

PHYS 1307 Course Syllabus

Course Overview

For life science majors. Covers vector kinematics, Newtonian mechanics, rotational motion, oscillations, waves, fluids, with examples from the life sciences. Pre or co- requisite: MATH 1337 (Calculus I). PHYS 1307 is an active-learning flipped classroom that implements teaching strategies developed from physics education research. Students can expect to prepare before class and participate in group work during class.

Instructor Biography

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.

UC and CC "tags"

Together with PHYS 1105 lab course, satisfies

- Exploring Science (ES) Breadth of Common Curriculum (matriculation from Fall 2020)
- Science and Engineering (SE) Breadth and Quantitative Reasoning (QR) Proficiencies & Experiences requirements of the University Curriculum

CC Student Learning Outcomes

(ES) Students will demonstrate an ability to engage in scientific inquiry.

Course 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.

Class Meeting: TuTh 11:00 a.m. – 12:20 p.m. Fondren Science 158

Instructor: Dr. S. Dalley, sdalley@smu.edu

Office Hours: In person Tu Th 9-11 a.m. Fondren Science 207, or by appointment via Zoom. Zoom meeting ID 477 628 4599 Passcode *dalleyphys*. You will only be able to join Zoom meetings while signed in to your SMU account via SSO.

Course Requirements

- Go to the Wiley Resources link in the Canvas course and obtain the electronic resource **Fundamentals of Physics 12th Edition** with **WileyPlus**, by David Halliday, Robert Resnick, Jearl Walker. There is no need to get a printed textbook or any other "add-ons", unless you want to.
- You will need to 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*
- You will need any simple scientific calculator that does NOT have wireless communication.

Mask Policy

Masks and social distancing (where possible) are required in the classroom at all times. If you want to sit in the front row, I request you wear an N95-type medical grade mask.

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 \(Links to an external site.\) \(Links to an external site.\)](#). Violations of the Honor Code will be acted upon in accordance with the policies and procedures outlined in the [Mustang Student Handbook \(Links to an external site.\) \(Links to an external site.\)](#). Examples of academic dishonesty are:

- 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).
- Fabricating lab data or using published information without citation (plagiarism) in an essay-style assignment.
- 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).

Absence

- Students who test positive for COVID-19 and need to isolate, or who are notified of potential exposure, must follow [SMU's Contact Tracing Protocol](#)([Links to an external site.](#)) ([Links to an external site.](#)) ([Links to an external site.](#)) ([Links to an external site.](#)) If you contract any other contagious illness (such as the regular flu or a cold for example) you should not come to class until you are better and/or it is expected that you will take steps when you return to class (social distance and/or mask) that protect others in case you are still contagious.
 - All the assignments and in-class questions are available in Canvas, WileyPlus, and PollEverywhere, 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. Upon request, I can also usually provide recordings of missed lecture classes if there is a good reason for the absence.
- 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.

Grading

[Grades](#) will be available through Canvas Assignments, WileyPlus, and PollEverywhere. Scores from the latter two 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: **5%** of course grade. Polls are scored on participation only. 1/5 of polled questions may go unanswered before it starts to affect your grade.
- Practice Problem sets in WileyPlus: **15%** 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: **5%** of course grade. In-class group-work assignments scored on meaningful participation. Every student gets to drop their lowest Coop score to cover for any issues (absence, illness, brain-fog, bad luck, etc.).
- 4 tests: **40%** 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.).
- 4 corrected tests: **5%** of course grade. Corrected answers and clear working of numerical problems that you got wrong in the test will be added to the original test score for this credit. If no corrections are submitted, the original test score (including zero) will count for the corrected test credit.

- Final Exam multiple choice: **20%** of grade. Credit given for answers only, but clear working of numerical problems must be submitted.

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%

What you have scored is what determines your grade; not rounding up, 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..

Description of Assignments

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 Survey assignment in 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.

PRACTICE PROBLEMS

Sets of practice problems are assigned in WileyPlus as homework. 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 practice-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 a whole class. They contain both calculation problems (similar to WileyPlus practice) and multi-choice conceptual questions (similar to PollEverywhere). Partial credit is given for clear working.

CORRECTED TESTS

You will have the opportunity to submit corrections to your graded tests in your own time, typically within one week of receiving the test back. Corrections should be submitted in Canvas as a file upload.

FINAL EXAM

The final exam is multi-choice and will contain short calculation problems similar to WileyPlus practice. 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 will result in an automatic zero score. Additional penalties for demonstrated Academic Dishonesty are described above in this syllabus.

Course Outline/Calendar

Class Date	Topic	Textbook Chapters
Jan 18	Introduction & Measurement	1.1 - 1.3
Jan 20	Motion in One Dimension	2.1 - 2.2
Jan 25	Motion in One Dimension - Acceleration	2.3 - 2.4
Jan27	Motion in One Dimension– Free Fall	2.5 - 2.6
Feb 1	Vectors	3.1 - 3.3

Feb 3	<i>Test One</i>	Chaps 1 - 3
Feb 8	Motion in Two Dimensions	4.1 - 4.4
Feb10	Force and Motion- Newton's Laws	5.1 - 5.2
Feb 15	Force and Motion – Examples	5.3
Feb 17	Force and Motion - Resistance	6.1 - 6.2
Feb 22	Force and Circular Motion	4.5 & 6.3
Feb24	<i>Test Two</i>	Chaps 4 - 6
Mar 1	Kinetic Energy & Work- Constant Force	7.1 - 7.3
Mar 3	Kinetic Energy & Work – Variable Force	7.4 - 7.6
Mar 8	Potential and Conserved Energy	8.1 - 8.3
Mar 10	Non-Conservative Forces	8.4 - 8.5
Mar 22	Center of Mass & Linear Momentum	9.1 - 9.3
Mar 24	Linear Momentum & Collisions	9.4 - 9.8
Mar 29	<i>Test 3</i>	Chaps 7 - 9
Mar31	Oscillations	15.1 - 15.2, 15.5 - 15.6
Apr 5	Rotational Variables	10.1 - 10.3
Apr 6	<i>Drop Date</i>	
Apr 7	Rotation and Translation	10.4 - 10.8

Apr 12	Angular Momentum	11.4 - 11.8
Apr 14	<i>Test 4</i>	Chaps 10-11,15
Apr 19	Transverse Waves & Sound Waves I	16.1 & 17.1-17.2
Apr 21	Sound Waves II	17.4 & 17.7
Apr 26	Fluids I - static	14.1 - 14.5
Apr 28	Fluids II - moving	14.6 - 14.7
May 7	Final Exam (11:30 a.m. - 2:30 p.m.)	all topics

Disclaimer: The instructor reserves the right to make changes to the schedule of the class. Any alterations will be announced in class, in Canvas or via email by the instructor. Students who do not check Canvas or their email assume full responsibility for missing alterations to the course.

Institutional Policies & Procedures

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 http://www.smu.edu/Provost/SASP/DASS (Links to an external site.) (Links to an external site.) to begin the process. Once they are registered and approved, students then submit a DASS Accommodation Letter through the electronic portal, <i>DASS Link</i> , 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	All forms of sexual harassment, including sexual assault, dating violence, domestic violence and stalking, are violations of SMU's Title IX Sexual

Harassment 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 acessequity@smu.edu or 214-768-3601. Please note that faculty are mandatory reporters. If students notify faculty of sexual harassment, faculty must report it to the Title IX Coordinator. For more information about sexual harassment, including resources available to assist students, please visit www.smu.edu/sexualmisconduct ([Links to an external site.](#)) ([Links to an external site.](#)).

Pregnant and Parenting Students Under Title IX, students who are pregnant or parenting may request academic adjustments by contacting Elsie Johnson (elsiej@smu.edu) in the Office of the Dean of Students, or 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.

SMU Requirements

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.](#) ([Links to an external site.](#)) ([Links to an external site.](#))

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 [2020](#) ([Links to an external site.](#)) ([Links to an external site.](#))- ([Links to an external site.](#)) ([Links to an external site.](#)) [2021 SMU Undergraduate Catalog](#) ([Links to an external site.](#)) ([Links to an external site.](#)) under "Enrollment and 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 SMUexam schedule. Final exams are not required to be provided online.

Student Support

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; <https://www.smu.edu/sasp> (Links to an external site.) (Links to an external site.) (Links to an external site.) (Links to an external site.)

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 (Links to an external site.) (Links to an external site.) (Links to an external site.) 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 either consult the [CCC Reference Guide](#) (Links to an external site.) (Links to an external site.) (Links to an external site.) or contact the Office of the Dean of Students at 214-768-4564.

Caring
Community
Connections
Program

Tech Requirements & Help

Please be sure that your device or devices meet the **technical requirements** for Canvas. [Technical requirements](#) (Links to an external site.) and [browser requirements](#) (Links to an external site.) for Canvas are located in the [Canvas Student Guide](#) (Links to an external site.). If you need Technical Support with Canvas, click the Help link on the left side [Global Navigation](#) (Links to an external site.). From there you can Search Canvas Guides, Chat with Support, or Submit a Request for assistance. You can also contact the SMU [IT Help Desk](#) (Links to an external site.) for assistance with Canvas.

TECHNICAL SUPPORT

If you run into any technical problems, there are a number of resources available to you. You can contact the [SMU IT Help Desk](#) (Links to an external site.) for assistance with Canvas. Otherwise, here are additional useful resources:

- [Canvas](#)(Links to an external site.) (Links to an external site.)

- Click [HelpLinks to an external site.](#)[Links to an external site.](#) on the [Global Navigation \(Links to an external site.\) \(Links to an external site.\)](#) to search the Guides, [Chat \(Links to an external site.\) \(Links to an external site.\)](#) or contact Instructure Support via email or phone [\(Links to an external site.\)](#)

PRIVACY POLICIES

- [Canvas by Instructure \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\)](#)
- [SMU OIT Policies and Legislation \(Links to an external site.\) \(Links to an external site.\)](#)

ACCESSIBILITY

- Canvas
 - [Accessibility within Canvas \(Links to an external site.\)](#)
 - [Voluntary Product Accessibility Template \(Links to an external site.\)](#)

Student Services

The following services and resources are available to SMU students:

- [Altshuler Learning Enhancement Center \(Links to an external site.\)](#)
 - ALEC offers study-skill workshops and can help you with learning strategies and test preparation. Their phone number is (214) 768-3648.
- [Altshuler Writing Center \(Links to an external site.\)](#)
 - The Altshuler Writing Center is open to all undergraduate students who need technical advice on their assigned papers. The writing center is open most afternoons and a few evenings. To work with someone at the writing center you must make an appointment in advance. To contact please call (214) 768-3648.
- [DASS \(Links to an external site.\)](#)
 - Students needing academic accommodations for a disability must first contact [Disability Accommodations & Success Strategies \(Links to an external site.\)](#)(DASS) at (214) 768-1470 to verify the disability and to establish eligibility for accommodations. They should then schedule an appointment with the professor to make appropriate arrangements. (See an attachment describes the DASS [procedures \(Links to an external site.\) \(Links to an external site.\)](#) and relocated office.) If you have a disability accommodation you must contact DASS and have a letter of accommodation delivered to the instructor no later than the third day of class. You can email a scanned copy of your letter.
- [SMU \(Links to an external site.\)](#)

- Online portal for SMU students that allows you to view personal information, emergency contact information, register for AARO (if applicable), view class schedule, enroll in classes, add/drop/swap classes, view grades and view financial aid packages.
- [SMU Bookstore \(Links to an external site.\)](#)
 - Information on textbooks, events, buyback, promotions and more.
- [SMU Bursar \(Links to an external site.\)](#)
 - Information on student finances, bill pay and more.
- [SMU Counseling Services \(Links to an external site.\)](#)
 - College can be a stressful time. There are many transitions and major life events occurring while you are a college student. If you or a friend is going through a difficult time and needs someone to talk to please seek out the resources provided by the counseling center, located in the Health Center and their phone number is (214) 768-2211. For 24 hour help contact (214) 768-2860.
- [SMU Dedman Recreation Center \(Links to an external site.\)](#)
 - Regular exercise is one of the best things you can do for your mental and physical well-being.
- [SMU Libraries \(Links to an external site.\)](#)
 - SMU Libraries has reference librarians happy to help with your research needs. Contact a librarian at <http://askalibrarian.smu.edu/> ([Links to an external site.](#)) or call (214) 768-2326.
- [SMU OIT \(Links to an external site.\)](#)
 - OIT provides computing, information processing, and communications resources to satisfy the needs of faculty, students, and staff, and offers comprehensive support services to help them use technology effectively and creatively.
- [SMU Student Affairs \(Links to an external site.\)](#)
 - SMU Student Affairs is a network of [departments, programs and services \(Links to an external site.\)](#) focused on supporting students' out-of-classroom experiences and co-curricular learning.