Spring 2016
Mechanics and Heat Laboratory
PHY 131 Section 20

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Office Hours: MWF 8:00-9:00, T 9:30-10:30 or by appointment.
Lab Section 20, M 12:00-2:50pm, lab is held in Miller Science room 317

Mechanics and Heat Laboratory (PHYS 1101) - 1 semester hour, 3 hours lab per week. Computation of lecture and laboratory grades into one grade; same grade recorded for both lecture and laboratory. Co-requisite: PHY 131. Lab fee required.

Course Description:
Study of the fundamental principles of mechanics and heat. Lecture and laboratory grades are computed into one grade, and the same grade is recorded for both lecture and lab. Prerequisites: MTH 133 and 138, or permission from the department chair. Corequisite: PHY 131L

Textbooks:
Physics 131 Lab Manual, produced by the department and available at local bookstores

Course Requirements:
Weekly experiments, weekly lab reports, weekly recitation and a comprehensive final exam

Course Calendar (Laboratory):

<table>
<thead>
<tr>
<th>Lab</th>
<th>Week of</th>
<th>Lab Experiments</th>
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<tbody>
<tr>
<td>1</td>
<td>Jan. 25th</td>
<td>Graphical Analysis of Experimental Data</td>
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<tr>
<td>2</td>
<td>Feb. 1st</td>
<td>Motion in a Straight Line</td>
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<td>3</td>
<td>Feb. 8th</td>
<td>Motion Down an Inclined Plane</td>
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<td>4</td>
<td>Feb. 15th</td>
<td>Trajectory</td>
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<td>5</td>
<td>Feb. 22nd</td>
<td>Addition of Vectors</td>
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<td>6</td>
<td>Feb. 29th</td>
<td>The Newton’s 2nd Law Project** (COs 1-4)</td>
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<td>7</td>
<td>Mar. 7th</td>
<td>Conservation of Energy</td>
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<td>8</td>
<td>Mar. 21st</td>
<td>Conservation of Momentum</td>
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<tr>
<td>9</td>
<td>Apr. 4th</td>
<td>Centripetal Force</td>
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<tr>
<td>10</td>
<td>Apr. 11th</td>
<td>Archimedes’ Principle</td>
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<td>11</td>
<td>Apr. 18th</td>
<td>Phase Changes in Water</td>
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<tr>
<td>12</td>
<td>Apr. 25th</td>
<td>Thermal Expansion</td>
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<td>--</td>
<td>May. 2nd</td>
<td>Lab Final Exam in Room 317</td>
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Grading Policy:
The laboratory and lecture grades will be combined to form a single grade for both PHY131 and PHY131L. The lecture portion will account for 75% of the course grade and the laboratory portion will account for 25% of the course grade. The laboratory portion of your grade will be calculated as follows:

- Average of 11 best labs 70%
- Recitation Average 10%
- Lab Final 20%
The recitation average will be determined from weekly quizzes. One must be present at the start of the lab to take the weekly quiz. The lowest recitation quiz will be dropped when calculating the recitation average.

**Attendance Policy:**
**There will be no makeup labs.** University excused absences will be handled in accordance with university policy. Excused absences must be approved by Dr. Musser within one week of the absence. Proper documentation must be provided to Dr. Musser within one week of the absence.

**Lab Policy:**
The student must bring the following items to each lab session: pencil, eraser, lab manual, and calculator. Come prepared to do each lab by reading the lab manual exercise for that day before coming to the lab. You may also want to read pertinent sections of the text. Use the data sheets provided in the lab manual to record data and answer questions. Each lab must be completed during the lab period. Turn in a summary at the end of each lab experiment. Each experiment grade will be based on the experimental work of the group and the lab write-up.

**Program Learning Outcomes:**
This is a general education core curriculum course and no specific program learning outcomes for this major are addressed in this course.

**General Education Core Curriculum Objectives/Outcomes:**
There will be no General Education Core curriculum objectives assessed in this course this semester.

**Student Learning Outcomes:**
By the end of the course, successful students will be able to:
1. Demonstrate the ability to apply Newton's laws to the study of mechanical systems
2. Describe the laws of thermodynamics
3. Solve mechanics and thermodynamics problems using conservation principles
4. Demonstrate skills developed in critical thinking, communication (written and visual), empirical and quantitative analysis, and teamwork.

**Academic Integrity (A-9.1)**
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

**Definition of Academic Dishonesty**
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

Please read the complete policy at [http://www.sfasu.edu/policies/academic_integrity.asp](http://www.sfasu.edu/policies/academic_integrity.asp)

**Withheld Grades Semester Grades Policy (A-54)**
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable
circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

**Students with Disabilities**
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to [http://www.sfasu.edu/disabilityservices/](http://www.sfasu.edu/disabilityservices/).

**Student Code of Conduct: Policy 10.4**
Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program. Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This policy applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the iCare: Early Alert Program at SFA. Information regarding the iCare program is found at [https://www.sfasu.edu/judicial/earlyalert.asp](https://www.sfasu.edu/judicial/earlyalert.asp) or call the office at 936-468-2703.