

## PHYS 1303-002 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:** MWF 10:00 a.m. – 10:50 a.m.

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

**Office Hour:** W 3:00 - 4:00 p.m.

### Requirements:

- **Fundamentals of Physics** 11th Edition with **WileyPlus**, by David Halliday, Robert Resnick, Jearl Walker. Visit [www.wileyplus.com/go/coursefinder](http://www.wileyplus.com/go/coursefinder) and enter course ID **778026**. 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 *dalleyphysicsto* submit polls.
- **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.

### 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.

### Netiquette

Netiquette is a set of rules for behaving properly online. Something about cyberspace makes it easy for people to forget that they are interacting with other real people. The following bullet points cover some basics to communicating online:

- Be sensitive to the fact that there will be cultural and linguistic backgrounds, as well as different political and religious beliefs, plus just differences in general.
- Use good taste when composing your responses in Discussion Forums. Swearing and profanity is also part of being sensitive to your classmates and should be avoided. Also consider that slang can be misunderstood or misinterpreted.
- Don't use all capital letters when composing your responses as this is considered "shouting" on the Internet and is regarded as impolite or aggressive. It can also be stressful on the eye when trying to read your message.
- Be respectful of your others' views and opinions. Avoid "flaming" (publicly attacking or insulting) them as this can cause hurt feelings and decrease the chances of getting all different types of points of view.
- Be careful when using acronyms. If you use an acronym it is best to spell out its meaning first, then put the acronym in parentheses afterward, for example: Frequently Asked Questions (FAQs). After that you can use the acronym freely throughout your message.
- Use good grammar and spelling, and avoid using text messaging shortcuts.
- [Emoticons \(Links to an external site.\)](#) and [emojis \(Links to an external site.\)](#) can be used to add emotion to your text or convey invisible body language, as long as they are used tastefully.
- For synchronous meetings, make sure you are in a safe and private place (please do not connect while you are driving or when there might be distractions around you). Also, for a better experience, make sure to use headphones (except during exams) and make sure you are not interrupted.

### 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> 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/Religious Holidays](https://www.smu.edu/StudentAffairs/Chaplain/ReligiousHolidays)).
- **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](#) 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>.

**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 Statement:** 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](#). 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](#).
- 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](#) (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 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 for any reason. Late submissions are credited at 50%.

- Interactive Exercises in-class from WileyPlus: **10%** of grade. Credit given for clear working of numerical problems uploaded to Canvas.
- 3 tests (45 min each) in Canvas: **20%** of grade. Credit given for clear working of numerical problems uploaded to Canvas.
- Final Exam (2 hrs 45 min) 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 Canvas and complete the multiple-choice survey assignment in WileyPlus by the deadline 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 in Zoom breakout rooms. 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 due weekly. 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 both correct answers in WileyPlus and clear working uploaded to Canvas.

EXAMS

There are three tests (45 min each + 5 min upload time) and a final exam (2 hrs45 min + 10 min upload time). Tests are set as timed Canvas assignments; 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. All data are provided in the questions.

You must be present in Zoom with camera on and mic on (volume up) with a full-face view and share your screen for the entire exam; you will be in your own breakout room. You may not wear ear phones or otherwise communicate with anyone else during the exam. You may not leave camera shot during the exam without permission. Violating any of these rules without good reason will result in the entire final exam % being forfeited. 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**

For the full course Outline/Calendar, please visit the [Modules](#) section of the course.

<b>Class Date</b>	<b>Topic</b>	<b>Textbook Chapters</b>
Aug 24	<b>Introduction to Physics</b>	
Aug 26	<b>Measurement</b>	<b>1.1 - 1.3</b>
Aug 28	<b>Motion in One Dimension - Velocity</b>	<b>2.1 - 2.2</b>
Aug 31	<b>Motion in One Dimension - Acceleration</b>	<b>2.3 - 2.5</b>
Sep 2	<b>Motion in One Dimension– Free Fall</b>	<b>2.6- 2.7</b>

Sep 4	<b>Vectors</b> + <i>Interactive Exercise (Chap 2)</i>	<b>3.1 - 3.2</b>
Sep 7	<b>Vectors (dot product)</b>	<b>3.1 – 3.3</b>
Sep 9	<b>Motion in Two Dimensions</b>	<b>4.1 - 4.4</b>
Sep 11	<b>Relative Motion</b>	<b>4.6 - 4.7</b>
Sep 14	<i>Interactive Exercises</i>	<b>Chap 4</b>
Sep 16	<i>Test One</i>	<i>Chaps 2 - 4</i>
Sep 18	<b>Force and Motion-</b> Newton's Laws	<b>5.1 - 5.2</b>
Sep 21	<b>Force and Motion</b> – Examples	<b>5.3</b>
Sep 23	<i>Interactive Exercises</i>	<i>Chap 5</i>
Sep 25	<b>Force and Motion</b> - Resistance	<b>6.1 - 6.2</b>
Sep 28	<b>Force and Circular Motion</b>	<b>4.5 &amp; 6.3</b>
Sep 30	<b>Kinetic Energy &amp; Work-</b> Constant Force	<b>7.1 - 7.3</b>
Oct 2	<b>Kinetic Energy &amp; Work</b> – Variable Force	<b>7.4-7.6</b>
Oct 5	<b>Potential and Conserved Energy</b>	<b>8.1 - 8.3</b>
Oct 7	<b>Non-Conservative Forces</b>	<b>8.4-8.5</b>
Oct 9	<i>Interactive Exercises</i>	<i>Chap 8</i>

Oct 12	<i>Test Two</i>	<i>Chaps 5 - 8</i>
Oct 14	<b>Center of Mass &amp; Linear Momentum</b>	<b>9.1 - 9.3</b>
Oct 16	<b>Linear Momentum &amp; Collisions</b>	<b>9.4 - 9.8</b>
Oct 19	<b>Oscillations</b> – Simple Harmonic Motion	<b>15.1- 15.2</b>
Oct 21	<i>Interactive Exercises</i>	<i>Chaps 9 &amp; 15</i>
Oct 23	<b>Oscillations</b> – Pendula, Damping, Driving	<b>15.4 &amp; 15.6 – 15.7</b>
Oct 26	<b>Gravitation</b> - Force	<b>13.1 - 13.3</b>
Oct 28	<b>Gravitation</b> – Energy and Orbits	<b>13.4-6</b>
Oct 30	<i>Interactive Exercises</i>	<i>Chap 13</i>
Nov 2	<i>Test Three</i>	<i>Chaps 9, 13, 15</i>
Nov 4	<b>Rotational Motion</b>	<b>10.1 -10.3</b>
Nov 6	<b>Torque and Rotational Inertia</b>	<b>10.4- 10.7</b>
Nov 9	<i>Interactive Exercises</i>	<i>Chap 10</i>
Nov 11	<b>Rotation and Translation</b>	<b>10.4- 10.7, 3.3</b>
Nov 13	<b>Rolling</b>	<b>11.1-2, 11.4</b>
Nov 16	<i>Interactive Exercises(Rolling)</i>	<i>Chap 11</i>



Nov 18	<b>Angular Momentum</b>	<b>11.5-11.8</b>
Nov 20	<i>Interactive Exercises(Angular Momentum)</i>	<i>Chap 11</i>
Nov 23	<b>Equilibrium</b>	<b>12.1-12.2</b>
Dec 2	<i>Interactive Exercises</i>	<i>Chap 12</i>
Dec 4	<i>Final Review</i>	

*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](http://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.

## IMPORTANT

A **webcam** is required for group work and taking exams. If your device does not have a built-in webcam, one can be purchased at a local consumer electronics store or through an online retailer like [Amazon](#).

## 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.**

### 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](#)

### Student Services

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.