## **COURSE SYLLABUS**



## **PHYS 4A Mechanics and Wave Motion**

Fall 2023

(Updated on 8/17/2023)

Course Modality: face-to-face				
Course ID number	Instructor Name			
PHYS4A-07-75636-2237	Pei-Chun Ho			
Units: 3	Department of Physics California State University, Fresno			
Class Meeting Location & Time: McLane 162 Tuesday: 6:30 PM – 7:45 PM Thursday: 6:30 PM – 7:45 PM	Email / Telephone peiho@mail.fresnostate.edu (559) 278-5990			
Canvas: fresnostate.instructure.com Prerequisites:	Office Student Support Hours			
Proficiency in High-School Algebra, Geometry, and Trigonometry Math 75 or Math 75A and Math 75B; MATH 76 with a C grade or better.	Tuesday & Thursday: 7:45 PM – 9 PM (Continuing from PHYS 4A in McLane162 or 255)			
MATH 76 may be taken concurrently.	Monday & Wednesday: 12:15 PM – 1:15 PM (Continuing from PHYS 102 in McLane 258 or 255) For further hours, upon request by email			

#### **Course description:**

This three-unit course will introduce the fundamentals of classical Newtonian mechanics. Topics include linear and circular motions; analysis of various forces, freebody diagrams; studies of various energies: work, kinetic energy, potential energy, mechanical energy, energy in general; systems of particles; linear and angular momentum; rigid-body motion and rotational dynamics; gravity; wave motion and fluids. In addition, the course fits into the curriculum General Education (G. E.) Breadth B1 when taken with PHYS 4AL.

It is usually expected that students will spend approximately 2 hours of study time outside of class for every one hour in class. Since this is a 3 unit class, you should expect to study an average of 6 hours outside of class each week.

## **Required Course Materials**

X~ofgzxktwUM^X9F4KfonfF^75782791 Nexwzhvtw?Uir?HmzsMt

- I. *Immediate Access (IA)* is set up for this course by using Macmillan Learning Achieve.
  - Enrolling into an Immediate Access (IA) course means that all of the materials are delivered to students digitally through the *Canvas* system. Course Name: 2023 Fall PHYS4A Course ID: xzfdpx
  - All Immediate Access (IA) communication will be delivered to the student's Fresno State email account...It is the STUDENT'S RESPONSIBILITY to read all communication coming from the Kennel Bookstore. They should look for email headers such as "IMPORTANT INFORMATION" or "REMINDERS" and check the SPAM folder!
  - IA contains an eBook, prelecture activities, and homework, and iClicker-Reef from MacMillan Learning-Achieve:
    - eBook of "University Physics, Volume 1" (by OpenStax), which is licensed under a Creative Commons Attribution 4.0 International License (CCBY4.0). A PDF format of this textbook can "Download for free at https://openstax.org/details/books/university-physics-volume-1."
    - > Prelecture activities (prelecture video and bridge assignment (by Achieve),
    - Homework (by *Achieve*).
    - iClicker-Reef operated through APP (on laptops or Mobile device) is required for in-class quick quizzes. The iClicker-Reef Class is "PHYS4AHo2023F" (remember that it has been synced with the Achieve course).
  - All Immediate Access (IA) communication will be delivered to the student's Fresno State email account...It is the STUDENT'S RESPONSIBILITY to read all communication coming from the Kennel Bookstore. They should look for email headers such as "IMPORTANT INFORMATION" or "REMINDERS" and check the SPAM folder!
  - ALL IA materials are accessible for the first few days of the start of the semester to all students enrolled. After the opt-out date of the term, students who did not OPT OUT of the materials will be charged on their Fresno State student account the cost of the materials. This information can be found in their welcome letter email from the Kennel Bookstore. If they did not receive an email, please contact <u>ecarmona@mail.fresnostate.edu</u>
  - OPTING OUT means that students DO NOT want the digitally delivered materials we are offering. STUDENTS will then be responsible to get the materials on your own usually at a higher cost. If students OPT OUT, their digital IA access will be revoked. **IMPORTANT!** If students OPT OUT of the program, they will also OPT OUT of the required ADAPTIVE materials associated with the IA eBook including their homework, quizzes, tests, etc.... This access will be turned off after the last date to opt-out for the semester.
  - We ask students to <u>NOT</u> purchase IA digital materials directly from the Publisher website or make any other outside purchase that would require

them to enter a credit card or pay out of pocket. This will result in a DOUBLE charge! If they are OPTED IN, the campus will bill their Fresno State student account after the opt out date.

- DO NOT pay for your materials through Canvas!!! If the link provided requires an "ACCESS CODE" it will be delivered to the student in their IA VitalSource link or on any IA emails sent to their Fresno State email account from the Kennel Bookstore. ALL CHARGES will be billed to their Fresno State student account.
- THE LAST DAY TO OPT OUT for FALL 2023 is September 2, 2023. – It is the STUDENT'S responsibility to OPT OUT. Once they click on the OPT OUT link in their Professor's Canvas page, they will receive a confirmation email within 24 hours. If they did not receive an email within 24 hours, please contact ecarmona@mail.fresnostate.edu
- Student accounts will be charged around September 7, 2023...Charges will be due around September 16, 2023. Students may pay on their Fresno State student account either online or at Joyal Administration.
   \*\*To make an on-line payment, go to https://my.fresnostate.edu, click on Student Self Service>Student Center>My Finances>View eBills/Make a Payment.
   \*\*To see your current balance, go to Student Self Service>Student Center>My Finances>Account Inquiry.
- If students are on financial aid, scholarship, or other benefit programs they are still obligated to pay on their account...They should put this money aside.
- If students enroll after the Opt-out date, they will have 24 hours to review the materials and contact <u>ecarmona@mail.fresnostate.edu</u> if they choose to purchase elsewhere and OPT OUT of the program.
- Any questions about the IA program can be directed to <u>ecarmona@mail.fresnostate.edu</u>
- II. Scientific Calculator (Graphing Calculator is "Not" allowed for this course).
- III. A Fresno Stat email account. Instructor will not respond to the emails not sent through the Fresno State system.
- IV. Zoom (available to all Fresno State students) https://fresnostate.edu/help/students/video\_conferencing/

## **Course Specifics**

This course will include assigned prelecture activities, which includes prelecture video and bridge assignments (i.e., Macmillan Learning – Achieve accessed through IA) that should be completed before students come to each virtual class meeting (via Zoom Meeting). During the virtual or face-to-face class sessions there will be lectures, demonstrations, quick quizzes, and discussions. Associated assigned reading for each lecture can be found in the ebook. In order to facilitate your understanding of assigned readings, lecture notes in PDF format can be available after each class meeting, which may review portions of the readings, but they will not serve as a substitute for reading the materials. Important additional information will be presented during the lectures, which will be included in the exams.

- **Course goals:** Upon completion of this course, students are expected to be able to analyze, predict, and model the linear or rotational motion of macroscopic objects under the influences of various external forces.
- **Student Learning Outcomes:** Students will develop a strong foundation to identify, analyze, and solve problems within the core driplines described in the text book of "University Physics, Volume 1" by OpenStax, which is universally recognized as standards in undergraduate physics education.

PHYS 4A along with PHYS 4AL is also a General Education (GE) course in the area B1, which is expecting students to understand and actively explore fundamental principles in the Physical Sciences and the methods of developing and testing hypotheses used in the analysis of the physical universe.

- **GE Program ePortfolio Requirement**: (GE SLOs on Syllabi: APM 215) Students can upload one of their best PHYS 4AL lab reports to Canvas in order to fulfill the requirement of GE assessment.
- **Course requirements/assignments:** In this section, list all required work that makes up the total grade for the course, such as quizzes, exams, homework, paper, service hours, project and presentation, etc. Be sure to specify **if attendance and/or participation is required** and how it impacts student grades.
- I. Prelecture Activities: prelecture video and bridge assignment need to be completed 3 hours before the virtual class meeting time. They will be assigned at least a week ahead and can be accessed through Sapling Learning by Canvas-IA Bookshelf. (3% of weighted grade)
- II. Quick Quizzes: In order to encourage students to preview the ebook contents, perform prelecture activities before class, focus learning in the virtual class room, and engages in interactive learning, 1-10 questions will be randomly given as quick quizzes in most of the class meeting time. Total of the quick-quiz score which will be counted as 6% of the weighted grade. Full participant points will only be given when students complete all quick-quiz questions.
- III. Homework will be assigned via Sapling Learning by Canvas-IA Bookshelf and usually given in the end of each week. Homework passes the deadline will be counted as zero. (15% of weighted grade)
- IV. Three midterms will be offered and each weighs 17%.
- V. Final exam will be given according to the University Final Exam (25% of weighted grade).

Besides the regular office hours student can talk to the instructor by setting up a Zoom meeting, other communications are preferred done through Fresno State email. *When* sending an email message you **must** use a specific format. Type your last name and first initial in the 'subject' line along with the course number (PHYS 4A). Example: Doe, John PHYS4A.

Grading policy:

Weighted Grades:

Assignment	Percent
Prelecture Activities (Video & Bridge Assignment)	3%
Quick Quizzes (in-class)	6%
Homework	15%
Three Midterms	51% (17% each)
Final Exam	25%
Total Percentage	100%

(Grade will "Not" be curved, completely based on performance.)

Letter Grade	Percent (lower limit)	Percent (upper limit)
A	85	100
В	70	84.999
С	55	69.999
D	45	54.999
F	0	44.999

✤ A grade of C or better is required to pass this class.

## **Course Policies & Safety Issues**

#### **Classroom Behavior**

Both the instructor and the students are to adhere to high standards of professionalism, common courtesy, and respect for others. Please refrain from the following behaviors, bearing in mind that if your behavior interrupts the class you may be asked to leave the class for the rest of the period:

- Coming to class late, please use the back doors for entrance. If you must leave early, please sit near a door.
- During lecture sessions, mute all cell phones, laptops and other electronic devices. You only need one electronic device to run iClicker-Cloud (formerly iClicker-Reef).
- Do not speak or write to anyone in a rude or aggressive fashion, or speak of others in a disrespectful fashion
- The University Policy on Disruptive Classroom Behavior (<u>APM 419</u>) is well worth reading and can be found in the Class Schedule and the Academic Policy Manual.
- If you are absent from class, it is your responsibility to check on announcements made while you were away.

If you are absent from class, it is your responsibility to check on announcements made while you were away.

Audio and video recordings of class lectures are prohibited unless I give you explicit permission to do it. Students with an official letter from the Services for Students with Disabilities office may record the class if SSD has approved that service."

Late work and make-up work policy: Either delayed or make-up exams for three midterms and final exam will not be allowed by the instructor. If a midterm is missed for a compelling reason (e.g. illness documented by a physician's note), the part of the grade that midterm would have counted will be voided, and the rest of the grade will be counted as 100%. If the final exam is missed for a compelling reason (e.g. illness documented by a physician's note), the student will receive a grade of "I" (incomplete) for PHYS 4A for the semester. It will also be the student's responsibility to contact the university administration in a timely manner, and make the necessary arrangements to remove the "I" grade. Please check "the California State University Fresno General Catalog" for regulation regarding the "I" grade. Only students who can document very compelling reasons to miss final exams, e.g. with a physician's note, will be eligible for incompletes; other students missing the final exam will receive 0% for the grade of final exam.

# The following sections regarding COVID are subject to change given changing circumstances on-campus and in the community. Please check the COVID website for the most up-to-date information at:

### covid.fresnostate.edu

Vaccination: All Students who access Campus/Programs must be Fully Vaccinated (including the booster dose when eligible to receive it) in order to participate in any inperson course-related activities (either on-campus or off-campus). Students may select that they will not be participating in any in-person activities (which includes use of the Library, Student Union and/or Student Health & Counseling Center) and/or may attest to a Medical or Religious Exemption from the vaccine policy requirement in accordance with CSU and campus procedures. Students should go to the Student Portal to update their COVID self-certification form and vaccine documentation. Requests for exemptions can be found there. You are not to come to campus if any of the following are true:

- You are not considered fully vaccinated, and you have not attested to a medical or religious exemption.
- You have attested to an exemption, but you have not completed your mandatory weekly COVID-19 test.

Health Screening: Please do not come to campus or off-campus learning site if any of the following is true:

- If you have experienced COVID-19 symptoms (vaccinated or not).
- If you have tested positive within the past 10 days.

;

Please complete the campus <u>online reporting form</u>

(<u>https://covid.fresnostate.edu/cases/reporting.html</u>), and you will then receive further guidance.

Safety Measures: While masks will no longer be required, we strongly encourage their use, as face coverings are still a valuable tool in the fight against COVID-19, especially in large group settings. We fully support and respect those who wish to continue wearing face coverings.

Individuals can pick up face coverings, provided at no cost, at any of the following locations:

- Library
- University Student Union
- Student Health and Counseling Center
- Student Housing Atrium
- COVID Testing Site check the below website for location

Please see university website for the most updated information: <u>www.fresnostate.edu/coronavirus</u>

Please remember that the same student conduct rules that are used for in-person classroom instruction also apply for virtual/online classrooms. Students are prohibited from any unauthorized recording, dissemination, or publication of any academic presentation, including any online classroom instruction, for any commercial purpose. In addition, students may not record or use virtual/online instruction in any manner that would violate copyright law. Students are to use all online/virtual instruction exclusively for the educational purpose of the online class in which the instruction is being provided. Students may not re-record any online recordings or post any online recordings in any other format (e.g., electronic, video, social media, audio recording, web page, internet, hard paper copy, etc.) for any purpose without the explicit written permission of the faculty member providing the instruction. Exceptions for disability-related accommodations will be addressed by Student Disability Services working in conjunction with the student and faculty member.

Plagiarism Detection: The campus subscribes to Turnitin, a plagiarism prevention service, through Canvas. You will need to submit written assignments to Turnitin. Student work will be used for plagiarism detection and for no other purpose. The student may indicate in writing to the instructor that he/she refuses to participate in the plagiarism detection process, in which case the instructor can use other electronic means to verify the originality of their work. Turnitin Originality Reports WILL/WILL NOT\* be available for your viewing. \*<u>FACULTY: Please choose for your course WILL or WILL NOT be available for your viewing</u>.

#### Supplemental Instruction:

Supplemental Instruction (SI) is provided for all students enrolled in this course who want to improve their understanding of the material. SI sessions are led by a student who has already mastered the course material and been trained to facilitate group

<

sessions where students can meet to compare class notes, review and discuss important concepts, develop strategies for studying, and prepare for exams. The SI leader attends this class and communicates regularly with the instructor to ensure that accurate information is given. Attendance at SI sessions is free and voluntary for any student enrolled in this course. Students may attend as many times as they choose.

Intellectual Property: All course materials, including but not limited to the syllabus, readings, quiz questions, exam questions, and assignments prepared by the instructor are property of the instructor and University. Students are prohibited from posting course materials online (e.g., Course Hero) and from selling course materials to or being paid for providing materials to any person or commercial firm without the express written permission of the professor teaching this course. Doing so will constitute both an academic integrity violation and a copyright violation. Audio and video recordings of class lectures are prohibited unless I give you explicit permission in advance. Students with an official letter from the Services for Students with Disabilities office may record the class if SSD has approved that service. Otherwise, recordings of lectures are included in the intellectual property notice described above.

**Student Ratings of Instruction:** In the final weeks of the semester, you will be asked to complete a short survey to provide feedback about this class. The primary goal of student ratings is to help your instructor improve the class. Feedback will also be reviewed by the department chair and the college dean. You will be given 15 minutes of class time to complete student ratings. Please offer feedback honestly and thoughtfully. Your participation is appreciated. You can access your student rating surveys and get more information at: <a href="https://sites.google.com/mail.fresnostate.edu/fresno-state-sri/fssrifor-students">https://sites.google.com/mail.fresnostate.edu/fresno-state-sri/fssrifor-students</a>.

## **University Policies**

Students with Disabilities: Upon identifying themselves to the instructor and the university, students with disabilities will receive reasonable accommodation for learning and evaluation. For more information, contact Services to Students with Disabilities in the University Library, Room 1202 (278-2811).

The following University policies can be found on the web at:

- <u>Adding and Dropping Classes</u>
- <u>Cheating and Plagiarism</u>
- <u>Computers</u>
- <u>Copyright Policy</u>
- Disruptive Classroom Behavior
- Honor Code
- <u>Title IX</u>

### **University Services**

The following University services can be found on the web at:

• Associated Students, Inc.

- Students with Disabilities
- Dream Success Center
- <u>Library</u>
- Learning Center Information
- Student Health and Counseling Center
- <u>SupportNet</u>
- Survivor Advocacy
- Writing Center

Subject to Change Statement THIS SYLLABUS AND SCHEDULE ARE SUBJECT TO CHANGE IN THE EVENT OF EXTENUATING CIRCUMSTANCES.

>

## Course Calendar

All deadline of prelecture activities and homework can be found on the Macmillan-Learning – Achieve Course "2022 Fall PHYS4A."

#### **Examination Schedule**

Date	Exam	Points
Thursday, 9/21/2023 (Time: To Be Announced)	1 <sup>st</sup> Midterm either on Canvas or at Bulldog Testing Center To Be Announced	100
Thursday, 10/19/2023 (Time: To Be Announced)	2 <sup>nd</sup> Midterm either on Canvas or at Bulldog Testing Center To Be Announced	100
Thursday, 11/16/2023 (Time: To Be Announced)	3 <sup>rd</sup> Midterm either on Canvas or at Bulldog Testing Center To Be Announced	100
Tuesday, 12/12/2023 8 PM – 10 PM	Final Exam	100
(Following the University Final Exam Schedule)	McLane 162	

## **Tentative Course Schedule**

## The course schedule is subject to change in the event of extenuating circumstances.

If you are absent from class, it is your responsibility to check on announcements made verbally in class while you were absent.

Fa	Fall 2023 Tentative Course Schedule: Tuesday, Thursday Courses				
	Date	Торіс	Reading Assignment		
1	Tues., Aug 22	Course Syllabus & General Rules Fundamental Quantities, Units, Significant Figures (study on students' own) 1-D Kinematics	<ul> <li>Math Review On Sapling (Self Test)</li> <li>Syllabus Posted on Canvas</li> <li>Ch1 Units and Measurement <ol> <li>The Scope and Scale of Physics</li> <li>Units and Standards</li> <li>Unit Conversion</li> <li>Dimensional Analysis</li> <li>Estimate and Fermi Calculations</li> <li>Significant Figures</li> <li>Solving Problems in Physics</li> <li>(study on students' own; end-of- chapter problems of Tipler Chapter 1 will be assigned but not collected and will be included in the exams)</li> </ol> </li> <li>Ch3 Motion along a straight line <ol> <li>Position, Displacement, and Average Velocity</li> <li>Instantaneous Velocity and Speed</li> <li>Average and Instantaneous Acceleration</li> <li>Motion with Constant Acceleration</li> </ol> </li> </ul>		
2	Thurs., Aug 24	1-D Kinematics	Ch3 Motion along a straight line 3.4 Motion with Constant Acceleration 3.5 Finding Velocity and Displacement from Acceleration		
3	Tues., Aug 29	Vector Addition	Ch2 Vectors 2.1 Scalars and Vectors 2.2 Coordinate Systems and Components of a Vector 2.3 Algebra of a Vectors		
4	Thurs., Aug 31	2-D Kinematics	Ch4 Motion in 2 and 3 Dimensions		

66

X~ofgzxktwUM^X9F4KfofF^75782791 Nsxywzhytw2Ujr2HmzsMt

	all 2023 Tentative Course Schedule: Tuesday, Thursday Courses			
	Date	Торіс	Reading Assignment	
			<ul><li>4.1 Displacement and Velocity</li><li>Vectors</li><li>4.2 Acceleration Vector</li></ul>	
5	Tues., Sept 5	2-D Kinematics & Projectile Motion	Ch4 Motion in 2 and 3 Dimensions 4.3 Projectile Motion	
6	Thurs., Sept 7	Relative & Circular Motion	Ch4 Motion in 2 and 3 Dimensions 4.5 Relative Motion in 1 and 2 Dimensions 4.4 Uniform Circular Motion	
7	Tues., Sept 12	Relative & Circular Motion	Ch4 Motion in 2 and 3 Dimensions 4.4 Uniform Circular Motion	
8	Thurs., Sept 14	Newton's Laws	Ch5 Newton's Laws of Motion 5.1 Forces 5.2 Newton's 1 <sup>st</sup> Law 5.3 Newton's 2 <sup>nd</sup> Law 5.4 Mass and Weight 5.5 Newton's 3 <sup>rd</sup> Law Ch13 Gravitation 13.1 Newton's Law of Universal Gravitation	
9	Tues., Sept 19	Forces & Free-Body Diagrams	Ch5 Newton's Laws of Motion 5.7 Drawing Free-Body Diagrams 5.6 Common Forces	
10	Thurs., Sept 21 Midterm 1			
11	Tues., Sept 26	Forces & Free-Body Diagrams	Ch6 Applications of Newton's Laws 6.1 Solving Problems with Newton's Laws 6.3 Centripetal Force Ch13 Gravitation 13.4 Satellite Orbits	
12	Thurs., Sept 28	Friction	13.5 Kepler's 3 <sup>rd</sup> Law of Planet Motion         Ch6 Applications of Newton's Laws         6.2 Friction         6.3 Centripetal Force	
13	Tues., Oct 3	Work & Kinetic Energy	Ch7 Work and Kinetic Energy	

67

X~qqfgzxktwUM^X9F4KfqqlF^75782791 Nsxywzhytw?Ujr2HmzsMt

	Date	Торіс	esday, Thursday Courses Reading Assignment	
			7.1 Work 7.2 Kinetic Energy 7.3 Work-Energy Theorem 7.4 Power	
14	Thurs., Oct 5	Conservative Forces Work & Potential Energy	Ch8 Potential Energy and Conservation of Energy 8.2 Conservative and Non- Conservative Forces 8.1 Potential Energy of a System	
15	Tues., Oct 10	Conservation of Energy	Ch8 Potential Energy and Conservation of Energy 8.3 Conservation of Energy 8.4 Potential Energy Diagrams	
16	Thurs., Oct 12	Center of Mass	Ch9 Linear Momentum and Collisions 9.6 Center of Mass	
17	Tues., Oct 17	Conservation of Momentum	Ch9 Linear Momentum and Collisions 9.1 Linear Momentum 9.2 Impulse and Collisions 9.3 Conservation of Linear Momentum	
18	Thurs., Oct 19 Midterm 2			
19	Tues., Oct 24	Conservation of Momentum Perfectly Inelastic Collision (i.e., Totally Inelastic Collision) Explosion	Ch9 Linear Momentum and Collisions 9.3 Conservation of Linear Momentum 9.4 Types of Collisions 9.7 Rocket Propulsion	
20	Thurs., Oct 26	Elastic Collision	Ch9 Linear Momentum and Collisions 9.4 Types of Collisions	
21	Tues., Oct 31	Rotational Kinematics	Ch10 Fixed Axis Rotation 10.1 Rotational Variables 10.3 Relating Angular and Translational quantities 10.2 Rotation with constant angula Acceleration	
22	Thurs., Nov 2	Rotational Kinetic Energy & Moment of Inertia Parallel Axis Theorem	Ch10 Fixed Axis Rotation 10.4 Moment of Inertia and Rotational Kinetic Energy 10.5 Calculating Moment of Inertia	

X~qqfgzxktwUM^X9F4KfqqlF^75782791 Naxywzhytw?Ujr2HmzsMt

Fa	Fall 2023 Tentative Course Schedule: Tuesday, Thursday Courses				
	Date	Торіс	Reading Assignment		
23	Tues., Nov 7	Torque Newton's 2 <sup>nd</sup> Law for Rotation Rotational Dynamics	Ch10 Fixed Axis Rotation 10.6 Torque 10.7 Newton's 2 <sup>nd</sup> Law for Rotation		
24	Thurs., Nov 9	Pure Rolling Motion (i.e., Rolling Without Slipping)	Ch10 Fixed Axis Rotation 10.6 Work and Power for Rotational Motion Ch11 Angular Momentum		
			11.1 Rolling Motion		
25	Tues., Nov 14	Static Equilibrium	Ch12 Static Equilibrium 12.1 Conditions for Static Equilibrium 12.2 Examples of Static Equilibrium		
26	Thurs., Nov 16 Midterm 3				
27	Tues., Nov 21	Static Equilibrium	Ch12 Static Equilibrium 12.1 Conditions for Static Equilibrium 12.2 Examples of Static Equilibrium		
	Thurs., Nov 23	Thanksgiving Holidays Nov. 22-24			
28	Tues., Nov 28	Conservation of Angular Momentum	Ch11 Angular Momentum 11.2 Angular Momentum 11.3 Conservation of Angular Momentum 11.4 Precession of a Gyroscope (Possibly Omitted)		
29	Thurs., Nov 30	Simple Harmonic Motion (i.e., S.H.M.)	Ch15 Oscillations 15.1 Simple Harmonic Motion 15.2 Energy in Simple Harmonic Motion 15.3 Comparing Simple Harmonic Motion and Circular Motion 15.4 Pendulum (Possible Omitted)		
30	Tues., Dec 6 (Last Day of PHYS4A Instr.)	Fluid Statics	Ch14 Fluid Mechanics 14.1 Fluids, Density, and Pressure 14.2 Measuring Pressure		
		Fluid Statics	Ch14 Fluid Mechanics 14.3 Pascal's Principle and Hydraulics		

Fall 2023 Tentative Course Schedule: Tuesday, Thursday Courses					
	Date	Торіс	Reading Assignment		
			14.4 Archimedes' Buoyancy	Principle and	
		Fluid Dynamics	Ch14 Fluid Mechanics 14.5 Fluid Dynami 14.6 Bernoulli's Ec		
Fina	Finals week		Days	Dates/Time	
Final Exam Preparation & Faculty Consultation Days:		Thursday and Friday	Dec 7 - 8		
Fina	Final Semester Examinations		Monday – Thursday	Dec 12 - 15	
Final Exam in this course		Tuesday, Dec 12	8:00-10:00 PM		