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.

General Education

After PHYS 1105 lab course is taken, satisfies Exploring Science (ES) Breadth of the Common Curriculum and Science and Engineering (SE) Breadth and Quantitative Reasoning (QR) Proficiencies & Experiences requirements of requirement of the University Curriculum

Common Curriculum 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 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 ideal fluids, oscillations, statics, sound, and extended rigid bodies.

PHYS 1307 **General Physics I** **Summer 2021**

Class Meeting: M-F 9:00 a.m. – 10:50 a.m. via Zoom

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

Office Hour: 8:00 - 8:45 am each class day via Zoom

Participation Requirements:

- **Fundamentals of Physics** 11th Edition with **WileyPlus**, by David Halliday, Robert Resnick, Jearl Walker. Visit www.wileyplus.com/go/login to create an account or add the course (ID A99927). An online textbook is fine; it is not necessary to get a printed or e-textbook, unless you want one.
- 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.** https://www.smu.edu/OIT/Services/Shibboleth(Links to an external site.) (Links to an external site.)
- You will need a free account at **PollEverywhere**.com. ONE account using your SMU email address and REAL NAME. No other accounts will be recognized. Login at PollEV.com and join session *dalleyphysics* to submit polls.

Statement on Communication and Attendance

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. The teaching strategy for this course relies on active participation of all students via Zoom, so you are expected to attend every class. Recording of lecture will be made available upon request in the case of valid reasons for absence from the live class, such as illness, conflicting events, technical issues, and substantially different time zones.

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 during any exam. In open-source tests, you may Download from but not Upload to the internet.
- Sharing or copying an assignment intended to be done individually.
- Fabricating lab data or using published information without citation 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 result in an F grade for the course and a filing with the Dean of Student Life (Honor Code Violation).

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 readings with Survey questions in WileyPlus: **10%** of course grade. Lowest 2 survey scores are dropped, including absence for any Late submissions cannot be credited.
- 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.
- Post-class Practice Problem sets in WileyPlus: **30%** of course grade. Lowest 2 problem set scores are dropped, including absence for any Late submissions receive half credit.
- Interactive Exercises in-class from WileyPlus: **10%** of grade. Credit given for answers submitted in WileyPlus when clear working is uploaded to Canvas.
- 4 tests (50 min each) in Canvas: **20%** of grade. Credit given for answers and clear working of numerical problems uploaded to Canvas.
- Final Exam (2 hrs 50 min) multiple choice in Canvas: **25%** of grade. Credit given for answers when clear working of numerical problems is uploaded to Canvas.

In determining the overall course grade, if the score on every test and on the final exam is always below 50%, the course grade will be F regardless of performance in 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%

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 Assignment Groups

PRE-CLASS READINGS & SURVEYS

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 multiple choice survey assignment in WileyPlus by the deadline on the due date for credit – no exceptions!

Recommended Time Burden = 1 hour outside of class per 1 hour 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**. There is participation credit and you are expected to respond to most questions.

POST-CLASS PRACTICE PROBLEMS

Sets of practice problems are assigned in WileyPlus and typically due by the next class. Late submissions will receive half credit.

Recommended Time Burden outside of class = 1 – 2 hours per problem set

IN-CLASS INTERACTIVE EXERCISES

At the end of each major topic, you will perform an analysis of a simulation in WileyPlus with a small group of students in a breakout room. Credit is given for correct answers in WileyPlus for which clear working has been uploaded to Canvas.

TESTS

There are four tests (50 min each) with problems similar to the Practice Problems and Interactive Exercises. Partial credit is given for clear working. Without documentary evidence of a technical problem (screenshot or photo), the test score will be reduced for late submissions in Canvas.

Final Exams: The final exams are in two parts. There is a 100-minute multi-choice problem-solving exam for which working for each problem must be uploaded within 20 minutes after the end of the exam to receive any credit for a problem. There is a 35-minute multi-choice conceptual-question exam with questions very closely related to those done in class; no working is required.

Course Outline/Calendar

Class Date	Topic	Textbook Chapters
Jun 1	**Introduction & Measurement**	**1.1 - 1.3**
Jun2	**Motion in One Dimension –** Velocity & Acceleration	**2.1 - 2.5**
Jun 3	**Motion in One Dimension -** Free Fall	**2.6 - 2.7**
Jun 4	**Vectors , Motion in Two Dimensions**	**3.1 - 3.3, 4.1 - 4.4**
Jun 7	**Motion in Two Dimensions, Force and Motion-** Newton's Laws	**4.1 - 4.4, 5.1 - 5.2**
Jun 8	**TEST** (Chaps 1-4), **Force and Motion –** Examples	**5.3**
Jun 9	***Force and Motion –*** *Resistance & Circular Motion*	***6.1 - 6.3, 4.5***
Jun 10	**Kinetic Energy & Work-** Constant and Variable Forces	**7.1 - 7.6**
Jun 11	**Potential and Conserved Energy**	**8.1 - 8.3**
Jun 14	**Non-Conservative Forces**	**8.4-8.5**
Jun 15	**TEST** (Chaps 5-8), **Center of Mass & Linear Momentum**	**9.1 - 9.3**
Jun 16	**Linear Momentum & Collisions**	**9.4 - 9.8**
Jun 17	**Oscillations –** Simple Harmonic Motion, Damping and Driving	**15.1- 15.2, 15.4, 15.6 – 15.7**
Jun 18	**Transverse Waves & Sound Waves I**	**16.1 & 17.1-17.2**
Jun 21	**Sound Waves II, Fluids I**	**17.4 & 17.7,**

		14.1 -14.5
Jun 22	**TEST** (Chaps 9 & 15 & 17), **Fluids II**	**14.6-14.7**
Jun 23	**Rotational Variables**	**10.1-10.3**
Jun 24	**Rotation and Translation**	**10.4- 10.7**
Jun 25	**TEST** (Chaps 14 &10), **Angular Momentum**	**11.4-11.8**
Jun 28	**Equilibrium**	**12.1-12.2**
Jun 29	Review, **Final Exam** (Conceptual)	
Jun 30	**Final Exam** (problem-solving)	

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

Disability Accommodations

Students needing 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 approved and registered, students will submit a DASS Accommodation Letter to faculty through the electronic portal *DASS Link* and then communicate directly with each instructor to make appropriate arrangements. Please note that accommodations are not retroactive and require advance notice to implement.

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. (https://www.smu.edu/StudentAffairs/Chaplain/ReligiousHolidays (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 missed as a result of their participation. It is the responsibility of the student to make arrangements with the instructor prior to any missed scheduled examination or other missed assignment for making up the work. (See 2020-2021 SMU Undergraduate Catalog (Links to an external site.) (Links to an external site.) under "Enrollment and Academic Records/Excused Absences.")

Student Academic Success Programs

Students needing assistance with writing assignments for SMU courses may schedule an appointment with the Writing Center through Canvas. Students wishing support with 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.).

Pregnant and Parenting Students

Accommodations for 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.

Covid-19 Attendance

Students who are experiencing COVID-19 symptoms or who have been notified through contact tracing of potential exposure and need to self-quarantine or isolate must follow the protocols laid out in SMU's Contact Tracing Protocol (Links to an external site.) (Links to an external site.). To ensure academic continuity, students in these situations will not be penalized and will be provided appropriate modifications to assignments, deadlines, and testing. Please also note that SMUFlex classes might, in rare circumstances, go remote for two-week periods to accommodate COVID-related issues. To ensure these necessary accommodations, affected students must:

- Provide as much advance notification as possible to the instructor about a change in circumstances. Students must notify their instructor about a potential absence as well as plans for a return to class. For cases in which students test positive for COVID-19, they should fill out a CCC form at this link(Links to an external site.) (Links to an external site.).
- Communicate promptly with the instructor to establish, as necessary, alternative assignments and/or changes to deadlines and exams. Students are then responsible for meeting the expectations laid out in these alternative arrangements.
- Continue participation in class via Zoom, as health circumstances permit. Attend class regularly, when not in a situation outlined above, in accordance with safety measures laid out by SMU CAN in the Pledge to Protect(Links to an external site.) (Links to an external site.)(including wearing masks, maintaining social distancing, and cleaning personal space after class). In-person participation in SMUFlex classes is required on students' assigned red/blue rotation days except in cases when students are experiencing illness, are in self-quarantine or in isolation.
- Students facing multiple or extended COVID-19-related absences or illness can work with the Office of the Dean of Students to consider options such as fully remote learning or medical withdrawal.

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.

To be successful in this course, students should have basic keyboarding and computer skills, and be comfortable navigating the Internet. This fully remote course occurs primarily via canvas.smu.edu (Links to an external site.). Zoom (Links to an external site.)Web Conferencing is used in this course as well for virtual (i.e., real-time, synchronous) meetings, and Panopto (Links to an external site.) (Links to an external site.) is used for recording audio/video assignments.

TECHNICAL SUPPORT

If you run into any technical problems, there are a number of resources available to you. First, you can always check with me; in many cases, I can walk you through technical issues. Also, you can contact the SMU IT Help Desk (Links to an external site.) for assistance with Canvas and Zoom. 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
- Panopto
  - Search the Panopto Support site(Links to an external site.) (Links to an external site.)(Links to an external site.) for forums and documentation, or contact the SMU IT Help Desk. (Links to an external site.) (Links to an external site.)
- Zoom
  - Search their Knowledge Base(Links to an external site.) (Links to an external site.)or Submit a Request (Links to an external site.) (Links to an external site.)

PANOPTO VIDEO APP for CANVAS

If requested, you will use the Panopto (Links to an external site.) (Links to an external site.) to submit/view video assignments. Be sure your device or devices meet the Panopto's technical requirements (Links to an external site.) (Links to an external site.), and if you need Panopto support contact the SMU IT Help Desk (Links to an external site.) (Links to an external site.).

ZOOM

Zoom (Links to an external site.) (Links to an external site.) is used for online synchronous (i.e., real-time) meetings in this course. Please be sure your devices meet the technical requirements (Links to an external site.) (Links to an external site.) for 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.** https://www.smu.edu/OIT/Services/Shibboleth (Links to an external site.) (Links to an external site.)

PRIVACY POLICIES

- Canvas by Instructure (Links to an external site.)
- Panopto Privacy(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.)
- Zoom(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.)
- Panopto(Links to an external site.) (Links to an external site.) (Links to an external site.) (Links to an external site.)
- Zoom (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 Service (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.