

## PHYS 1303 Course Syllabus

### Course Overview

For science and engineering majors. Covers vector kinematics, Newtonian mechanics, gravitation, rotational motion, oscillations. This section of PHYS 1303 uses 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 every class.

Pre- or co-requisite: MATH 1337.

#### *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 and Quantitative Applications (QA) Proficiencies & Experiences requirements of Common Curriculum (matr. from Fall 2020)
- Science and Engineering (SE) Breadth and Quantitative Reasoning (QR) Proficiencies & Experiences requirements of requirement of the University Curriculum

### Student Learning Outcomes

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

(QA) Students will demonstrate an ability to interpret mathematical models in the form of formulas, graphs, and/or tables and draw inferences from them in a specified domain.

**Class Meeting:** 10:00 a.m. – 12:00 p.m. & 1:00 p.m. – 3:00 p.m.

**Instructor:** Dr. S. Dalley, [sdalley@smu.edu](mailto:sdalley@smu.edu)

**Office Hour:** 9:00 - 9:45 a.m.

#### Requirements:

- **Fundamentals of Physics** 11th Edition with **WileyPlus**, by David Halliday, Robert Resnick, Jearl Walker. Recommend purchase Instant Access; there is no need to get a printed textbook.

- You will need any simple scientific calculator (handheld or web -based).
- 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

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.

## 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.) 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.)).

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

## 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](mailto: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 \(Links to an external site.\)](#). 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 \(Links to an external site.\)](#).
- 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 \(Links to an external site.\)](#)(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.

## Academic Dishonesty

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

- Communication via any method with anyone else, whether real or virtual, during any exam.
- 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 usually 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 reason. 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 reason. Late submissions are credited at 50%.
- Interactive Exercises in-class from WileyPlus: **10%** of grade. Credit given for answers when clear working is uploaded to Canvas.
- **3 tests (45 min each)** in Canvas: **20%** of grade. Credit given for answers and clear working of numerical problems uploaded to Canvas.
- Final Exam (3 hrs) multiple choice in Canvas: **25%** of grade. Credit given for answers only, but clear working of numerical problems must be 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..

## Requirement/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!

**Note: Some reading and survey assignments are due in WileyPlus before the first class on Jan 4**

*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 50% 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.

### EXAMS

There are three tests (45 min each) and final exams (45 min and 1 hr 45 min). For tests partial credit is given for clear working uploaded to Canvas. The final exam is a multi-choice Canvas quiz together with a separate Canvas Assignment to upload working; there is no direct credit for working but it's needed to receive credit for a multi-choice answer to a numerical problem. All data are provided in the questions.

Without documentary evidence of a technical problem, the exam score will be reduced by 5% for each minute late that the submission deadline in Canvas is missed.

## Course Outline/Calendar

Note: Some reading and survey assignments are due in WileyPlus before the first class on Jan 4

<b>Class Date</b>	<b>Topic</b>	<b>Textbook Chapters</b>
Jan 4	<b>Introduction to Physics</b>	
	<b>Measurement</b>	<b>1.1 - 1.3</b>
	<b>Motion in One Dimension - Velocity</b>	<b>2.1 - 2.2</b>
	<b>Motion in One Dimension - Acceleration</b>	<b>2.3 - 2.5</b>
Jan 5	<b>Motion in One Dimension– Free Fall</b>	<b>2.6- 2.7</b>
	<b>Vectors</b> + <i>Interactive Exercise (Chap 2)</i>	<b>3.1 - 3.2</b>
	<b>Vectors (dot product)</b>	<b>3.1 – 3.3</b>

	<b>Motion in Two Dimensions</b>	<b>4.1 - 4.4</b>
Jan 6	<b>Relative Motion</b>	<b>4.6 - 4.7</b>
	<i>Interactive Exercises</i>	<b>Chap 4</b>
	<i>Test One</i>	<i>Chaps 2 - 4</i>
	<b>Force and Motion- Newton's Laws</b>	<b>5.1 - 5.2</b>
Jan 7	<b>Force and Motion – Examples</b>	<b>5.3</b>
	<i>Interactive Exercises</i>	<i>Chap 5</i>
	<b>Force and Motion - Resistance</b>	<b>6.1 - 6.2</b>
	<b>Force and Circular Motion</b>	<b>4.5 &amp; 6.3</b>
Jan 8	<b>Kinetic Energy &amp; Work- Constant Force</b>	<b>7.1 - 7.3</b>
	<b>Kinetic Energy &amp; Work – Variable Force</b>	<b>7.4-7.6</b>
	<b>Potential and Conserved Energy</b>	<b>8.1 - 8.3</b>
	<b>Non-Conservative Forces</b>	<b>8.4-8.5</b>
Jan 9	<i>Interactive Exercises</i>	<i>Chap 8</i>
	<i>Test Two</i>	<i>Chaps 5 - 8</i>

	<b>Center of Mass &amp; Linear Momentum</b>	<b>9.1 - 9.3</b>
	<b>Linear Momentum &amp; Collisions</b>	<b>9.4 - 9.8</b>
Jan 11	<b>Oscillations</b> – Simple Harmonic Motion	<b>15.1- 15.2</b>
	<i>Interactive Exercises</i>	<i>Chaps 9 &amp; 15</i>
	<b>Oscillations</b> – Pendula, Damping, Driving	<b>15.4 &amp; 15.6 – 15.7</b>
	<b>Gravitation - Force</b>	<b>13.1 - 13.3</b>
Jan 12	<b>Gravitation</b> – Energy and Orbits	<b>13.4-6</b>
	<i>Interactive Exercises</i>	<i>Chap 13</i>
	<i>Test Three</i>	<i>Chaps 9, 13, 15</i>
	<b>Rotational Motion</b>	<b>10.1 -10.3</b>
Jan 13	<b>Torque and Rotational Inertia</b>	<b>10.4- 10.7</b>
	<i>Interactive Exercises</i>	<i>Chap 10</i>
	<b>Rotation and Translation</b>	<b>10.4- 10.7</b>
	<b>Rolling</b>	<b>(3.3), 11.1-2, 11.4</b>
Jan 14	<i>Interactive Exercises (Rolling)</i>	<i>Chap 11</i>



**Angular Momentum**

11.5-11.8

*Interactive Exercises (Angular Momentum)**Chap 11***Equilibrium**

12.1-12.2

Jan 15 *Interactive Exercises**Chap 12**Final Exams*

*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.*

## Tech Requirements & Help

Please be sure that your device or devices meet the **technical requirements** for Canvas. [Technical requirements](#) and [browser requirements](#) for Canvas are located in the [Canvas Student Guide](#). If you need Technical Support with Canvas, click the Help link on the left side [Global Navigation](#). 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](#) 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](https://canvas.smu.edu). [Zoom](#) Web Conferencing is used in this course as well for virtual (i.e., real-time, synchronous) meetings, and [Panopto \(Links to an external site.\)](#) 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](#) for assistance with Canvas and Zoom. Otherwise, here are additional useful resources:

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

- Panopto
  - Search the [Panopto Support site \(Links to an external site.\)](#) (Links to an external site.) for forums and documentation, or contact the [SMU IT Help Desk. \(Links to an external site.\)](#)
- Zoom
  - Search their [Knowledge Base \(Links to an external site.\)](#) or [Submit a Request \(Links to an external site.\)](#)

## PANOPTO VIDEO APP for CANVAS

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

## ZOOM

[Zoom \(Links to an external site.\)](#) is used for online synchronous (i.e., real-time) meetings in this course. Please be sure your devices meet the [technical requirements \(Links to an external site.\)](#) 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.)

## PRIVACY POLICIES

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

## ACCESSIBILITY

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

The following services and resources are available to SMU students:

- [Altshuler Learning Enhancement Center](#)
  - 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](#)
  - 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](#)
  - Students needing academic accommodations for a disability must first contact [Disability Accommodations & Success Strategies](#) (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 \(Links to an external site.\)](#) 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.
- [my.SMU](#)
  - 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](#)
  - Information on textbooks, events, buyback, promotions and more.
- [SMU Bursar](#)
  - Information on student finances, bill pay and more.
- [SMU Counseling Services](#)
  - 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](#)
  - Regular exercise is one of the best things you can do for your mental and physical well-being.
- [SMU Libraries](#)
  - SMU Libraries has reference librarians happy to help with your research needs. Contact a librarian at <http://askalibrarian.smu.edu/> or call (214) 768-2326.
- [SMU OIT](#)
  - 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](#)
  - SMU Student Affairs is a network of [departments, programs and services](#) focused on supporting students' out-of-classroom experiences and co-curricular learning.