

| Department/College: | Physics and Astronomy/College of Science |
|---------------------|--|
| Course Title: | PHYS 1220: Physics with Calculus I |
| Semester: | Fall 2020 |
| Class Location: | Fike G17 |
| Course start date: | August 19, 2020 |
| Course end date: | December 11, 2020 |
| Class Meetings: | MWF 1:25–2:15 PM (sect 001), 2:30-3:20 PM (sect 002) |
| Course CRN: | 80154 (sect 001), 80155 (sect 002) |
| Instructor: | Lih-Sin Thé, Ph.D. |
| University Email: | tlihsin@clemson.edu |
| Office Hours: | MWF 10:00am – 1:00pm, 3:30 – 4:30 pm TTh 10:00am – 4:00pm |
| Office Location: | Kinard Hall, 120-D |
| Office Phone: | (864) 656 – 1644 |

Course Description

First of three courses in a calculus-based physics sequence. Topics include vectors, laws of motion, conservation principles, rotational motion, oscillations, and gravitation. Credit for a degree will be given for only one of PHYS 1220, 2000, or 2070. Includes Honors sections.

Our class will begin as scheduled on Aug. 19 with online instruction via Zoom and will delay inperson instruction until Sept. 21 when we will start to have blended synchronous classes.

Prerequisites

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Prerequisite or concurrent enrollment: MATH 1060 or MATH 1070

Dr. Lih-Sin The

Clemson University

Course Objectives

To give the successful student a working knowledge of mechanics and the skills necessary to solve basic mechanics problems with exercises in critical thinking by the use of quantitative and qualitative analysis. Students are expected to have the skills to:

- Analyze motion in terms of position, displacement, velocity, and acceleration.
- Develop the skill to apply one- and two-dimensional kinematic equations.
- Construct free-body diagrams and apply Newton's laws of motion.
- Apply Newton's laws and kinematic equations to rotational motion.
- Analyze systems using conservation laws of energy and momentum.
- Compute the properties of rigid body motion (translation and rotation).
- Apply Newton's laws and conservation laws to fluids and oscillations.

Gen Ed Requirements

This course satisfies the general education competency for mathematics and natural sciences with the lab as evident in the lab reports of PHYS1240. 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.

Required Materials

- **Textbook:** *Physics for Scientists and Engineers: Foundation and Connections* (Clemson or Advance edition) by Debora M. Katz. (2015), Boston, MA 02210: Cengage. ISBN: #978-1-305-30882-4, 978-0-534-46684-8. 978-1-305-25983-6, or 978-1-305-07798-0. When you buy the textbook, please make sure you do not buy the bundle that includes a WebAssign access card because we do not use WebAssign homework facility this semester. If you would like to get an ebook, the kindle version of the textbook is available in amazon.com.
- For Online Homework Assignments: The Expert TA account (accessed through canvas, see "Log in to ExpertTA" below).
- For In-Class Assignments/Quiz: an internet device such as a laptop, tablet, or cell phone with subscription/access to iClicker Cloud audience response system.
- 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).
- Laptop or desktop computer.
- Reliable internet service.
- Web browser either <u>firefox</u>, <u>chrome</u>, or safari.
- Adobe Reader, Flash Player, Java, QuickTime Player.

Student Learning Outcomes

- Students will identify velocity and acceleration from the position-versus-time graph and velocity-versus-time graph.
- Students can utilize kinematic equations to determine the position, velocity, and acceleration of a moving object.
- Students can calculate the net force on an object and can apply the three Newton laws to determine the motion of an object.
- Students can apply kinematic equations of circular motion in combination with Newton's second law for a circular motion to determine the motion of an object in a circular motion.
- Students can apply correctly the law of conservation of momentum.
- Students can utilize the law of conservation of energy for isolated and non-isolated systems.
- Students can apply Newton's laws and conservation laws to fluids and oscillations.

In response to the spread of COVID-19, our lectures starting September 21 until December 4 will be delivered face-to-face and online (blended) through Canvas' Zoom at the regular class meeting times. For students who attend the class online, simply click the "Zoom" button in the left navigation column of Canvas, then after the Zoom app starts, click "Join" the meeting session. The session will be recorded and will be available in the Zoom app for later viewing. Furthermore, lecture notes are available in the Files area of our Canvas course.

In-Class Quiz

We are using audience response systems in the class called iClicker Cloud Polling for our daily inclass quiz. Each class, there will be several questions posed throughout the class to which you will respond with your internet device. Your iClicker Cloud account must be activated and registered as soon as possible. We will begin using iClicker Cloud for our first-in-class quiz on August 26th (Wednesday).

Creating Your iClicker Cloud Account:

- Download the iClicker Cloud mobile app via the App Store or Google Play or visit iClicker.com and then click **Sign Up!**
- During the registration, you enter your CU's email address (.....@clemson.edu) as your username. You also need to enter your student ID; note that a Clemson student ID starts with an uppercase C followed by 8 numeric characters (for example, C12345678).
- Select "Clemson University" as your institution. Follow the sign-in instructions. You should then click the plus sign in the upper right-hand corner to select this course.

Purchasing iClicker Cloud subscription: Students can purchase an iClicker Cloud subscription from within the iOS or Android applications. All students receive a free 14-day trial when they sign up for an iClicker Cloud account. A 6-month (- year) subscription costs \$14.99 (\$23.99).

Concerning scoring, you will receive 3 raw points for every answer (regardless of the correctness) and five raw points for each correct answer (zero points are recorded for no answer/an absence). Your grade for this portion of the class is 10% of the total score in the class. *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 of 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. To take advantage of this, you must email your instructor pdfs of your excuses. Your instructor will then give you an assignment for each day (or exemption) over the three that you miss 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.

Homework

We will be using **Expert TA** as our interactive homework submission system. Homework must be submitted for each chapter in the textbook. Homework sets are posted on our Canvas course and TheExpertTA.com website. Every student will have free access to Expert TA in the first two weeks of class. The cost of using Expert TA is \$32.50/semester. Students have the option to purchase the access code in our bookstore or Expert TA using a credit card during the registration process at Expert TA. Note that we will not be using WebAssign, so do not buy the WebAssign Access Kit that may come with the textbook.

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. For each incorrect submission attempt, there will be a 2% value deduction and the deduction for accessing a hint is 1%. The worth of homework total points is 20% of the total points in class. Homework is due at 11:59 pm on the day indicated in the schedule. There is a 1%/hour score reduction for late homework with a maximum of 40% score reduction. All due dates are posted in Expert TA. 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 Expert TA

All students will have a two-week grace period from the start date of the course to use Expert TA for free, after that period students have to pay for the access. To access your Expert TA account directly from Canvas, do the following steps:

- Log in to Canvas and click Assignments, then click "GRADED Learning Expert TA Tutorial" under Expert TA Assignments. These steps will log you in your Expert TA account.
 - If this is the first time you access Expert TA from 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 cart page, you can start to work on the assignment.

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Examinations

Midterm Exams: There will be three exams during the course schedule. Each exam lasts one hour and is worth 150 points. Each exam will be taken through the Canvas online system proctored by Respondus Monitor. The exam can be taken at any location that students think is quiet and no disturbance. It will be given on **Thursday at 7 pm** on *September 24th, October 22nd,* and *November 19th.* Each exam is a multiple-choice exam where some problems are given partial credits. There will be practice exams in Canvas for students to practice before the exam and to make sure student computers work with the system. 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 University sources. *Makeup exams will be given the following Thursday at 7 pm* online through Canvas. There are no dropped exams, exam grade replacements, or final exam exemptions.

Final Exam:

The final exam is comprehensive that it covers all materials of the course. It will be given on Wednesday, December 9th from 7:00 pm to 9:30 pm. It will be a multiple-choice Canvas online exam like the other exam to be proctored by Respondus Monitor and to be taken at any location the student thinks is quiet and no one will disturb him/her during the exam. No exemptions from this examination will be given. The final examination will be worth 250 points or 25% of your final grade.

Exam Aids:

During all of the exams, students are allowed to bring and to use the equation sheet, Phys1220_Eqs.pdf that is available in the "Files" of our Canvas. 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 bring your computer to your assigned testing room. Please make sure your computer is fully charged before entering the room as there may not be enough outlets for all. Note that Calculators are not allowed.

Grading

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Assignments in this course are divided into these general categories, which carry the following weight in your final grade calculations:

| 3 Midterm exam | 450 points | | |
|----------------|-------------|--|--|
| Final exam | 250 points | | |
| Assignments | 200 points | | |
| Quiz | 100 points | | |
| Total points | 1000 points | | |

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.

This course follows the typical grading guidelines:

A = 90 to 100% B = 80 to 89% C = 70 to 79% D = 60 to 69% F = 0 to 59%

Contesting Grades

Grades will be updated typically daily on Canvas. You have one week to contest any grade after it is posted. Homework grades will be posted in Expert TA.net and any contesting of grades should be done within a week of completion of the assignment. Any requests for reexamination of scores more than one week after the grades are posted will not be granted. Quiz scores are typically posted daily so there should be plenty of time to contest a score within the allotted week. Requests for quiz make-ups must also be made within the week of the question and must be backed up by a written document validating the conflict.

Attendance Policy

Because of the pace at which material is covered and because of the cumulative nature of the principals involved it is recommended that students not miss a class unless there is a compelling reason. Students are requested to wait 10 minutes in the unlikely event that your instructor is late for class.

In the event of a regional or national emergency (e.g., pandemic, hurricane, etc.), students missing classes may not be charged with unexcused absences if the nature and extent of the emergency are defined and disseminated by the Provost (or designee).

Any exam that was scheduled at the time of a class cancellation due to inclement weather, University power outage etc. 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 the instructor contacts students. Any extension or postponement of assignments or exams must be granted by the instructor via email or Canvas within 24 hours of the weather-related cancellation.

For a student who reports testing positive or is being asked to quarantine/isolate because of exposure to the virus, it will be up to the student to inform the instructor that they will be moving to online-only instruction for at least the next two weeks. Students are directed to use the Notification of Absence module in Canvas to initiate this notification. Additional communication via email is encouraged; students should follow up with their instructor to develop a continued plan of study for each course. Students cannot be penalized in their grades for needing to move to online instruction.

Make-up Work Due to Missed Attendance:

 Students should speak with their course instructors regarding any scheduled absence as soon as possible and develop a plan for any make-up work.

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- In the event of an emergency, the student should make direct contact with the course instructor, preferably before a class or an exam takes place. It is the student's responsibility to secure documentation of emergencies if required.
- While course instructors should seek to make reasonable accommodation for a student involved in University-sponsored activities, students should understand that not every course can accommodate absences and that absences do not lessen the need to meet all course objectives.

Notification of Absence:

- The Notification of Absence module in Canvas allows students to quickly notify instructors (via an email) of an absence from class and provides for the following categories: court attendance, death of a family member, illness(or COVID-19 related isolation), illness of family member, injury, military duty, religious observance, scheduled surgery, university function, unscheduled hospitalization, other anticipated absence, or other unanticipated absence. The notification form requires a brief explanation, dates, and times. Based on the dates and times indicated, instructors are automatically selected, but students may decide which instructors will receive the notification. This does not serve as an "excuse" from class, and students are encouraged to discuss the absence with their instructors.
- If a student is unable to report the absence electronically, he/she may call the Office of Advocacy and Success at 656-0935 for assistance and guidance. 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.

Class Roll:

Students can use iROAR to add courses through August 25, to drop courses without record through September 1, and to drop with a W grade through October 23, 2020. Students that have not participated in in-class activities by the second week, after the last day to add a class (August 25), will 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 2020 semester, "excessive absences" will apply to students that never engage inclass 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).

Classroom Behavior:

The Clemson Office of Community and Ethical Standards maintain expectations for Student Classroom Behavior: https://www.clemson.edu/campus-life/student-conduct/classroombehavior.html. While on campus, face coverings are required in all buildings and classrooms. Face coverings are also required in outdoor spaces where physical distance cannot be guaranteed. Please be familiar with the additional information on the <u>Healthy Clemson</u> website, such as the use of wipes for in-person classes. "Refusal to comply with faculty direction"

constitutes a disruption. If a student does not have a face covering or refuses to wear an approved face-covering without valid accommodation, the instructor will ask the student to leave the academic space. The class should not begin or continue until the safety of all in attendance can be maintained, including delaying the start, moving directly to online instruction, or canceling class as a last resort. If the class must be altered because of non-compliance, the student behavior should be reported to the Office of Advocacy and Success at 656-0935, who will triage incidents via conduct or CARE. If the case results in a substantive disturbance, the Clemson University Police Department should be called at 656-2222 after a reasonable attempt to continue the class.

Classroom Usage and Cleaning Protocol:

Specific COVID-19 related information for in-person classes.

Before coming to campus or leaving a residence hall to go to class, all instructors and students should complete the COVID-19 Self-Assessment Tool. To create a culture of health and safety, faculty are encouraged to address their specific classroom on the first day of class. Once the instructor from the previous class leaves the classroom, or the room is empty, the instructor may enter and use a disinfecting wipe to clean their instructional area (podium/table and all equipment). When ready, the instructor will let students into the classroom. Instructors should remind students to take only one wipe and to only take a wipe if they need one. To maintain physical distancing, individuals arriving first to the classroom should occupy the furthest space. For example, for classrooms with rear entry, space should fill from the front to the back, and individuals at the back of the space should exit first. For other spaces, faculty should provide students with direction on how to fill the classroom to maintain distance as much as possible. At the end of class, instructors should again wipe down their instructional area and discard their disinfecting wipes in the labeled trash receptacles. Any classroom issues should be reported before leaving for the Building Security Coordinator, CCIT (contact information provided at instructor desk/podium), and/or Facilities (656-2186). Response to a Presumptive Positive or Positive COVID-19 Test: Instructors and students who are informed that they have a presumptive positive diagnosis or have tested positive for COVID-19 should immediately selfisolate and submit the COVID-19 Positive Test Reporting Form (under development, see University COVID-19 webpage). Notification of a Positive COVID-19 Test and Related Contact Tracing:

Academic Grievances

Academic grievances are handled by <u>Dr. Jeffrey Appling</u> in Undergraduate Studies. Students are advised to visit the <u>Ombuds Office</u> before filing a grievance. After a discussion with the undergraduate academic ombudsman, students should contact Undergraduate Studies (656-3022) for assistance filing official paperwork.

Technical Support: If you are experiencing technical difficulties with any element of the course, please contact me immediately. I will direct you to the appropriate IT support (for course site issue email ithelp@clemson.edu and for Expert TA site issue go to http://TheExpert_TA.com/support/student-support/ or call (877) 572-0734) to fix the issue promptly.

Faculty Response Time

Communications Response Time: Instructor response time is 36 hours for questions posted in the Learning Management System and sent via email. This response times exclude weekends, official University closures, and other times as noted by the instructor. Should you need live assistance, email me to arrange an office or phone consultation.

Faculty Grading Expectations: Most assignments will be graded within 72-hours. Some assignments may be graded by Canvas and will be available for review after the due date of the assignment. Larger assignments may take up to one week to be graded. Late work will be graded within one week of submission.

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 Chapter. If you have any questions, please contact your instructor.

Receiving Grades & Instructor Feedback

Assignment grades and feedback are provided generally **48 hours** after the assignment is due and always before an assignment of the same type is due. Unless otherwise stated, grades and feedback will be available via the **Grades** area of the course site.

Tutoring Information

This course is supported by the Academic Success Center 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 the 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 with take-home tests or quizzes, they will help you understand and reinforce concepts that you are learning in your classes. For more information visit https://www.clemson.edu/asc/courses/tutoring/index.html.

Additional Course Support

If you discover that you would like additional support to meet your success goals for this course, contact the Academic Success Center using their "Request for Course Assistance" form (http://www.clemson.edu/asc/courses/index.html). Private tutoring may be available through the Tutor Matching Service. If you feel confident in your abilities in this course after completion, or in other courses you have already completed, please consider signing up to provide tutoring at a pay rate you set for yourself (http://www.clemson.edu/asc/courses/private-tutoring.html).

Course Calendar:

| Monday | Tuesday | | Nednesday | Thursday | Friday | | | |
|------------|-------------------------|-----|-----------------|---------------------|-------------------------|--|--|--|
| August 17 | 18 | 19 | | 20 | 21 | | | |
| No class | | | Intro/Ch 1 | | Ch 2 | | | |
| 24 | 25 | 26 | | 27 | 28 | | | |
| Ch 2 | HW Learning | | Ch 2 | HW #1 Due | Ch 2 | | | |
| 31 | September 1 | 2 | | 3 | 4 | | | |
| Ch 3 | | | Ch 3/4 | HW #2 Due | Ch 4 | | | |
| 7 | 8 | 9 | | 10 | 11 | | | |
| Ch 4 | | | Ch 4 | HW #3 Due | Ch 5 | | | |
| 14 | 15 | 16 | Review-1 | 17 | 18 | | | |
| Ch 5 | HW #4 Due | | Ch 5 | | Ch 5/ 6 | | | |
| 21 | 22 | 23 | | 24 Ch 1-5 | 25 | | | |
| Ch 6 | HW #5 Due | | Ch 6 | <mark>Exam 1</mark> | Ch 6 | | | |
| 28 | 29 | 30 | | October 1 | 2 | | | |
| Ch | | | Ch 7 | HW #6 Due | Ch 7/8 | | | |
| 7 | | | | | | | | |
| 5 | 6 | 7 | | 8 | 9 | | | |
| Ch 8 | | | Ch 8 | HW #7 Due | Ch 9 | | | |
| 12 | 13 | 14 | Review-2 | 15 | 16 | | | |
| Ch 9 | HW #8 Due | | Ch 9 | | Ch 9/10 | | | |
| 19 | 20 | 21 | | 22 Ch 6-9 | 23 | | | |
| Ch 10 | HW #9 Due | | Ch 10 | Exam 2 | Ch 11 | | | |
| 26 | 27 | 28 | | 29 | 30 | | | |
| Ch 11 | | | Ch 12 | HW #10 Due | Ch 12 | | | |
| November 2 | 3GeneralElection | 4 | | 5 | 6 | | | |
| Fall Break | Fall Break | - | Ch 12/13 | HW #11 Due | Ch 13 | | | |
| | | 4.4 | , | | | | | |
| 9 | 10 | 11 | Ch 42 | 12 | 13 | | | |
| Ch 13 | HW #12 Due | | Ch 13 | | Ch 13 | | | |
| 16 | 17 | 18 | Review-3 | 19 Ch 10-13 | 20 | | | |
| Ch 14 | HW #13 Due | | Ch 14/15 | Exam 3 | Ch 15 | | | |
| 23 | 24 | 25 | | 26 | 27 | | | |
| Ch 15 | HW #14 Due | | Thanksgiving | Thanksgiving | Thanksgiving | | | |
| 30 | December 1 | 2 | | 3 | 4 <mark>HW#16Due</mark> | | | |
| Ch 15/16 | HW #15 Due | | Ch 16 | | Ch 16 & Review | | | |
| 7 | 8 | 9 | Ch 1-16 | 10 | 11 | | | |
| | | F | inal Exam | | | | | |
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Phys 1220 Fall 2020 Schedule

August 25: Last day to register or add a class or declare audit.

Sept 1: Last day to drop a class or withdraw from the University without a W grade. Oct. 23: Last day to drop a class or withdraw from the University without final grades. Final Exam: Wednesday, December 9th from 7:00 pm until 9:30 pm

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Assignments

Instructional content is organized in Chapters grouped with corresponding assessments.

Chapter 1: Getting Started with Physics

- Reading Assignment: Chapter 1 (pp. 1-17)
- Read More Worked Examples in Lecture Notes Ch01.
- Watch Recorded Lectures: "Getting Started"
- Expert TA HW #1
- Learning outcomes: You can describe what physics is about and how physics laws and theories are discovered. Students will be expected to know how to learn physics properly and develop the skills to solve problems in physics. Students will use SI units and know how to do the unit conversion, dimensional analysis and to present a measured value with the correct significant figures.

Chapter 2: One-Dimensional Motion

- Reading Assignment: Chapter 2 (pp. 22-50)
- Read More Worked Examples in Lecture Notes Ch02.
- Watch Recorded Lectures: "One-Dimensional Motion"
- Expert TA HW #2
- Learning outcomes: You will determine the displacement, velocity, and acceleration from position-versus-time or velocity-versus-time graph, and will calculate the position, displacement, time interval, velocity, and acceleration of an object using the one-dimensional kinematic equation.

Chapter 3: Vectors

- Reading Assignment: Chapter 3 (pp. 59-79)
- Read More Worked Examples in Lecture Notes Ch03.
- Watch Recorded Lectures: "Vectors"
- Expert TA HW #3
- Learning outcome: You will construct geometrically the resultant vector of vector addition, vector subtraction, and vector multiplied by a scalar, resolve a vector into components and draw its graphical representation, calculate the magnitude and direction of a vector, convert vector representation of Cartesian coordinate into a polar coordinate and vice versa, and apply the vector techniques to analyze displacement and velocity of two-dimensional motion.

Chapter 4: Two-and Three-Dimensional Motion (the rest of the Chapters are described in detail in Chapters with the same structure as for Chapter 1, 2, and 3)

Chapter 5: Newton's Laws of Motion Chapter 6: Applications of Newton's Laws of Motion Chapter 7: Gravity Chapter 7: Gravity Chapter 8: Conservation of Energy Chapter 9: Energy in NonIsolated Systems Chapter 10: Systems of Particles and Conservation of Momentum Chapter 10: Systems of Particles and Conservation of Momentum Chapter 11: Collisions Chapter 11: Collisions Chapter 12: Rotation II: Kinematics and Dynamics Chapter 13: Rotation II: A Conservation Approach Chapter 14: Static Equilibrium, Elasticity, and Fracture Chapter 15: Fluids Chapter 16: Oscillations

Course Navigation

The buttons in the course menu provide access to these content areas:

- Announcements: Includes updates and reminders for the course.
- **Syllabus**: Explains the course objectives, grading criteria, student responsibilities, and final exam information for proctoring.
- **Files**: Includes many additional study materials such as Lecture Notes, Recorded Lectures, Old Exam Solutions, and Equation Sheets.
- **Grades**: Displays instructor feedback and grades. If you see an exclamation mark for an assignment, it means the assignment has been submitted and will be reviewed by the instructor. If you see a score for an assignment, you can click on it to read feedback from your instructor.
- Modules: Includes video-recorded lectures.

Course Content

This course contains Chapters (or chapters), each consisting of some or all of the following components:

- **Textbook Reading:** In each chapter, you will read a chapter, or several chapters, from the textbook and/or other course materials made available to you in the course site.
- *Worked Examples:* In the lecture notes of each chapter, you will follow through work examples to enhance your understanding of applying the concepts to physics problems.
- **Recorded Lectures:** In most Chapters, recorded lectures are available to further clarify some topics discussed in the textbook with application to solve example problems and to show some demonstration to real-life examples.
- **Assignments and Exercises:** In most Chapters, you will complete an assignment or assessment related to the reading. These assignments and assessments will help in your

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understanding of the material in the assigned chapters and related readings. The assignments include homework at Expert TA, midterm exams, and a final exam.

• *In-Class Quiz:* You will participate in in-class quizzes. We are using the iClicker audience response system in class.

Accepting Late Work

Late work through Expert TA will be accepted up to 48 hours from the original deadline, but a 1%/hour reduction in credit will be given as a penalty. An extension to a deadline can be given if there is a reasonable cause. All work must be submitted by the last day of the course; no extensions or late work will be accepted beyond that date. Please plan ahead.

Communicating with Your Instructor

You have *numerous* ways of communicating with your instructor: phone, email, the *Q&A* forum, and live consultations by appointment with the Adobe Connect Meeting system.

- If you have a question about an assignment or class procedure, consider posting it in the *Q&A* forum (accessed through the Discussion button in the left column of course Canvas) so that other members of the class can benefit from it, too. A lot of learning can happen in this forum if you use it, so please do!
- If you have a personal concern (such as a question about a grade), send a message to your instructor through the course site or your Clemson email account.
- I am here to help you, so please ask questions and seek clarification as early and as often as needed. Delay will only hinder your learning.

Minimum Technical Skill Requirements

Students are expected to have a minimum working knowledge of computers and a word processing program to be successful in a 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 before enrolling in a 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 course site and downloading files such as Microsoft Office documents, YouTube videos, and PDFs. Besides, students should be able to use Microsoft Office to compose written documents.

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

Submitting Work

Make sure you submit coursework according to the directions provided in the course. Here are general guidelines for assignment submission:

- Submit homework assignments in Expert TA before the deadlines.
- Complete the midterm exam
- Complete the final exam
- Do not email coursework unless you have received prior approval from your instructor.

Meeting Deadlines

Assignments are due by **11:55 pm, Eastern Time** on the day specified unless otherwise stated. Plan ahead for the unexpected! You are accountable for staying on the schedule should technological or other problems arise. You should immediately contact the instructor if an emergency may affect your ability to meet course deadlines.

Many students juggle school, work, family, and other life responsibilities all at the same time. If a serious life issue prevents you from staying current in your coursework, contact your instructor as soon as possible to explain your circumstances. Do not let school or life responsibilities overwhelm you. The faculty and staff at Clemson are aware that students face challenges, and we are committed to your success. Often, we may be able to help you see a way to deal with your circumstances and still complete your courses. We have a lot of experience. Give us the chance to help you.

Learning

What matters most in any course is what you learn. This course allows you many different ways to learn, such as reading your textbook, following the hands-on practice in your assignments, communicating with your classmates and your instructor, and discovering other resources across the Internet. If you actively participate in your course, you will get constructive feedback to help you with your learning. Stay active in your course and focused on your learning to get the most out of it.

Changes

Occasionally, circumstances require the instructor to change the syllabus. Should the instructor find a change necessary, you will be notified as soon as possible. You might print this syllabus for a ready referral.

Agreement

If you disagree with any of the policies or procedures spelled out above or cannot accept the demands of the course (i.e., the amount of time and work required), you need to drop the



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course as soon as possible. By staying in the course, you agree to comply with all the policies and procedures described in this syllabus.

Reminder

Your instructor should be your first point of contact and support for any questions or concerns you have about this course.

General Policies & Procedures

Students are expected to adhere to all policies and procedure outlined by Clemson University at <u>University Policies</u>:

http://www.clemson.edu/administration/student-affairs/student-handbook/universitypolicies/index.html.

Online Conduct

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

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

Privacy Policy

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 encounter inappropriate content in our course, please contact me, the instructor, with your concerns.

This course is designed with student privacy in mind. If, however, you feel that an assignment or technology tool undermines your right to privacy, please contact the instructor immediately. We will work together to determine an alternative assignment that will help you achieve the course learning outcomes.

Academic Integrity

Coursework must be documented appropriately in CSE or APA format, based on your major. Content from previous classes may not be submitted.

The Clemson University Academic Integrity Statement

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.

A simple definition of plagiarism is when someone presents another person's words, visuals, or ideas as his or her own. The instructor will deal with plagiarism on a case-by-case basis. The most serious offense within this category occurs when a student copies text from the Internet or from a collective file. This type of academic dishonesty is a serious offense that will result in a failing grade for the course as well as the filing of a formal report to the University.

See the <u>Undergraduate Academic Integrity Policy</u> website for additional information about academic integrity and Clemson procedures and policies regarding scholastic dishonesty.

Email Communication

Because of privacy regulations, University faculty and staff may email students only through Clemson's email. Therefore, you must use your Clemson email account in this course for all email communications. Check your Clemson account at least three times per week for important messages.

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 <u>Student</u> <u>Disability Services</u> 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 <u>sds-l@clemson.edu</u> or <u>864.656.6848</u> or visit SDS's website: http://www.clemson.edu/campus-life/campus-services/sds/about.html.

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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) <u>http://www.clemson.edu/ccit/help_support/</u> or CCIT (Tech Support) email: <u>ithelp@clemson.edu</u>
- Academic Advising http://www.clemson.edu/academics/advising/index.html
- Registrar <u>http://www.registrar.clemson.edu/html/indexStudents.htm</u>

Accessibility

Clemson University values the diversity of our student body as a strength and a critical component of our dynamic community. Students with disabilities or temporary injuries/conditions may require accommodations due to barriers in the structure of facilities, course design, technology used for curricular purposes, or other campus resources. Students who experience a barrier to full access to this class should let the professor know, and make an appointment to meet with a staff member in Student Accessibility Services as soon as possible. You can make an appointment by calling 864-656-6848, by emailing studentaccess@lists.clemson.edu, or by visiting Suite 239 in the Academic Success Center building.

Appointments are strongly encouraged – drop-ins will be seen if at all possible, but there could be a significant wait due to scheduled appointments. Students who receive Academic Access Letters are strongly encouraged to request, obtain, and present these to their professors as early in the semester as possible so that accommodations can be made in a timely manner. It is the student's responsibility to follow this process each semester. You can access further information here: <u>http://www.clemson.edu/campus-life/campus-services/sds/</u>. The CU Accessibility Portal (https://www.clemson.edu/accessibility/) is a "one-stop" site for information.

Commitment To Diversity

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

The Clemson University Title IX (Sexual Harassment) 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 (e.g., opposition to prohibited discrimination or participation in any complaint process, etc.) 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. To locate information on the <u>Title IX policy</u>, <u>visit http://www.clemson.edu/campus-life/campus-services/access/title-ix/</u>. Mr. Jerry Knighton is the Clemson University Title IX Coordinator and is also the Director of Access and Equity. His office is located at 111 Holtzendorrf Hall, <u>864.656.3181</u> (voice), or <u>864.565.0899</u> (TDD).

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 in, the class will be conducted in a virtual (online) format. The University issues official disruption notifications through email /www /text notification/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: www.clemson.edu/canvas Secondary access link, if needed: https://clemson.instructure.com/ You can also use the Canvas Student App.

Our activities for teaching and learning will occur through our Canvas course. This includes: information on the preferred method(s) of teaching and learning. Refer to the Clemson Online sheet "teaching in a planned/unplanned event" to create your plans.

Inclement Weather Statement:

Any exam that was scheduled at the time of a class cancellation due to inclement weather 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 or postponement of assignments or exams must be granted by the instructor via email or Canvas within 24 hours of the weather-related cancellation.

University officials monitor local weather conditions before making decisions to cancel classes, close offices, or delay openings. For updates on the status of Clemson classes and office closings:

- Check the Clemson University homepage (http://www.clemson.edu/) for messages about closings or delays;
- Check the CU Safety page (http://www.clemson.edu/cusafety/) for detailed messages and weather advisories;
- Check your Clemson University e-mail for CU Safe Alerts or Inside Clemson messages;
- Check your cell phone if you have signed up to receive CU Safe Alert text messages (See the CU Safety page for sign-up instructions);
- Call the Clemson University switchboard at 656-3311 for recorded updates between 8 p.m. and 8 a.m. Monday-Friday and on weekends (recorded messages provide closure information, not weather forecasts); and

- Tune in to local TV and radio stations or log on to their Web sites.
- When local county government offices are closed, local Clemson University campuses also are closed.

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:

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

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 or further disseminated. They are provided in compliance with the provisions of the Teach Act. Students should be reminded to refer to the <u>Use of Copyrighted Materials and "Fair Use" Guide</u> at Clemson Libraries, for additional information. Clemson students, faculty, and staff are expected to comply fully with institutional copyright policy as well as all other copyright laws.

Important Dates

September 1: Last day to drop a class or withdraw from the University without a W grade October 23: Last day to drop a class or withdraw from the University without final grades

Exam dates

Midterm exam-1: Thursday, September 24th from 7:00 pm to 8:00 pm. Midterm exam-2: Thursday, October 22nd from 7:00 pm to 8:00 pm Midterm exam-1: Thursday, November 19th from 7:00 pm to 8:00 pm Final Exam: Wednesday, December 9th from 7:00 pm until 9:30 pm