

## Fall 2022, PHY2053: Physics 1 Course Syllabus

Gen Ed Area	Course #	Course Name	GE Code
Natural Science	PHY 2053	Physics I	P

Instructor: <b>Dr. Sujata Krishna</b>	Instructor: <b>Dr. James Hamlin</b>
Office Location: NPB 2249	Office Location: NPB 2263
Email: <a href="mailto:phy2053@phys.ufl.edu">phy2053@phys.ufl.edu</a>	Email: <a href="mailto:phy2053@phys.ufl.edu">phy2053@phys.ufl.edu</a>

### Policy Regarding COVID-19

In response to COVID-19, the following recommendations are in place to maintain your learning environment, to enhance the safety of our in-classroom interactions, and to further the health and safety of ourselves, our neighbors, and our loved ones.

- If you are not vaccinated, get vaccinated. Vaccines are readily available and have been demonstrated to be safe and effective against the COVID-19 virus. Visit [one.ufl.edu](http://one.ufl.edu) for screening / testing and vaccination opportunities.
- If you are sick, stay home. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 to be evaluated.
- Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up necessary work.

### Basic Course Communication Information

This section tells you how to contact the course instructor and TAs and gives an overview of how communication will happen and in what time frame

There are **TAs** available to help you during discussion sections and office hours. Please contact your TA using Canvas Mail. The office hours schedule and contact information for TAs can be found in **Office Hour Links** on Canvas.

The Official course e-mail is guaranteed a response by the instructors. Contacting TAs must be through Canvas message and do not copy the instructors. On weekdays we respond to email between the hours of 8 am and 6 pm and will usually respond within 48 hours.

## **Class Comportment**

All participants of this course (students, TAs, and instructors) should adhere to the following netiquette policies:

- Treat your instructor and classmates with respect in email or any other communication.
- Always use your professors' proper title: Dr. or Prof.
- Use clear and concise language.
- All college level communication should have correct spelling and grammar (this includes discussion boards).
- Be cautious when using humor or sarcasm as tone is sometimes lost in an online interaction and your message might be taken seriously or sound offensive.

## **TA Information**

This section lays out the role and responsibilities of the TA, how to contact the TAs, and gives an overview of how communication will happen and in what time frame.

### **Statement on TA Role**

The TAs will be running your discussion sections, writing and grading your quizzes, and managing quiz makeup requests. We (the instructors) will guide the TAs in these endeavors. All course policies have been set by the instructors, and any questions about them should be sent to both instructors through the course e-mail list. Your TAs are not the authorities on course policy. They are, however, excellent authorities on physics, and you should not be shy about asking them questions. They are actively involved in departmental TA training to continuously improve their teaching practices. If you have any concerns, please contact your instructors.

**TAs are not responsible for creating or interpreting course policies. Any questions/clarification required for course policy must be addressed to your instructors.**

## Required and Recommended Materials for This Course

This section overviews the materials you will need to complete the assigned work in the course.

Times/dates of all items listed in our syllabus in Canvas are in US East Coast times. Canvas does not automatically reset these to show when they will occur in your local time. **Currently UF policy is such that all quizzes and exams must be taken in person in Gainesville.**

- **Canvas Notifications:**

You must have your notifications in Canvas set such that you get instant notification of all course Announcements and (minimum) daily notification of emails.

1. Text (e-book)

*College Physics: A Strategic Approach* by Knight, Jones, and Field (4e).

**UF All-Access is for the e-text and the HW system.** We suggest you obtain the etext from RedShelf. You must also purchase access to the HW system, ExpertTA.

Required or recommended texts:

Text No. 1	Title: COLLEGE PHYSICS ISBN: UFALLACCESS Cover: e-book No, must purchase	Publisher: PEARSON Edition: 4 UF All Access title requested	Author: KNIGHT Copyright: This text is required
Text No. 2	Title: ExpertTA- INTRODUCTION TO PHYSICS ISBN: UFALLACCESS Cover: software No, must purchase	Publisher: ExpertTA Edition: UF All Access title requested	Author: ExpertTA Copyright: This text is required

**Comments or Notes for Vendors Only:** Students: Please note that this course will be participating in the UF All Access program. Login at the following website to gain access to your required course materials - <https://www.bsd.ufl.edu/allaccess> – UF All Access will provide you with your required materials digitally at a reduced price and the charge will be posted to your student account. This option will be available starting 1 week prior to the start of the semester and ending 3 weeks after the first day of class.

**Comments or Notes for Students and Vendors:** Students: Please note that this course will be participating in the UF All Access program. Login at the following website to gain access to your required course materials - <https://www.bsd.ufl.edu/allaccess> – UF All Access will provide you with your required materials digitally at a reduced price and the charge will be posted to your student account. This option will be available starting 1 week prior to the start of the semester and ending 3 weeks after the first day of class.

## 2. Homework:

- HW will be presented and submitted through Expert TA. To access the homework, click the "Assignments" link in the left-hand navigation menu. Clicking on an assignment will take you to the assignment in Expert TA. The first time you do this, you will be asked to pay for your access privileges.

## 3. Clickers:

Most lectures will feature in-class clicker questions for extra credit. UF has purchased a sitewide license to the iClicker system; please see iClicker setup slides in the canvas course to get started.

Use your [@ufl.edu](mailto:@ufl.edu) email address when registering with iClicker; if you use a different account, we will not be able to match you to the gradebook and you will not be awarded any points.

## 4. Calculator:

For this course, a scientific calculator is a necessity. This is a calculator that can handle trig. *Internet-capable calculators and cell phones as calculators are not allowed.* Canvas does not have a built-in calculator. You must bring your own calculator to your quizzes; failure to bring your own calculator is not grounds for requesting a makeup.

## Course Goals

This course aims to provide strong foundational knowledge of the mechanics of motion, forces, energy, momentum, wave motion. The vector math learned in this course will also be used in any further physics courses.

## Course Objectives

By the end of this course, students will have developed a foundation in the concepts, principles, terminology, and methodologies used to describe motion (translational, rotational, and combined) of simple objects, the basic properties of matter, harmonic oscillations, and wave motion. Specifically, students will be able to:

1. **Analyze** particular physical situations, and thus identify the fundamental principles pertinent to those situations to make successful predictions of system behavior.
2. **Apply** fundamental principles to formulate mathematical equations describing the relation between physical quantities in these particular situations.
3. **Solve** mathematical equations to find the values of physical quantities.

4. **Communicate** unambiguously both the principles that apply to a situation and the results of specific calculations resulting from the steps above.

## **Expected of Students:**

To achieve the learning outcomes, students are expected to:

- To read the textbook section before coming to the class on that section. This way you will receive the most out of the class time.
- The technical ability to use Canvas, Mastering Physics, in addition to the use of Microsoft Word and Excel or equivalent packages.
- Full participation in the group problem solving session in order to learn the physics concepts, principles, and problem-solving techniques of introductory physics.
- Complete reading quizzes and homework assignments to self-assess your understanding of the module's concepts and problem-solving strategies on a weekly basis.
- To seek help from your instructor and other students when specific content does not make sense, and to seek out additional practice when needed to gain mastery before moving on to future modules. These additional materials should include problems at the end of the chapter that are not assigned as part of your homework.

This course requires an extensive amount of time to do all of the above, and students should plan accordingly to spend 9 hours per week on studying for this course.

Our course material is separated into Modules based on topic. We have provided additional optional materials (videos of problem solving, etc.) and these are located in the Modules within Canvas.

## **Attendance Mode**

- Lectures will be held in person. Students are expected to attend and engage during each lecture and discussion section.
- All midterm and final Exams will be on campus, in person.
- Quizzes will be taken on paper during discussion in-person.

## **Grading**

**Grading in this course takes place within the following parameters.**

Your course grade will be based on a 105.5 point fixed scale.

Your grade is determined by your performance on the following in-class and out-of-

class components: 3 exams, weekly quizzes, and on-line homework totalling 100 points. In addition you can earn extra credit through in-class clicker questions (5 points) and the syllabus quiz (0.5 points). All grades will be available in Canvas. We use drop-lowest as a make-up policy to accommodate circumstances that may arise throughout the semester that may hinder your performance in the homework, the discussion quizzes and participation, and the clicker questions. The drops for each category are given in the table below. Grading in this course is consistent with [UF Grading policies](#).

Assignment Values: Point values/percentages for each assignment are available in the Assignments page of Canvas.

## Policy on Late and Make-up Work

Homework solutions are released immediately after the due-date thus **no late HW can be accepted for credit**. Makeups for quizzes and exams are permitted under UF attendance policy guidelines. See the following sections for further details:

## Grade Return Timing

Item	Points	# of Drop Lowest
Exam 1	25.0	0
Exam 2	25.0	0
Exam 3	25.0	0
Quizzes	20.0	1
Homework	05.0	2
Total Course Points	100.0	N/A
Clicker (Extra Credit)	05.0	5 sessions
Syllabus quiz (extra credit)	0.5	0

Homework grades and solutions are released within 5 minutes of the due-date through Expert TA. Graded quizzes are posted by the following week's discussion session. Exam grades are typically posted within 1 week of the exam.

Note that a grade of C- is not a qualifying grade for major, minor, Gen Ed, or College Basic distribution credit.

Letter Grade	Range	
A	100	to 85
A-	< 85	to 80
B+	< 80	to 75
B	< 75	to 70
B-	< 70	to 65
C+	< 65	to 60
C	< 60	to 55

Letter Grade	Range	
C-	< 55	to 50
D+	< 50	To 45
D	< 45	To 40
D -	< 40	To 35
E	< 35	

## UF Policies Shaping This Course

**This course is aligned with the UF policies described below.**

### **Contact Hours:**

"Contact Hours" refers to the hours per week in which students are in contact with the instructor, excluding office hours or other voluntary contact. The number of contact hours in this course equals the number of credits the course offers.

### **Workload:**

As a Carnegie I, research-intensive university, **UF is required by federal law to assign at least 2 hours of work outside of class for every contact hour.** Work done in these hours may include reading/viewing assigned material and doing explicitly assigned individual or group work, as well as reviewing notes from class, synthesizing information in advance of exams or papers, and other self-determined study tasks.

For tips and suggestions on how to approach this class and the appropriate amount of work required to master the topics we'll be covering please see the

Canvas course page: “How to Study for PHY2053”

## **UF Attendance Policy** for Excused Absences

### **Statement Regarding Evaluations:**

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. See the [guidance on how to give feedback](#) in a professional and respectful manner is available at. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via the [GatorEvals website](#).

### **Statement Regarding Course Recording:**

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Code and Student Conduct Code.



## **Honor Policy:**

- ♦ UF students are bound by The Honor Pledge which states, “**We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code.**”

## **DRC Information and Policies**

### **Disability Resource Center**

DRC Phone: 352-392-8565

DRC helps to provide an accessible learning environment for all by providing support services and facilitating accommodations, which may vary from course to course.

Once registered with DRC, students will receive an accommodation letter that must be presented to the instructor when requesting accommodations. Students should follow this procedure as early as possible in the semester.

### **Accommodation for Students with Disabilities:**

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the **Disability Resource Center**. This class supports the needs of different learners; it is important for students to share their accommodation letter with their instructor and discuss their access needs as early as possible in the semester.

*The DRC has an online portal for sending out accommodation letters, and you need an instructor email address in order to use it. For this purpose only, you may use the email address [jhamlin@ufl.edu](mailto:jhamlin@ufl.edu) to generate your letter. Please send a copy of your DRC letter to your TA as well.* DRC Accommodation Letters received at least 72 hours in advance of a timed assessment will be in effect for all future assessments. **If a response is submitted with less than 72 hours until the next scheduled assessment, then the accommodations will apply after the next timed assessment. Failure to meet the announced 72 hour deadline prior to a timed assessment is not a valid rationale for requesting a makeup assessment.**

## **Statement on Inclusion**

Physics, like all human endeavors, is something that is learned. Physics is practiced and advanced by a scientific community of individuals with diverse backgrounds and identities and is open and welcoming to everyone. We recognize the value in diversity, equity, and inclusion in all aspects of this course. This includes, but is not

limited to differences in race, ethnicity, gender identity, gender expression, sexual orientation, age, socioeconomic status, religion, and disability.

Our aim is to foster an atmosphere of learning that is based on inclusion, transparency, and respect for all. We acknowledge the different needs and perspectives we bring to our common learning space and strive to provide everyone with equal access. Know that *you belong here*.

Please don't hesitate to contact us with any concerns, or with any suggestions for improving the inclusivity of this course.

## **Additional Information**

### **The following are additional policies regarding graded material for this course.**

See the Course Schedule on the sidebar in Canvas for detailed information about lecture, quiz and exam content, etc.

#### **Homework:**

Before you begin you will need to register your account.

Homework sets will be due on Sunday at 11:59 pm and will be open for at least 7 days prior to the deadline.

You get 5 attempts to get a question right. You will lose a portion of that part value as a deduction for each incorrect submission attempt. For multiple choice or true/false type questions credit will be deducted for incorrect attempts. Deduction per incorrect answer =  $100\% / (\# \text{ of options} - 1)$ . Full solutions to homework will be available immediately after the due date in the homework system.

Expert TA requires your responses be within 2% of the correct answer to account for rounding errors. Going by significant figures can result in the system marking your answer wrong despite you technically being correct. Do not worry about significant figures unless specifically asked for them in the HW problem.

Follow appropriate practices of academic honesty when working on the Homework Problems: discussions with colleagues and/or tutors about methods of posing and solving a homework problem are acceptable and encouraged. Using a formula that is specific to the problem, derived by someone else to input answers is considered cheating.

Some of the exam and quiz questions will be based on the homework problems.

Treat the homework as practice for the exams and quizzes: derive, on your own, any result that you submit and attempt to do so using the provided formula sheet and minimal reliance on your calculator.

## **Make-up Homework**

Homework Solutions are released immediately after the due date; no make-ups are possible for homework. We do, however, apply a drop to your lowest 2 homework grades.

## **In-Class Clicker:**

In-lecture clicker questions begin to count on after the first two weeks of class. You must use either a computer or mobile device to participate in the clicker questions. We will get practice with clicker on the 2nd week of class. Correct responses to clicker questions are worth 2 points and incorrect responses will be worth 1 point. **Responding for other students is considered cheating by both parties.**

## **Discussion Section Participation:**

During your second discussion section you will work in groups of ~4. This session will provide you TA-guided practice on solving past Exam questions from released exams.

## **Surveys:**

There are surveys that we ask you to complete during the semester. No preparation is required for either survey; they are designed as course benchmarks. You will receive full points for fully participating in these surveys. Surveys total the worth of one quiz.

# **Exam-Specific Information**

**This section provides information on exam content, dates, and makeup policy.**

## **Exams:**

Exams each have 15 multiple choice questions and are worth 25 points. Exams are **closed book/closed notes**; the only materials allowed are your pencil/eraser/pen/highlighter, scientific or graphing calculator. We will provide scratch paper for in-person exams. **Private formula sheets and cell phones as calculators are not allowed.** An official formula sheet will be provided.

There will be numerical and variable-only problems.

The Final Exam will be comprehensive of all sections covered.

Dates and content covered by the Exams is found on the Course Schedule.

In addition to these regular exam dates there are also three makeup exam dates. Makeup Exam 1 and Exam 2 will be scheduled ~1 week after the date of the originally scheduled exam, scheduled to allow all who missed the original exam to take the makeup at the same date and time. The Final Exam makeup date is set by UF and will be finalized closer to the final exam date and announced in Canvas.

**The answer you mark on your Exam is your final answer to a question. We do not look back over your work, even if you think you solved it correctly on the scratch paper.**

A student who will miss an assembly exam due to an exam conflict or any other foreseeable reason that is approved under [UF attendance policies](#) should request **in advance** to take the makeup exam instead of the regular exam. Exam priority is determined by the [UF Registrar Policy for Exams](#).

A student who has an unforeseeable absence from an exam should contact the instructor as soon as possible, normally **within 24 hours after the missed exam**. For an absence to be approved, documentation of the reason for absence must be provided. If the unforeseeable absence is excused by the instructor, the student will be expected to take the conflict exam unless they have another exam conflict or reason that is approved under UF attendance policies. The conflict exam will cover the same subject matter as the regular exam and in a similar format, although the exams will not be identical.

**Quizzes** will be administered in your first discussion section of the week. All students will be taking the quiz on paper.

You **must** be present in person to take the quiz.

- You will supply an appropriate calculator, writing implements. We will supply the formula sheet that will be used on the closed-book, closed-note exams and scratch paper. You must submit any scratch paper.
- Quizzes test how well you have learned the concepts and methods of the assigned homework problems. **The quiz questions will be related to, but not identical to, the online homework problems.** The problems may be restructured to provide guidance, allow awarding of partial credit, and discourage memorization of a solution formula.
- There will be two questions on each weekly quiz. Each question will be graded

on a 5-point scale. You are expected to do the problems on your own without any additional help. Note that formula sheets will still be provided with the quizzes so that you may practice using them for the exams.

- Content covered by quizzes is found in the Course Schedule.

To allow for partial credit we will include a text entry field where you can describe in proper English your approach to the problem. This should just be a rough outline of the main ideas you used in getting to your solution. You should only write these after you have solved the problem to your satisfaction, or if you get stuck in getting a numerical answer, then include what you think the general approach should be (the text description allows for giving partial credit).

**Example:** The director wants the boom to begin to tip just as the Rock reaches the end of the boom. How far from the point where the boom attaches to the crane should the counterweight be placed if the counterweight weighs 230 kg and the Rock weighs 15 kg? (Answer in terms of D.)

On describing your approach in the text entry box:

**Incorrect:**

I would use 1D kinematics to find how long it takes for the Rock to move from the center of the boom to the edge, using D as the distance traveled, and  $2\pi D/v$  as the acceleration.

**Too short:**

Use equilibrium to find the distance.

**Too long** (We will not take off for an answer being "too long" - but keep in mind that you still only have 30 minutes to take the entire quiz, including calculations.):

This problem has a tipping bar and things providing torque, so it is an equilibrium problem. As such, we need to use the sum of the torques = 0 to solve for the unknown variable. When you move the Rock's torque to the other side of the equation you can replace the  $\tau$ s with  $FR\sin(\theta)$  and then do some algebra to rearrange the known variables to be on the other side of the equation from R for the counterweight. Use 90 degrees for  $\theta$  because the boom is horizontal and gravity points straight down.

**Just right:**

This is an equilibrium problem. Set the sum of torques equal to zero and solve for the unknown lever arm.

**Make-up quizzes** are permitted provided you have a valid documented excuse (e.g. doctors excuse for illness, official UF sanctioned event). Submit requests to your TA only. Your TA will approve or deny the request. If approved your TA will contact you for further arrangements.

The make-up quiz must be taken within 3 weeks of the missed quiz (not within 3 weeks of the request for approval of the makeup). *There will be no make-up quizzes for quiz 1-10 given after 5 pm on Monday of the last week of classes.* **You have until this date to request any re-grade or to question any grade discrepancy pertaining to the quizzes.**

## **Additional UF Policies and Resources**

### **Tutoring**

**Knack:** There is a new tutoring service being offered through UF, for free for PHY2053. Financial need students can also receive free tutoring from Knack for any of your UF courses: <https://studentsuccess.ufl.edu/knack-tutoring/>

**The Teaching Center:** will continue to be open and available for students with in- person and virtual/online tutoring during the Fall 22 semester. They will be offering drop-in and appointment tutoring.

For all new appointments made, those will be individual sessions (and are not recurring), to give more students an opportunity to sign up. If a student would like to sign up for multiple sessions (such as one this week and one next week, etc), they would sign up for each one that they would like individually (there is no cap/limit on sessions that students can sign up for).

Students can go to the [Broward Teaching Center signup page](#) and then click on the "Click Here to Schedule an Appointment" link to sign up and will login with their GatorLink credentials.

## **Official Sources of Rules and Regulations**

The official source of rules and regulations for UF students is the [Undergraduate Catalog](#). A few other links are listed here for your convenience.

### **[Student Handbook](#)**

**[Student Responsibilities](#)** including academic honesty and student conduct code

**[e-Learning Supported Services](#)** includes links to relevant policies including

Acceptable Use, Privacy, and many more

**[Accessibility](#)**, including the Electronic Information Technology Accessibility Policy and ADA Compliance

**[Student Computing Requirements](#)**, including minimum and recommended technology requirements and competencies.

## **Tentative Schedule**

We expect to adhere to the following schedule. However, changes to the schedule can occur due to unforeseen circumstances and if so, announcements will be made in Canvas and in person in class.

Date	Day	Book Sections Covered	Topic	Lecture Number
25-Aug-22	Thursday	Intro to Course	Course Orientation	1
30-Aug-22	Tuesday	1.1-1.7	Representing Motion & <b>Add/Drop Ends</b>	2
1-Sep-22	Thursday	2.1-2.4	Velocity, Acceleration (1D Motion)	3
6-Sep-22	Tuesday	2.5-2.7	Constant Acceleration & 1D Motion Problem-Solving	4
8-Sep-22	Thursday	3.1-3.4	Vectors, 2D Motion	5
13-Sep-22	Tuesday	3.5-3.6, 3.8	Projectile Motion, Relative Velocity	6
15-Sep-22	Thursday	4.1-4.7, 5.2	Forces, FBDs, N's 1st & 2nd	7
20-Sep-22	Tuesday	4.1-4.7, 5.2	N's 3rd, including contact forces	8
22-Sep-22	Thursday	5.4-5.5, 5.7-5.8	Contact Forces, Friction, Tension	9
27-Sep-22	Tuesday	5.3, 8.3 (END E1 MATERIAL)	Apparent Weight, Springs	10
29-Sep-22	Thursday	3.7, 6.1-6.4	Uniform Circular Motion	11
TBD	TBD		EXAM 1 REVIEW	
3-Oct-22	Monday		<b>EXAM 1: 8:20 - 10:20 PM</b>	
4-Oct-22	Tuesday	6.5-6.6	Gravity & Orbits	12
6-Oct-22	Thursday	7.1-7.4	Rotational Motion, Torque	13
11-Oct-22	Tuesday	7.5-7.7	Moment of Inertia, N's 2nd in Rotational Form, Rolling	14
13-Oct-22	Thursday	5.1, 8.1-8.2, 8.5	Equilibrium	15
18-Oct-22	Tuesday	8.4	Elasticity	16
20-Oct-22	Thursday	10.1-10.4	Work & Energy	17
25-Oct-22	Tuesday	10.6, 10.10, 11.1	Energy Conservation & Power	18
27-Oct-22	Thursday	9.1-9.4	Momentum & Impulse, Conservation of Momentum	19
1-Nov-22	Tuesday	9.5-9.6, 10.9	Collisions	20
3-Nov-22	Thursday	9.7 (END E2 MATERIAL)	Angular Momentum	21
TBD	TBD		EXAM 2 REVIEW	
8-Nov-22	Tuesday	13.1-13.3	Fluids: Density, Pressure, Buoyancy	22
9-Nov-22	Wednesday		<b>Exam 2 8:20 – 10:20 pm</b>	
10-Nov-22	Thursday	13.4-13.7	Fluid Dynamics, Fluids Problem-Solving	23
15-Nov-22	Tuesday	14.1-14.6	Oscillations, SHM, Pendulum Motion	24
17-Nov-22	Thursday	15.1-15.4	Traveling Waves	
21-Nov-22	Monday		<b>LAST DAY TO DROP/WD</b>	26
22-Nov-22	Tuesday	15.5-15.7	Loudness, Doppler Effect	27
24-Nov-22	Thursday		No Class: Happy Thanksgiving!	
29-Nov-22	Tuesday	16.1-16.4	Standing Waves	
1-Dec-22	Thursday	16.5-16.7	Hearing Interference, Beats	28
5-Dec-22	Monday		5 pm: Quiz 1-10 makeups / regrade requests due	
6-Dec-22	Tuesday	TBD	TBD: Extra class Final Exam Review	
7-Dec-22	Wednesday		CLASSES END	
8-Dec-22	Thursday		Reading Days	
13-Dec-22	Tuesday		<b>FINAL EXAM 12:30 -2:30 pm</b>	
TBD	TBD		<b>MAKEUP FINAL EXAM: TBD</b>	



