compare it to the accepted value based on physical principles. Finally, students use scientific reasoning to determine the effectiveness of different calorimeters.

## 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@clemsun.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/banner to add courses through August 30, to drop courses without record through Sept 6, and to drop with a W grade through October 28, 2022. Students that have not participated in in-class activities by the second week, after the last day to add a class (August 30), 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. “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) with appropriate documentation and notification.

3. **Attendance Policy and Notification of Absence:** Attendance is required for this course. The academic resources of Clemson University are provided for your intellectual growth and development, and class attendance is critical to your education. Therefore, you should attend scheduled courses regularly to attain your academic goals. In the event of an emergency or illness, contact me as soon as possible, preferably before a class or an exam takes place. For an absence to be considered an excused absence, use the Notification of Absences form in Canvas to directly communicate with the instructor. The Office of Advocacy and Success also assists students in identifying various appropriate methods of documenting absences and assists families in using the electronic Notification of Absence system when students are unable to do so themselves. For any student asked to quarantine/isolate because of exposure to the virus, inform me through the Notification of Absences form, so that I know you will be online and can support your learning in the class. You will also need to discuss with me any make-up work if you are absent and stay in touch! Since this is an in-person course, you are expected to return to in-person attendance once cleared by the University or once your illness/emergency is past. Please be aware that notification of illness / emergency / quarantine must be received within one week of the event, and you may be asked to provide documentation. Documentation may include a notice from the university regarding quarantine, or confirmation that you had a doctor's appointment (whether in person or virtually). Students are expected to wait for 15 minutes past the start of the class if the instructor is not present before the assumption is made that class is cancelled.
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 dissemination. Clemson students, faculty, and staff are expected to comply fully with institutional copyright policy as well as all other copyright laws.
7. **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 class code of conduct while attending the classes face-to-face or online.

**Adhering to Online Conduct:** Appropriate academic conduct includes doing assigned work, meeting deadlines, participating in in-class or online activities, and completing all the required elements of the course. The 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.

## GENERAL 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 WebAssign/ Tophat account at a time. 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. **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.

4. **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.

5. **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/>)

## 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](mailto:ithelp@clemson.edu) or visit CCIT's website: ([http://www.clemson.edu/ccit/help\\_support/](http://www.clemson.edu/ccit/help_support/)).

## 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>
- The Writing Center <http://www.clemson.edu/centers-institutes/writing/>
- Online Library Resources <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>
- Registrar <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 Academic Success Center tutoring program. The ASC Tutors have successfully completed 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 (CRLA), 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. All ASC Tutoring appointments are available through CU Navigate. To view the courses ASC Tutoring is supporting or for instructions on how to make an appointment, visit [clmson.edu/asc](http://www.clemson.edu/asc) and click on the "View Tutoring Schedule" icon.

### Fall 2022 Service Schedule

ASC Tutoring Support Begins: Sunday, September 4th

Support Pauses: Fall Break & Thanksgiving Break

ASC Tutoring Support Ends: Friday, December 9th

**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>.

## IMPORTANT DATES

**August 22-23:** Late enrollment

**August 24:** First day of class

**August 30:** Last day to register or add a class or declare Audit

**September 6:** Last day to drop a class or withdraw from the University without a W grade

**October 28:** Last day to drop a class or withdraw from the University without final grades

**Exam dates:** All the exams will be online and administered through Canvas **this term**. You will require **Respondus Lockdown browser and webcam** for taking exams. (Chromebooks and iPads may be allowed upon request; requires a webcam). Instructions for downloading Respondus Lockdown browser and Monitor will be posted separately in canvas announcements page.

**Exam 1:** Thursday, September 22, 7 pm ET

**Exam 2:** Thursday, October 20, 7 pm ET

**Exam 3:** Thursday, November 19, 7 pm ET

**Final Exam (cumulative):** Wednesday, December 14 from **7:00 to 9:30 pm ET**.

## COURSE CONTENT AND TENTATIVE PLAN

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 tentative 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, Thermal Expansion, and Gas Laws* (Katz Ch 19-Week 1 and 2)

**Module 2 (M2):** *Kinetic Theory of gases* (Katz Ch 20-Weeks 2-3)

**Module 3 (M3):** *Heat and First Law of Thermodynamics* (Katz Ch 21- Weeks 3-4)

**Module 4 (M4):** *Entropy and Second Law of Thermodynamics* (Katz Ch 22- eeks 4-5)

**Exam 1: Modules 1-4 (Week 5)**

**Module 5 (M5):** *Electrical forces* (Katz Ch 23- Weeks 5-6)

**Module 6 (M6):** *Electric fields* (Katz Ch 24- Weeks 5-7)

**Module 7 (M7):** *Gauss's Law* (Katz Ch 25- Weeks 6-8)

**Module 8 (M8):** *Electrical Potential* (Katz Ch 26- Weeks 7-9)

**Module 9 (M9):** *Capacitors and Batteries* (Katz Ch 27-Week 8-9)

**Exam 2: Modules 5-9 (Week 9)**

**Module 10 (M10):** *Current and Resistance* (Katz Ch 28-Weeks 9-10)

**Module 11 (M11):** *Direct Current (DC) Circuits* (Katz Ch 29-Weeks 10-11)

**Module 12 (M12):** *Magnetic Fields and Forces* (Katz Ch 30- Weeks 11-12)

**Module 13 (M13):** *Gauss's Law for Magnetism and Ampere's Law* (Katz Ch 31- Week 12)

**Module 14 (M14):** *Faraday's Law of Induction* (Katz Ch 32- Weeks 12-13)

**Exam 3: Modules 10-14 (Week 13)**

**Module 15 (M15):** *Inductors and AC circuits* (Katz Ch 33 – Weeks 13-15)

**Module 16 (M16):** *Maxwell's Equations and Electromagnetic Waves* (Katz Ch 34- Weeks 14-15)

**Final Exam: Modules 1-16 (Week 16)**

## COURSE CALENDAR

(NOTE: This schedule is tentative, but the assignment due dates are mostly fixed. All the assignments (including extensions) MUST be submitted by December 9, 2022.)

CP = Top Hat Course Pack Assignment (Due at 7AM) -- HW = WebAssign Homework (Due at 11:59PM)

Monday	Tuesday	Wednesday	Thursday	Friday
Aug 22	23	24 Intro./Ch 19	25	26 Ch 19
29 Ch 19/20	30	31 Ch 19/20 CP 1 Due	September 1 HW 19 Due	2 CP 2.1 Due Ch 20
5 CP 2.2 Due Ch 20/21	6	7 CP 3.1 Due Ch 21	8 HW 20 Due	9 CP 3.2 Due Ch 21
12 CP 4.1 Due Ch 21/22	13	14 CP 4.2 Due Ch 22	15 HW 21 Due	16 CP 4.3 Due Ch 22
19 CP 5.1 Due Ch 22/23	20 HW 22 Due	21 Review	22 Exam 1	23 Ch 23
26 CP 5.2 Due Ch 23/24	27	28 CP 6.1 Due Ch 24	29 HW 23 Due	30 CP 6.2 Due Ch 24
October 3 CP 7.1 Due Ch 24/25	4	5 CP 7.2 Due Ch 25	6 HW 24 Due	7 CP 7.3 Due Ch 25
10 CP 8.1 Due Ch 25/26	11	12 CP 8.2 Due Ch 26	13 HW 25 Due	14 CP 8.3 Due Ch 26
17 CP 9.1 Due Ch 26/27	18 HW 26 Due	19 Review	20 Exam 2	21 Ch 27
24 CP 9.2 Due Ch 27/28	25 HW 27 Due	26 CP 10 Due Ch 28	27 HW 28 Due	28 CP 11.1 Due Ch 28/29
31 CP 11.2 Due Ch 29	November 1	2 CP 12.1 Due Ch 29/30	3 HW 29 Due	4 CP 12.2 Due Ch 30
7 Fall Break	8 Fall Break	9 CP 13.1 Due Ch 30/31	10 HW 30 Due	11 CP 13.2 Due Ch 31
14 CP 14.1 Due Ch 31/32	15 HW 31 Due	16 Exam Review	17 Exam 3	18 Ch 32
21 CP 14.2 Due Ch 32/33	22	23 Thanksgiving	24 Thanksgiving	25 Thanksgiving
28 Ch 33	29	30 CP 15.1 Due Ch 33	December 1 HW 32 Due	2 CP 15.2 Due Ch 33/34
5 CP 16 Due Ch 34	6 HW 33 Due	7 Ch 34	8	9 HW 34 Due Review
12	13	14 Final Exam	15	16

Sept 6: Last day to drop a class or withdraw from the University without a W grade

Oct 28: Last day to drop a class or withdraw from the University without final grades

Final: Wednesday, Dec 14<sup>th</sup> from 7:00 until 9:30pm