

PHY 113 (General Physics 1 Laboratory)

ASU Polytechnic Campus

Monday | 03:05 pm – 04:55 pm | SANTAN 102 (Section: 79329)

Tuesday | 09:00 am – 10:50 am | SANTAN 102 (Section: 64405)

Tuesday | 03:00 pm – 04:50 pm | SANTAN 102 (Section: 66482)

Wednesday | 03:00 pm – 04:50 pm | SANTAN 102 (Section: 65273)

Credits: 1.0

Faculty Information:

Instructor: *Abhijit Khare*

Office: Wanner Hall Room: 140 P

Email: arkhare@asu.edu

Office Hours: Tuesday: 1 – 2 pm Friday: 3 – 4 pm

You can also reach me via Zoom at <https://asu.zoom.us/j/4656076528> upon request by email.

Note: Please construct all emails with your full name, the course in which you are enrolled, and a proper greeting and closing. I do check emails quite frequently during the day and once during the night.

Course Description:

Elementary experiments in physics. Requires outside preparation for experiments and report writing. May be taken concurrently with, or subsequent after PHY 111. Both PHY 111 and PHY 113 must be taken to secure General Studies Gold SCIT credit or General Studies Maroon SQ credit.

General Studies Gold

Required for undergraduate students in 2024 or later catalog years. Find your catalog year by visiting [My ASU](#), under My Programs.

SCIT: Scientific Thinking in Natural Sciences

General Studies Maroon

Required for undergraduate students in 2023 or earlier catalog years. Find your catalog year by visiting [My ASU](#), under My Programs.

SQ: Natural Science - Quantitative

(Note: Honors students will receive honors credit for this course. Honors students will be provided with additional class assignments that will be based on experiment related research-based topics.)

Please Note: It will be the instructor's decision to approve/disapprove a student for the Barrett Honors Enrichment Contract. The decision to approve/disapprove will be based on student's current academic status, grade standing and performance.

Prerequisites: Pre- or corequisite(s): PHY 111 with C or better if completed OR Visiting University Student.

College Contact: This course is offered by the [College of Integrative Sciences and Arts](https://cisa.asu.edu) (CISA). For more information about the college, visit our website: <https://cisa.asu.edu>. If you have questions about this course, please speak with your instructor. If your instructor is unable to address your questions, please send your inquiry to cisa@asu.edu.

Physics Learning and Belonging:

Your success in this class is very important to me and you should feel a sense of belonging to this class. The lab course is a hands-on activity and experimentation and would give you a great opportunity to “Do and Learn” physics and interact with your fellow students. You are very welcome in class by me and the physics community.

We all need accommodation because we all learn differently. If there are aspects of this course that prevent you from learning or exclude you, please let me know as soon as possible. Together we will develop strategies to meet both your needs and the requirements of the course.

I encourage you to visit the Office of Disability Services to determine how you could improve your learning as well. If you need official accommodation, you have a right to have these met. There are also a range of resources on campus, including the Writing Center, Tutoring Center, and Academic Advising Center.

Course Learning Outcomes:

At the completion of this course, students will be able to:

1. Compare the accuracy of measurements
2. Describe the variables in one-dimensional motion and calculate position, velocity, and acceleration.
3. Sketch and plot the graphs of position-time, velocity-time, and acceleration-time for a given situation.
4. Give physical examples of vectors and add vectors.
5. Draw free-body diagrams.
6. Calculate potential and kinetic energies.
7. Calculate impulse, momentum and solve problems with the principle of conservation of linear momentum.
8. Analyze uniform circular motion.

9. Calculate the conditions for mechanical equilibrium.
10. Calculate moments of inertia.
11. Apply the conservation of momentum and energy to the ballistic pendulum case.
12. To verify the properties of under-damped, damped, and driven harmonic oscillators.

Course Learning Objectives:

Experimentation and testing are the cardinal principles in research. The laboratory gives the student the opportunity to test the theories learned in lecture.

1. Students will understand the diversity of scientists, their history and challenges and get encouragement from their stories.
2. Students will be able to use the data acquisition tool (Pasco Capstone software) for collecting any data related to kinematics, forces, energies, and rotational motion of objects.
3. Students will be able to apply Newton's laws to the force of gravity, the friction force and uniform circular motion.
4. Students will be able to draw free-body diagrams for various situations.
5. Students will be able to use the CALCULATOR feature in Capstone to enter and analyze equations of kinetic and potential energies.

Class Format:

This is an in-person class. Each class will consist of a short refresher presentation on the material covered in lecture, answers and discussion of student questions and solutions to example problems. Please note that the instructor will not do the homework problems (if any assigned) for the students. The instructor would only assist the students in understanding the concepts and help with improving the problem-solving skills.

Zoom Recordings and Course Content Copyright:

Please note that this course is now offered in person, so sessions will not be recorded as they used to be in the past. If students were to miss a recitation session due to being absent, please reach out to me as soon as possible so that we can discuss alternative options to make-up the session or an assignment on a separate date.

The contents of this course, including lectures and other instructional materials, are copyrighted materials. Students may not share outside the class, including uploading, selling, or distributing course content or notes taken during the conduct of the course. Any recordings of class sessions by students are prohibited, except as part of an accommodation approved by the Disability Resource Center.

Textbooks, Required Readings and Materials:

Required: PHY 113 Lab Manual (Custom)

Format: PRINT

Author(s): Adam Blake

Publisher: LAD Custom Pub.

PHYSICS 113 Lab Manual

(3rd edition)

ISBN# 9780840190352

Print Price: \$39.50

Sun Devil Bookstore website:

<https://www.bkstr.com/arizonastatestore/shop/textbooks-and-course-materials>

Grading:

Your grade will be determined based on the following grading schema:

| Grade | Percentage | |
|-------|--------------|----------------------------|
| A | 89.5 – 100% | |
| B | 79.5 – 89.4% | |
| C | 69.5 – 79.4% | |
| D | 59.5 – 69.4% | |
| E | < 59.5% | |
| EU | < 50.5% | Failing Did Not Complete |
| EN | 0% | Failing Never Participated |

Extra Credit: There will be **no** extra credit for this course.

Grading Procedure:

Grades reflect your performance on assignments and adherence to deadlines. Grades on assignments will be available within one week of the due date in the Gradebook.

Assignment Weights:

Lab Experiment (Lab attendance & Data collection + Lab Report): **1200 (12 labs x 100)**

Quizzes: **120 (12 quizzes x 10)**

Diversity in Science Assignment: **10 points**

(Please note that, I will drop 1 low lab score and 1 low quiz score. The dropped lab and quiz will say as “Excused” in canvas. If you were to remain absent from the lab and did not do the make-up, then that missed lab will be considered as the lowest lab and will be dropped. The same rule will also apply to the missed quiz.)

TOTAL: **1330 points**

Submitting Lab reports:

Lab reports are due by 1 week from the date of lab experiment. Lab reports are due during the first 5 – 7 minutes of the lab beginning time. Any lab reports submitted after that time would carry a late penalty. Any lab report not submitted would be replaced by a score of “0” on canvas. Once the due date has passed, late lab report(s) are typically not accepted. Lab reports are **not** accepted by email.

Late or Missed Assignments:

Notify the instructor **before** an assignment is due if an urgent situation arises and you are unable to submit the assignment on time.

Follow the appropriate University policies to request accommodation for religious practices, or to request accommodation for missed assignments due to university-sanctioned activities or active military service.

Assignments may be excused in cases of extreme hardship such as a medical emergency. A doctor’s note must be provided that has the name of the provider, the signature of the provider, the name of the clinic and the dates for which the student is excused. Doctor’s notes from out of state are not accepted.

Late Submission Penalty:

Lab Assignment turned in late (counted from due date/time) by the time interval:

Late submission more than 7 mins from the class start time to until the midnight time (same day): **10 points**

Late submission past midnight (of lab date): **20 points**

Late submission more than 2 days: **50 points**

Late submission more than 3 days: **100 points**

All Lab Quizzes are due on canvas by 11:59 PM (MST) on the same day as your lab experiment date.

A quiz not taken will be replaced by a “0”.

If a student is absent for 3 or more lab sessions in a semester, it is automatically a failure grade. (For specific circumstances, please speak with the instructor.)

Internet connectivity problems or lack of internet connection in your residence are not an excuse for submitting an assignment late or not completing a quiz. ASU has computers on each campus for student use. Locations and hours are listed at <https://uto.asu.edu/services/campus-it-sites/tempeLinks> to an external site. Assignments will not be excused for lack of internet connections.

Classroom Use of Generative AI (i.e. Chat GPT, Bard, etc.):

No Generative AI use permitted. In this course, all assignments must be completed by the student. Artificial Intelligence (AI), including ChatGPT and other related tools used for creating text, images, computer code, audio, or other media, are not permitted for use in any work in this class. Use of these generative AI tools will be considered a violation of the ASU Academic Integrity Policy, and students may be sanctioned for confirmed, non-allowable use in this course.

Copyright:

The contents of this course, including lectures and other instructional materials, are copyrighted materials. Students may not share outside the class, including uploading, selling, or distributing course content or notes taken during the conduct of the course. Any recording of class sessions is authorized only for the use of students enrolled in this course during their enrollment for the course in the semester. Recordings and excerpts of recordings may not be distributed to others.

Course access:

Your ASU courses can be accessed by both my.asu.edu and asu.instructure.com; bookmark both in the event if one site is down.

Lab Room Policy:

- **IPHONES, CELL PHONES, etc. NEED TO BE TURNED OFF DURING CLASS. Any violation would result in a 10-point penalty immediately in effect.**
- **Students bringing their laptops, iPads, or notebook PC inside the lab must properly sanitize their equipment before and after use and wipe off their student workstation with Lysol wipes after lab before they leave the lab room.**

- **SHOES (CLOSED TOED) ARE REQUIRED TO BE INSIDE THE LAB. Any violation would result in a 10-point penalty immediately in effect.**
- **FOOD AND DRINK ARE NOT ALLOWED INSIDE THE LAB. Water bottles are allowed and must be kept away from the lab workstation table. Any violation would result in a 10-point penalty immediately in effect.**
- **Any skateboards, if brought inside, MUST be kept under the side wall tables.**
- **Any student backpacks brought inside MUST be placed on the side rack or under the lab workstation tables.**
- **The fire evacuation route door MUST NOT be used for entering and leaving the lab room.**

Additional Requirements:

This course requires the following technologies:

- Web browsers ([Chrome](#), [Mozilla Firefox](#), or [Safari](#))
- [Adobe Acrobat Reader](#) (free)
- Microsoft Office ([Microsoft 365 is free](#) for all currently enrolled ASU students.)
- Reliable broadband internet connection (DSL or cable) to stream videos.

Note: A smartphone, iPad, Chromebook, etc. will not be sufficient for completing your work in an online environment. Although you will be able to access course content with mobile devices, you must use a computer for all assignments, quizzes, and virtual labs (if needed) completed in Canvas.

Student Success:

To be successful:

- Check the course daily.
- Read announcements.
- Read and respond to course email messages as needed.
- Complete assignments by the due dates as specified.
- Communicate regularly with your instructor and peers.
- Create a study and/or assignment schedule to stay on track.
- Access [ASU Online Student Resources](#) or [CISA Academic Resources](#).

Missed Classes Due to University-Sanctioned Activities:

Class attendance (either in-person or remotely) is required in the course, and attendance is taken every class session. If you are unable to attend class for any reason, please contact me as soon as possible.

Follow the appropriate University policies to request accommodation for religious practices, or to request accommodation for missed assignments due to university-sanctioned activities or active military service.

Accommodation for Religious Practices or Military Service:

Class attendance (in-person) is required in the course, and attendance is taken every class session in the form of lab report collection. If you are unable to attend class for any reason, please contact me as soon as possible.

Follow the appropriate University policies to request accommodation for religious practices, or to request accommodation for missed assignments due to university-sanctioned activities or active military service.

Arriving late or leaving early (without instructor notification) from class **may result in point deductions from your participation.**

Class Absence(s):

Notify the instructor in case of any class absence(s) during the semester.

Follow the appropriate University policies to request accommodation for religious practices, or to request accommodation for missed assignments due to university-sanctioned activities or active military service.

Attendance Policy and Make-up lab session:

In-person attendance is required for all recitation sessions. Follow the appropriate University policies to request accommodation for religious practices, or to request accommodation for missed assignments due to university-sanctioned activities or active military service.

Attendance may be excused in cases of extreme hardship such as a medical emergency, or any unforeseen circumstances such as a car accident or a road-side emergency. In case of medical emergency, a doctor's note must be provided that has the name of the provider, the signature of the provider, the name of the clinic and the dates for which the student is excused. Doctor's notes from out of state are not accepted.

I allow students to make up the lab (maximum up to 2 labs) the same week of absence date. To have the makeup allowed, I must have student(s) notify me of absence in advance.

Any other absences that are directly related to ASU should be discussed with the instructor prior to the class absence(s). Any absence due to non-ASU related work would be considered as an unexcused absence.

Communicating with your Instructor and Classmates:

Classroom Community:

To build a course climate that is comfortable for all, it is important that students (1) display respect for all members of the class – including the instructor and students; (2) pay attention to

and participate in all interactive student partner/instructor sessions and activities; and (3) observe the rules of appropriate online behavior (also known as *netiquette*). This term is defined by the instructor and includes keeping course discussion posts and oral communication with other students (or the instructor) focused on the assigned topics. Students must maintain a cordial atmosphere and use tact in expressing differences of opinion. In addition, they must avoid racist, sexist, homophobic, or other negative language that may unnecessarily exclude course members. This is not an exhaustive list of behaviors; rather, it represents examples of the types of things that can have a dramatic impact on the course environment. Your final grade may be reduced each time you engage in the types of negative behavior indicated above.

Community Forum:

This course uses a Canvas discussion topic called “Community Forum” for general questions and comments about the course. Check the syllabus, announcements, and existing posts to ensure it’s not redundant prior to posting a question or comment. You are encouraged to respond to the questions of your classmates.

Email questions of a personal nature to your instructor. You can expect a response within **24 hours during the week and 72 hours on weekends.**

Chat:

The Chat tool in Canvas allows students and teachers to interact in real time. Use Chat only for informal course-related conversations unless your instructor informs you otherwise. Chat is not ideal for questions about assignments; instructors are not required to monitor it and conversations may be buried or lost.

Email:

ASU email is an official means of communication among students, faculty, and staff. Students are expected to read and act upon email in a timely fashion. Students bear the responsibility of missed messages and should check their ASU-assigned email regularly.

All instructor correspondence will be sent to your ASU email account.

COURSE Time Commitment:

Coursework includes all learning activities including reading, watching videos, studying, and completing assignments. Arizona Board of Regents (ABOR) require 45 hours of coursework per credit for college-level courses, which translates to:

1 credit hour = 45 total hours

2 credit hours = 90 total hours

3 credit hours = 135 total hours

4 credit hours = 180 total hours

5 credit hours = 225 total hours

ASU courses range in length from 6 weeks to 15 weeks. Below is a breakdown of the 135-hour required time commitment for a three-credit course divided among weeks for courses of various lengths.

| Course Length | Time on Coursework per Week for a 3-credit course | Total Time Requirement for a 3-credit course |
|----------------------|--|---|
| 6 weeks | 22.5 hours | 135 hours |
| 7.5 weeks | 18 hours | 135 hours |
| 8 weeks | 17 hours | 135 hours |
| 15 weeks | 9 hours | 135 hours |

Drop and Add Dates/Withdrawals:

Please refer to the academic calendar on the deadlines to drop/withdraw from this course.

Consult with your advisor and notify your instructor if you are going to drop/withdraw this course. If you are considering a withdrawal, review the following ASU policies: Withdrawal from Classes, Withdrawing as a Financial Aid Recipient, Medical/Compassionate Withdrawal, and a Grade of Incomplete.

Please note that the ASU Academic Calendar only refers to withdrawal for the academic portion of your study abroad program. Please refer to the Study Abroad Withdrawal Policies for important dates regarding withdrawing from your Faculty Directed program.

Grade Appeals:

Students must first speak with the instructor of the class to discuss any disputed grades. If, after review, a resolution is not achieved, students may proceed with the appeal process. Student grade appeals must be processed in the regular semester immediately following the issuance of the grade in dispute (by commencement for fall or spring), regardless of whether the student is enrolled at the university. Complete details are available in the CISA Grade Appeals Policy.

Academic Integrity:

Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions, and records. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see provost.asu.edu/academicintegrity.

If you fail to meet the standards of academic integrity in any of the criteria listed on the university policy website, sanctions will be imposed by the instructor, college, and/or dean. Academic dishonesty includes, but is not limited to, cheating on an academic evaluation or assignment, plagiarizing, academic deceit (such as fabricating data or information), or falsifying academic records. Turning in an assignment (all or in part) that you completed for a previous class is considered self-plagiarism and falls under these guidelines. Any infractions of self-plagiarism are subject to the same penalties as copying someone else's work without proper citations. Students who have taken this class previously and would like to use the work from previous assignments should contact the instructor for permission to do so.

If you have any questions about your work and the academic integrity policy, please discuss your assignment or concerns with your instructor, teaching assistant, or your college Academic Integrity Officer in advance of submitting an assignment. Student resources on Sun Devil Integrity and strategies for completing your work with integrity and avoiding plagiarism are available here: [ASU Student Resources for Academic Integrity](https://provost.asu.edu/academicintegrity) or provost.asu.edu/academicintegrity for more information.

Harassment Prohibited:

ASU policy prohibits harassment on the basis of race, sex, gender identity, age, religion, national origin, disability, sexual orientation, Vietnam era veteran status, and other protected veteran status. Violations of this policy may result in disciplinary action, including termination of employees or expulsion of students. Students are encouraged to report harassment to instructors and the Dean of Students Office.

Student Conduct:

ASU and the College of Integrative Sciences and Arts expects and requires its students to act with honesty, integrity, and respect. Required behavior standards are listed in the [Student Code of Conduct and Student Disciplinary Procedures](#), [Computer, Internet, and Electronic Communications policy](#), [ASU Student Academic Integrity Policy](#), and outlined by the [Office of Student Rights & Responsibilities](#). Anyone in violation of these policies is subject to sanctions. [Students are entitled to receive instruction free from interference](#) by other members of the class. An instructor may withdraw a student from the course when the student's behavior disrupts the educational process per [Instructor Withdrawal of a Student for Disruptive Classroom Behavior](#). The Office of Student Rights and Responsibilities accepts [incident reports](#) from students, faculty, staff, or other persons who believe that a student or a student organization may have violated the Student Code of Conduct.

Students must refrain from uploading to any course shell, discussion board, or website used by the course instructor or other course forum, material that is not the student's original work, unless the students first comply with all applicable copyright laws; faculty members reserve the right to delete materials on the grounds of suspected copyright infringement.

Title IX:

Title IX is a federal law that provides that no person be excluded based on their sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed based on their sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed based on sex or sexually assaulted, you can find information and resources at <https://sexualviolenceprevention.asu.edu/faqs>.

As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, <https://eoss.asu.edu/counseling>, is available if you wish to discuss any concerns confidentially and privately. ASU online students may access 360 Life Services, at <https://goto.asuonline.asu.edu/success/online-resources.html>.

Student Accessibility and Inclusive Learning Services (SAILS):

Qualified students with disabilities who will require disability accommodation in this class are encouraged to make their requests to the instructor at the beginning of the semester either during office hours or by appointment. Note: Prior to receiving disability accommodations, verification of eligibility from the Student Accessibility and Inclusive Learning Services is required. Disability information is confidential.

Student Accessibility and Inclusive Learning Services

(eoss.asu.edu/drc)

Email: DRC@asu.edu

SAILS Phone: 480-965-1234

SAILS FAX: 480-965-0441

Tutoring:

Free tutoring support is available in person and online for most courses. Services are offered through ASU's University Academic Success Programs for currently enrolled students.

- Tutoring is available in math, business, science, statistics, and engineering courses.
- Writing tutoring is available for any writing project at any stage of the writing process.
- Supplemental Instruction (SI) facilitates collaborative study groups for selected courses.
- Graduate academic tutoring is available for writing and statistics.

- Academic skills tutoring can help with critical thinking, study skills, note taking, and more.
- Resources are available through our YouTube channel, Zoom recordings, and handouts.

Visit <https://tutoring.asu.edu> or call (480) 965-9072 for more information about these services, to view our schedules, or to book an appointment.

Statement on Inclusion:

Arizona State University is deeply committed to positioning itself as one of the great new universities by seeking to build excellence, enhance access, and have an impact on our community, state, nation, and the world. To do that requires our faculty and staff to reflect the intellectual, ethnic, and cultural diversity of our nation and world so that our students learn from the broadest perspectives, and we engage in the advancement of knowledge with the most inclusive understanding possible of the issues we are addressing through our scholarly activities. We recognize that race and gender historically have been markers of diversity in institutions of higher education. However, at ASU, we believe that diversity includes additional categories such as socioeconomic background, religion, sexual orientation, gender identity, age, disability, veteran status, nationality, and intellectual perspective.

Mental Health:

As a student, like anyone else, you may experience a range of challenges that can interfere with learning, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating, and/or lack of motivation. These emotional health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. ASU Counseling Services provides counseling and crisis services for students who are experiencing mental health concerns. Any student may call or walk-in to any ASU counseling center for a same-day or future appointment to discuss any personal concern. Here is the website: eoss.asu.edu/counseling. After office hours and 24/7 ASU's dedicated crisis line is available for crisis consultation by calling 480-921-1006.

Establishing a Safe Environment:

Learning takes place best when a safe environment is established in the classroom. In accordance with [SSM 104-02](#) of the Student Services Manual, students enrolled in this course have a responsibility to support an environment that nurtures individual and group differences and encourages engaged, honest discussions. The success of the course rests on your ability to create a safe environment where everyone feels comfortable sharing and exploring ideas. We must also be willing to take risks and ask critical questions. Doing so will effectively contribute to our own and others' intellectual and personal growth and development. We welcome disagreements in the spirit of critical academic exchange, but please remember to be respectful of others' viewpoints, whether you agree with them or not.

All incidents and allegations of violent or threatening conduct by an ASU student (whether on- or off-campus) must be reported to the ASU Police Department (ASU PD) and the [Office of the Dean of Students](#). If either office determines that the behavior poses or has posed a serious threat to personal safety or to the welfare of the campus, the student will not be permitted to return to campus or reside in any ASU residence hall until an appropriate threat assessment has been completed and, if necessary, conditions for return are imposed. ASU PD, the Office of the Dean of Students, and other appropriate offices will coordinate the assessment considering of the relevant circumstances.

Prohibition of Commercial Notetaking Services:

In accordance with [ACD 304-06 Commercial Note Taking Services](#), written permission must be secured from the official instructor of the class in order to sell the instructor's oral communication in the form of notes. Notes must have the note taker's name as well as the instructor's name, the course number, and the date.

Course Evaluation:

Students are expected to complete the course evaluation. The feedback provides valuable information to the instructor and the college and is used to improve student learning. Students are notified when the online evaluation form is available. The results are always anonymous and cannot be reviewed by the instructor/department until after final grades have been posted.

Trigger Warning:

Please note that some course content may be deemed offensive by some students, although it is not my intention to offend anyone. In addition, some materials that we link with online might also be considered offensive, troubling, or difficult to review in terms of language or graphics. I attempt to provide warnings when introducing this kind of material; yet, if I forget to do so, or if something else (in my materials or posts from fellow students) seems offensive, please contact me at arkhare@asu.edu, or the faculty head, [Prof. Igor Shovkovy](#).

Academic Affairs Manual:

For a complete guide to Arizona State University course policies, please refer to the [Academic Affairs Manual \(ACD\)](#).

Syllabus Disclaimer:

The syllabus is a statement of intent and serves as an implicit agreement between the instructor and the student. Every effort will be made to avoid changing the course schedule, but the possibility exists that unforeseen events will make syllabus changes necessary. Remember to check your ASU email and the course site often.

Tentative Schedule for PHY 113 Lab (Fall 2024)

| WEEK OF | LAB |
|---|--------------------------------|
| 08/22 (First Day of Classes) | No Lab this week. |
| 08/26 | Lab 1: Capstone Tutorial |
| 09/02 (Monday: Labor Day) | No Lab this week. |
| 09/09 | Lab 2: 1 D Motion |
| 09/16 | Lab 3: Force Vectors |
| 09/23 | Lab 4: Projectile Motion |
| 09/30 | Lab 5: Newton's Laws 1 |
| 10/07 | Lab 6: Newton's Laws 2 |
| 10/14 (10/12 – 10/15 --- Fall Break) | No Lab this week. |
| 10/21 | Lab 7: Friction |
| 10/28 | Lab 8: Uniform Circular Motion |
| 11/04 | Lab 9: Moment of Inertia |
| 11/11 (Monday: Veterans Day) | No Lab this week. |
| 11/18 | Lab 10: Torque and Equilibrium |
| 11/25 (11/28 – 11/29, Thu-Fri Thanksgiving holiday) | Lab 11: Momentum and Impulse |
| 12/02 | Lab 12: Energy |

