COURSE SYLLABUS

Course Information

Course Number/Section	PHYS 2325 **section 001**
Course Title	**Mechanics**
Term	Spring 2022, TR 10:00 – 11:15

Professor Contact Information

Professor	Roger Kadala
Office Phone	TBA
Email Address	roger.kadala@utdallas.edu
Office Location	SCI - TBA
Office Hours	TU-TH 11:30 – 12:30
Online Office Hours	TU -TH 11:30 – 12:30
Other Information	TA: rx@utdallas.edu,

SI Session
Sophia de Aquino Veras (sxd200050@utdallas.edu)
Session: TBA

TA Pool Office Hours:
Mondays, 11a-1p, Koustubh Bhattacharjee, kxb173230@utdallas.edu, Koustubh Teams link
Mondays, 1p-3p, Wirya Feizi, wirya.feizi@utdallas.edu, Wirya Teams link
Mondays, 4p-5p, Chinthak Murali, cxm170013@utdallas.edu, Chinthak Teams link
Tuesdays, 10a-12p, Pawan Koirala, pxk170011@utdallas.edu, Pawan Teams link
Tuesdays, 2p-3p, Vivek Kakani, vivek.kakani@utdallas.edu, Vivek Teams link
Wednesday, 2p-3p, Ruskin Patel, ruskin.patel@utdallas.edu, Ruskin Teams link
Fridays, 9a-11a, Reema McMullen, reema.mcmullen@utdallas.edu, Reema Teams link

Also see the Student Success Center: http://studentsuccess.utdallas.edu/

Course Modality and Expectations

Instructional Mode	Traditional/In person (unless UTD dictates otherwise)
Course Platform	In person (**Bb Collaborate Ultra if remote**)
Expectations	Participate in class sessions. Follow up with office hours of instructor or TAs. Perform online homework. Take all four exams provided in the class.

Class Participation

Regular class participation is expected regardless of course modality. Students who fail to participate in class regularly are inviting scholastic difficulty. Successful participation is defined as consistently adhering to University requirements, as presented in this syllabus. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

COVID-19 Guidelines and Resources

The information contained in the following link lists the University's COVID-19 resources for students and instructors of record.

Please see http://go.utdallas.edu/syllabus-policies.

Class Recordings

The instructor may record meetings of this course. Any recordings will be available to all students registered for this class as they are intended to supplement the classroom experience. Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student Accessibility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student Accessibility accommodation. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Class Materials

The Instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course, however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class, or uploaded to other online environments except to implement an approved Office of Student Accessibility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Course Pre-requisites, Co-requisites, and/or Other Restrictions

Prerequisite: MATH 2413 or MATH 2417
Corequisites: MATH 2414 or MATH 2419 and PHYS 2125

Course Description

3 Credit Hours. Calculus based. Basic physics including a study of space and time, kinematics, forces, energy and momentum, conservation laws, rotational motion, torques, and harmonic oscillation. Two lectures per week,in person at SCI 1.220 or synchronous online offered on Bb Collaborate Ultra during the assigned class time and recorded for viewing at later times. .

Student Learning Objectives/Outcomes

- Add and subtract vector quantities, perform scalar and vector products, determine vector magnitudes and angles relative to a reference frame.
- Demonstrate how position, velocity, acceleration and time are related mathematically, particularly under conditions of constant acceleration.
- For 2D and 3D systems, apply position, velocity and acceleration as vector quantities, including situations of circular motion and relative velocity
- Understand Newton's three laws relating forces and motion
- Apply Newton's laws to predict motion for various geometries and for problems involving friction (Exam 1 line)
- Understand and use conservation of energy, work, kinetic energy, and power
- Convert potential energy to force and apply with energy conservation
- Interrelate momentum and impulse; understand conservation of momentum; apply momentum to collisions. (Exam 2 line)
- Understand rotational motion, angular momentum, moments of inertia and how they relate to kinetic energy (Exam 3 line)
- Understand simple harmonic motion
- Understand properties of waves such as wave functions, dynamics, power and superposition

Required Textbooks and Materials
Required Texts
1. (Official text, but see all notes below) University Physics Volume 1, 15h edition, by Young & Freedman. Bear in mind that you will need volume 2 for PHYS 2326. The 11th-14th editions and 15th edition are also good. See additional notes below.
2. (Included with new texts) Mastering Physics Student Kit, which can be accessed at www.pearsonmylabandmastering.com. This can be purchased directly on the site for ~$70, or it comes with new versions of the text.
https://mlm.pearson.com/enrollment/kadala_____ (TBA)
Course ID: **kadala12326**
If signing up online, choose "Modified Mastering Physics for University Physics with Modern Physics 15th Edition"
*Once upon a time, the bookstore also had a package with volume 1 and 2 loose leaf with the mastering physics kit for a discounted price.
**The cheapest option is an E-version of the text available for an additional fee.
***In reality any Calculus based physics text will work … not much has changed in classical physics since Newton as far as the equations introduced in the course …

Required Materials
Calculator with trigonometry capabilities ($10-$20) for exams. **No phones**.
(Not now, but if remote instruction extends: Webcam and microphone (common on most laptops) for Honorlock. https://ets.utdallas.edu/testing-center/honorlock)

Textbooks and some other bookstore materials can be ordered online or purchased at the UT Dallas Bookstore.

Technical Requirements
In addition to a confident level of computer and Internet literacy, certain minimum technical requirements must be met to enable a successful learning experience. Please review the important technical requirements on the Getting Started with eLearning webpage.

Course Access and Navigation
This course can be accessed using your UT Dallas NetID account on the eLearning website.

Please see the course access and navigation section of the Getting Started with eLearning webpage for more information.

To become familiar with the eLearning tool, please see the Student eLearning Tutorials webpage.

UT Dallas provides eLearning technical support 24 hours a day, 7 days a week. The eLearning Support Center includes a toll-free telephone number for immediate assistance (1-866-588-3192), email request service, and an online chat service.

Communication
This course utilizes online tools for interaction and communication. Regular email and a web conferencing tools will be used during the semester. For more details, please visit the Student eLearning Tutorials webpage for video demonstrations on eLearning tools.

Distance Learning Student Resources
Online students have access to resources including the McDermott Library, Academic Advising, The Office of Student AccessAbility, and many others. Please see the eLearning Current Students webpage for more information.

Server Unavailability or Other Technical Difficulties
The University is committed to providing a reliable learning management system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and also contact the online eLearning Help Desk. The instructor and the eLearning Help Desk will work with the student to resolve any issues at the earliest possible time.

Academic Calendar

Session	Contents	Chapters
1	Physical Quantities and Vectors	1
2	1D Motion	2
3	1D Motion	2
4	2 and 3D Motion	3
5	2 and 3D Motion	3
6	Newton's Laws of Motion & Application	4+5
7	Applying Newton's Laws	5
8	Applying Newton's Laws	5
9	Applying Newton's Laws	5

10	Review	
11	Exam 1	1 through 5
12	Work and Kinetic Energy	6
13	Potential Energy and Energy Conversion	7
14	Potential Energy and Energy Conversion	7
15	Momentum, Impulse & Collisions	8
16	Momentum, Impulse & Collisions	8
17	Review	
18	Exam 2	6, 7, 8
19	Rotation of Rigid Bodies	9
20	Rotation of Rigid Bodies	9
21	Dynamics of Rotational Motion	10
22	Dynamics of Rotational Motion	10
23	Dynamics of Rotational Motion/Review	10
24	Exam 3	9 & 10
25	Periodic Motion	13
26	Periodic Motion	13
27	Mechanical Waves	15
28	Mechanical Waves	15
29	Sound Waves	16
30	Review	
31	Exam 4	13, 15 & 16

Proctored Final Exam Procedures
If your course has a proctored exam requirement, please see the UTD Testing Center webpage and Distance Learning Proctored Exams webpage to make arrangements.

Grading Policy
Homework (20%) (Drops 15% per day late)
Top 3 Exams (80%) (non-cumulative)

First exam will likely occur Feb. 22
Second exam will likely occur Mar. 24
Third exam will likely occur Apr. 14
Fourth exam will occur between May 7-17 according to the final exam schedule

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Grade Scale

A+	**100**
A	**92.0**
A-	**88.5**
B+	**86.0**
B	**80.0**
B-	**77.5**
C+	**75.0**
C	**69.0**

C-	**66.5**
D+	**64.0**
D	**58.0**
D-	**54.5**
F	**<54.5**

Course Policies

Make-up exams:
Are provided for documented and university-approved reasons.
Extra Credit:
Take all exams!
Late Work
Homework can be done late but will drop by 15% per day late, proportional to the minute

Comet Creed
This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

Academic Support Resources
The information contained in the following link lists the University's academic support resources for all students.

Please go to Academic Support Resources webpage for these policies.

UT Dallas Syllabus Policies and Procedures
The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to UT Dallas Syllabus Policies webpage for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.