General Physics I
PHYS 1307 001
Physics Department
Fall 2022

Instructor Information

Instructor: Simon Dalley
Email: sdalley@smu.edu
Office Location: 207 Fondren Science
Office Hours:
M-F 4-5 pm in Zoom: meeting ID 477 628 4599 Passcode *dalleyphys*
Preferred Method of Contact:
email
Additional Information:
Prof. Dalley is severely immuno-compromised, so please maintain a 10-foot social distance from him in class and do not use the front 2 rows of seats.
Welcome Message/Bio:
Prof. Dalley has been teaching physics courses at SMU from non-science majors to graduate students since 2006. He has received both an Outstanding Professor Rotunda Award and the Provost's Teaching Recognition Award. At SMU he also directs science outreach programs and professional development courses for high-school physics teachers.

Course Details

Location: FOSC0123
Meeting Dates and Times:

08/22/2022	12/05/2022	11:00:00 AM	11:50:00 AM
08/22/2022	12/05/2022	11:00:00 AM	11:50:00 AM
08/22/2022	12/05/2022	11:00:00 AM	11:50:00 AM
08/22/2022	12/05/2022	11:00:00 AM	11:50:00 AM
08/22/2022	12/05/2022	11:00:00 AM	11:50:00 AM
08/22/2022	12/05/2022	11:00:00 AM	11:50:00 AM
08/22/2022	12/05/2022	11:00:00 AM	11:50:00 AM

Credit Hours: 3.00
Course Description: For life science majors. Covers vector kinematics, Newtonian mechanics, oscillations, rotational motion, waves and fluids. If you require a one-credit laboratory with this course, you must register separately for PHYS 1105. Prerequisite or corequisite: MATH 1337 or MATH 1340.

Student Learning Outcomes

Students will be able to:

1. Apply classical kinematic concepts to describe simple motion of point particles.

2. Select and apply macroscopic concepts of Force, Energy, and Momentum to explain and predict simple motion of point particles.

3. Solve simple problems using outcomes 1 and 2 in the contexts of oscillations, waves, fluids, and motion of extended rigid bodies.

Common Curriculum

2016 Science and Engineering,2016 Sci & Eng, Sep Lab Req,CC - Exploring Science,CC - Exploring Science,Lab Req,2012 Pure & Applied Sciences I,2012 Pure& App Sci,Sep Lab Req,CC - Quantitative Reasoning

Required Texts and Materials

Fundamentals of Physics 12th Edition with WileyPlus
Authors: David Halliday, Robert Resnick, Jearl Walker
Publisher: Wiley
Edition: 12th
Go to the Wiley Resources link in the Canvas course to obtain WileyPlus. This includes an electronic text and access to the assignments. There is no need to get a printed textbook or any other "add-ons". Here is a help video

Register an account at PollEverywhere.com if you don’t already have one.
Use ONE account with your SMU email address and REAL NAME. No other accounts will be recognized. In class you will submit poll answers at PollEV.com by joining session dalleyphysics

Any simple scientific calculator that does NOT have wireless communication
Phones, tablets, etc. are not acceptable as calculators during exams.

Grading Policies/Grading Scale

Grades will be available through Canvas and PollEverywhere. Scores from the latter will periodically be imported into Canvas Grades so you can see how well you are doing overall. Your course grade will be calculated according to the following weighting.

- Pre-class Surveys in WileyPlus: **10%** of course grade. Late submissions cannot be credited because answers are in the public domain after the deadline, but every student gets to drop their lowest 2 survey scores to cover for any issues (absence, illness, brain-fog, bad luck, etc.)
- Participation in PollEverywhere concept polling: **10%** of course grade. Polls are scored on participation only. 1/5 of poll questions may go unanswered before it starts to affect your grade.
- Practice Problem sets in WileyPlus: **20%** of course grade. Every student gets to drop their lowest 2 Problem set scores to cover for any issues (absence, illness, brain-fog, bad luck, etc.). Late submissions are credited at 50%.
- Cooperative Problem Solving: **10%** of course grade. In-class group-work assignments scored on meaningful participation. Every student gets to drop their lowest two Coop scores to cover for any issues (absence, illness, brain-fog, bad luck, etc.).
- 4 tests: **30%** of course grade. Credit given for answers and clear working of numerical problems. There are no makeups, but every student gets to drop their lowest test score to cover for any issues (absence, illness, brain-fog, bad luck, etc.).
- Final Exam multiple choice: **20%** of grade. Credit given for answers only, but clear working of numerical problems must be included.

IMPORTANT ***: If you fail (score less than 50%) on each test and on the final exam, your course grade will be F regardless of your scores on all other assessments.***

Grading Scale

A	A -	B +	B	B -	C +	C	C -	D +	D	D -	F
100-90%	90-85%	85-80%	80-75%	75-70%	70-65%	65-60%	N/A	N/A	60-50%	N/A	below 50%

The following does not affect your grade: rounding, effort, attendance, grades in other courses, scores of other students, scholarship requirements, my opinion, your opinion, your desired career path, the orbit of Venus, etc..

Assignment Group Descriptions

PRE-CLASS WORK

The classroom is flipped so you are required to spend time ***before*** class reading in WileyPlus the textbook sections indicated in the calendar and complete the Canvas Survey assignment integrated with WileyPlus by the deadline on the due date for credit – no exceptions!

Recommended Time Burden outside of class = 1 hour per class

IN-CLASS CONCEPT POLLING

During class you will often be asked conceptual questions and provide responses via PollEverywhere and sometimes discuss with other students. Login at PollEV.com and join session **dalleyphysics**. It is participation credit and you are expected to respond to most questions.

IN-CLASS COOP PROBLEMS

Cooperative Problem Solving done in small groups to practice numerical use of concepts. Participation credit awarded for detailed and meaningful working, whether or not correct final answer demonstrated.

POST-CLASS WORK

Sets of problems are assigned in Canvas integrated with WileyPlus. Sometimes these are begun in class in group work and finished as individual homework as needed. They are typically due by the next class. Late submissions will receive 50% credit. If you master these problems yourself (rather than copying someone else's solutions) you should be well-prepared for the tests and exams.

Recommended Time Burden outside of class = 1 hour per problem set

TESTS

There are four tests each lasting 45 min. They contain both calculation problems (similar to WileyPlus problems) and multi-choice conceptual questions (similar to PollEverywhere). Partial credit is given for clear working of calculation problems.

FINAL EXAM

The final exam is multi-choice and will contain short calculation problems similar to WileyPlus problems. There is no direct credit for working but it's needed to receive credit for a multi-choice answer to a numerical problem.

IMPORTANT: Rules for Tests and Final Exam

You may only use a scientific calculator and standard formula sheet. All data are provided in the questions. You must place your phone face down on the table and not touch it again. Handling your phone for any reason before the end will result in an automatic zero score. Additional penalties for demonstrated Academic Dishonesty are described in this syllabus.

Course Policies

Communication

For personal messages, please contact me via your smu email. I will respond to your email within a few hours typically. Responses might be slightly delayed on holidays and weekends. I will communicate with the class via Canvas Announcements. It is your responsibility to check Canvas Announcements and your SMU email.

Academic Dishonesty

Students are expected to embrace and uphold the SMU Honor Code. Violations of the Honor Code will be acted upon in accordance with the policies and procedures outlined in the Mustang Student Handbook. This course operates a policy of zero tolerance toward Academic Dishonesty in any form in any graded assessment. It will usually result in an F grade for the course and a filing with the Dean of Student Life (Honor Code Violation).

Examples of academic dishonesty include:

- Communication via any method with anyone else or internet sources during any exam.
- Sharing or copying wording for an assignment intended to be done individually (plagiarism).

Attendance

The teaching strategy for this course relies on active group participation of all students, so you are expected to attend every class. All the assignments and in-class questions used for student discussion will be made available in Canvas, while the syllabus has already built into it automatic score drops that can be used to cover about one week of absence for any reason.

- If you contract any contagious illness, such as COVID-19, flu, cold, etc. you should not come to class until you are no longer contagious. Provided you notify me of your absence in advance, you will be given deadline extensions or alternative ways to make up any credit not covered by an automatic drop. Unavoidable multiple or prolonged absences will be treated on a case-by-case basis; contact me to discuss whether and how the absence can be made up in that case.

Title IX and Disability Accommodations

Disability Accommodations

Students who need academic accommodations for a disability must first register with Disability Accommodations & Success Strategies (DASS). Students can call 214-768-1470 or visit smu.edu/DASS to begin the process. Once they are registered and approved, students then submit a DASS Accommodation Letter through the electronic portal, *DASS Link*, and then communicate directly with each of their instructors to make appropriate arrangements. Please note that accommodations are not retroactive, but rather require advance notice in order to implement.

Sexual Harassment

All forms of sexual harassment, including sexual assault, dating violence, domestic violence and stalking, are violations of SMU's Title IX Sexual Harassment Policy and may also violate Texas law. Students who wish to file a complaint or to receive more information about the grievance process may contact Samantha Thomas, SMU's Title IX Coordinator, at accessequity@smu.edu or 214-768-3601. Please note that faculty and staff are mandatory reporters. If students notify faculty or staff of sexual harassment, they must report it to the Title IX Coordinator. For more information about sexual harassment, including resources available to assist students, please visit smu.edu/sexualmisconduct.

Pregnant and Parenting Students

Under Title IX, students who are pregnant or parenting may request academic adjustments by contacting the Office of Student Advocacy and Support by calling 214-768-4564. Students seeking assistance must schedule an appointment with their professors as early as possible, present a letter from the Office of the Dean of Students, and make appropriate arrangements. Please note that academic adjustments are not retroactive and, when feasible, require advance notice to implement.

Academic Policies

Religious Observance

Religiously observant students wishing to be absent on holidays that require missing class should notify their professors in writing at the beginning of the semester and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence. Click here for a list of holidays.

Medical-Related Absences

To ensure academic continuity and avoid any course penalties, students should follow procedures described by their instructors in order to be provided with appropriate modifications to assignments, deadlines, and exams.

Excused Absences for University Extracurricular Activities

Students participating in an officially sanctioned, scheduled university extracurricular activity should be given the opportunity to make up class assignments or other graded assignments that were missed as a result of their participation. It is the responsibility of the student to make arrangements for make-up work with the instructor prior to any missed scheduled examinations or other missed assignments. (See current Catalog under heading of "Academic Records/Excused Absences.")

Final Exams

Final course examinations shall be given in all courses where appropriate, and some form of final assessment is essential. Final exams and assessments must be administered as specified in the official examination schedule. Exams cannot be administered or due during the last week of classes or during the Reading Period. Syllabi must state clearly the form of the final exam or assessment, and the due date and time must match the official SMU exam schedule. Final exams are not required to be provided online.

Academic Dishonesty

Students are expected to embrace and uphold the SMU Honor Code. Violations of the Honor Code will be acted upon in accordance with the policies and procedures outlined in the Mustang Student Handbook.

Student Support Services

Student Academic Success Programs

Students needing assistance with writing assignments for SMU courses may schedule an appointment with the Writing Center through Canvas. Students who would like support for subject-specific tutoring or success strategies should contact SASP, Loyd All Sports Center, Suite 202; 214-768-3648; smu.edu/sasp.

Caring Community Connections Program

CCC is a resource for anyone in the SMU community to refer students of concern to the Office of the Dean of Students. The online referral form can be found at smu.edu/deanofstudentsccc. After a referral form is submitted, students will be contacted to discuss the concern, strategize options, and be connected to appropriate resources. Anyone who is unclear about what steps to take if they have concerns about students should contact the Office of the Dean of Students at 214-768-4564.

Mental Health Resources: On-Call and Ongoing Counseling Services

Throughout the academic year, students may encounter different stressors or go through life experiences which impact their mental health and academic performance. Students who are in distress or have concerns about their mental health can schedule a same-day or next-day appointment to speak with a counselor by calling Counseling Services. Counselors are available at any time, day or night for students in crisis at this number: 214-768-2277 (then select option 2) They will be connected with a counselor immediately. Students seeking ongoing counseling should call the same number (214-768-2277, then select option 1) during normal business hours to schedule an initial appointment.

Campus Carry Law

In accordance with Texas Senate Bill 11, also known as the 'campus carry' law, and following consultation with entire University community, SMU chooses to remain a weapons-free campus. Specifically, SMU prohibits possession of weapons (either openly or in a concealed manner) on campus. For more information, please see: smu.edu/campuscarrylaw.

Course Schedule

Class Date	**Topic**	Textbook Chapters
Aug 22	**Introduction**	
Aug 24	**Measurement**	**1.1 - 1.3**
Aug 26	**Motion in One Dimension - Velocity**	**2.1 - 2.2**
Aug 29	**Motion in One Dimension -** Acceleration	**2.3 - 2.4**
Aug 31	***Coop 1***	
Sep 2	**Motion in One Dimension –** Free Fall	**2.5 - 2.6**
Sep 7	***Coop 2***	
Sep 9	**Vectors**	**3.1 - 3.3**
Sep 12	*Coop 3*	
Sep 14	***~ Test One ~***	Chaps 1 - 3
Sep 16	**Motion in Two Dimensions**	**4.1 - 4.4**

Sep 19	***Coop 4***	
Sep 21	**Force and Motion-** Newton's Laws	**5.1 - 5.2**
Sep 23	**Force and Motion –** Examples	**5.3**
Sep 26	**Force and Motion -** Resistance	**6.1 - 6.2**
Sep 28	***Coop 5***	
Sep 30	**Force and Circular Motion**	**4.5 & 6.3**
Oct 3	*Coop 6*	
Oct 5	***~ Test Two ~***	Chaps 4 - 6
Oct 7	**Kinetic Energy & Work-** Constant Force	**7.1 - 7.3**
Oct 12	**Kinetic Energy & Work** – Variable Force	**7.4 - 7.6**
Oct 14	***Coop 7***	
Oct 17	**Potential and Conserved Energy**	**8.1 - 8.3**
Oct 19	***Coop 8***	
Oct 21	**Non-Conservative Forces**	**8.4 - 8.5**
Oct 24	**Center of Mass & Linear Momentum**	**9.1 - 9.3**
Oct 26	**Linear Momentum & Impulse**	**9.4 - 9.5**
Oct 28	**Linear Momentum, Collisions in 2D, and Elasticity**	**9.6 - 9.8**
Oct 31	*Coop 9*	
Nov 2	***~ Test Three ~***	Chaps 7 - 9
Nov 4	**Oscillations**	**15.1 - 15.2, 15.5 - 15.6**
Nov 7	**Rotational Variables**	**10.1 - 10.3**
Nov 9	**Rotational Inertia and torque**	**10.4 - 10.6**
Nov 11	**Laws of Rotation**	**10.7 - 10.8**
Nov 14	**Angular Momentum**	**11.4 - 11.8**
Nov 16	***Coop 11***	
Nov 18	***~ Test Four ~***	Chaps 10-11,15
Nov 21	**Transverse Waves & Sound Waves I**	**16.1 & 17.1-17.2**
Nov 28	**Sound Waves II**	**17.4 & 17.7**
Nov 30	**Fluids I** - static	**14.1 - 14.5**
Dec 2	**Fluids II** - moving	**14.6 - 14.7**
Dec 5	***Coop 13***	
Dec 8	**Final Exam** (11:30 a.m. - 2:30 p.m.)	**all topics**