PHYS 101L: Conceptual Physics Laboratory Fall 2016
CRN 31490 Thursdays 11:10 AM to 2:15 PM
CRN 33327 Thursdays 6:00 PM to 9:05 PM

Course Syllabus

When: Thursdays 11:10 AM to 2:15 PM or 6:00 PM to 9:05 PM
August 22 – December 03, 2016 No Final Exam
Where: Santa Barbara City College, Room PS 116
Credit: 1 Unit Transferability: CSU; UC transfer limit
Instructor: Ron Ferril
Office: PS 120 (door near stairs on South side of main PS building)
e-mail: rwferril@pipeline.sbcc.edu
Please include “Physics 101” in your email subject line.
Office hours: Mondays 3:30 PM – 4:00 PM (in PS 120), and
Tuesdays 1:30 PM to 2:00 PM (in PS 120).
Also by appointment

Course Description
This laboratory course is a supplement for Physics 101 lecture. I assume you either are concurrently
enrolled in Physics 101 or have been enrolled in Physics 101 in the past.

bookstore. You need a printed copy of this manual for this course. The manual contains the required lab
report forms. I know some students don’t like to remove pages from their books but I have an alternative
to removing pages. It is legal to copy the pages of this lab manual if you do so for the purpose of
submitting the copies to the Physics Department for grading by me and you have purchased a copy of
the laboratory manual. Thus, I recommend that you copy the lab-report pages before lab classes so you
don’t need to remove pages form your book. (The first lab, the “Short Lab,” is not in the Lab Manual.)

Lab Safety
You must work safely in lab. Students may be required to leave the lab for safety violations. The
student’s lab report will probably be rejected in case of violation of the lab safety requirement. The lab
safety requirement is simple: use common sense and perform procedures in a safe way. Don’t have
discussions with students when your instructor is explaining matters of safety.

Course Evaluation/Grading
Your grade for this course is based on fourteen labs. However, I know unexpected events can cause an
absence. You are allowed to miss up to two labs during the course if you email me, within one week of
missing the lab, to indicate the miss and briefly explain the reason. If you miss only one lab and give
email notice to me, your grade will be based on the remaining fifteen labs. If you miss two labs and give
proper notice to me, your grade will be based on the remaining twelve labs. If you miss only one lab and
give proper notice, your grade will be based on the remaining thirteen labs. Every lab you miss, after the
allowed three labs, results in a zero for that lab. There are no make-up labs.
The grading scale is as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
<th>Grade</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>97-100</td>
<td>B-</td>
<td>77-81</td>
</tr>
<tr>
<td>A</td>
<td>93-97</td>
<td>C+</td>
<td>73-77</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
<td>C</td>
<td>65-73</td>
</tr>
<tr>
<td>B+</td>
<td>85-89</td>
<td>D</td>
<td>50-65</td>
</tr>
<tr>
<td>B</td>
<td>81-85</td>
<td>F</td>
<td>0-50</td>
</tr>
</tbody>
</table>

Note: SBCC does not award C-, D+, or D- grades

In order to get a good score on a lab report, you must observe the following rules.

- All quantities reported must have the proper units if the quantities have units. Reporting a length in units of seconds or kilograms will result in a significant deduction of points from your lab report.
- Graphs must be properly labeled with title, quantity and units, and your “best fit line” must be properly drawn. Merely connecting dots on a graph results in points being deducted.
- Calculations must be correct.
- The results you report should show good procedure. Points are deducted when results show sloppy work, lack of understanding of concepts or incorrect procedures.

Usually students quickly gain experience with such rules and accomplish compliance with the rules after the first few labs.

Group work is encouraged for labs. However, each student submits an individual lab report. Do not submit a lab report based on data copied form any lab operation other than the work your group does in lab. If a student is not actively contributing to the performance of a lab, either points will be deducted or a lab report may be rejected.

**Attendance is Expected**
SBCC rules allow a student to be dropped from a class roster when absences become “excessive.” Please contact me whenever you are absent to explain why and assure me that you have not left the college. I plan to use a roster to check attendance at least once during each class. **Don't depend on my system to automatically drop you from a course. If you intend to drop this course, you must do it yourself.** Don't assume that I have dropped you. You can check the SBCC rules on attendance using this link to a section of the college catalog:

**Accommodations for Students with Disabilities:**
Disabled Student Programs and Services (DSPS) coordinates all academic accommodations for students with documented disabilities at Santa Barbara City College. If you have, or think you might have, a disability that impacts your educational experience in this class please contact DSPS to determine your eligibility for accommodations. DSPS is located in the Student Services (SS) Building, Room 162. Their phone number is **805-730-4164**.
If you are already registered with DSPS please submit your accommodation requests via the ‘DSPS Online Services Student Portal’ as soon as possible. Once submitted and confirmed please visit with me about your specific accommodations.

Please complete this process in a timely manner to allow adequate time to provide accommodation.

Physics 101L Lab Schedule

The instructor reserves the right to make changes at any time

<table>
<thead>
<tr>
<th>Class</th>
<th>Day</th>
<th>Date</th>
<th>Lab</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Thursday</td>
<td>Aug 25</td>
<td>Short Lab</td>
<td>(Not in Lab Manual)</td>
</tr>
<tr>
<td>2</td>
<td>Thursday</td>
<td>Sep 01</td>
<td>Motion</td>
<td>Last Day Instructor Makes Copies. Last day for in-person drop without “W” Sep 03.</td>
</tr>
<tr>
<td>3</td>
<td>Thursday</td>
<td>Sep 08</td>
<td>Vectors</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Thursday</td>
<td>Sep 15</td>
<td>Force and Motion</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Thursday</td>
<td>Sep 22</td>
<td>Work and Energy</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Thursday</td>
<td>Sep 29</td>
<td>Ballistic Pendulum</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Thursday</td>
<td>Oct 06</td>
<td>Air Thermometer</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Thursday</td>
<td>Oct 13</td>
<td>Pendulum</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Thursday</td>
<td>Oct 20</td>
<td>Specific Heat</td>
<td>Last Date to drop with a &quot;W&quot; is Oct 21</td>
</tr>
<tr>
<td>10</td>
<td>Thursday</td>
<td>Oct 27</td>
<td>Standing Waves</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Thursday</td>
<td>Nov 03</td>
<td>Magnetism</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Thursday</td>
<td>Nov 10</td>
<td>Circuits</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Thursday</td>
<td>Nov 17</td>
<td>Ray Tracing</td>
<td></td>
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<tr>
<td></td>
<td>Thursday</td>
<td>Nov 24</td>
<td>Holiday</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Thursday</td>
<td>Dec 01</td>
<td>Spectra</td>
<td></td>
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</table>

Your instructor may replace one or more of these labs may be replaced by any of the other labs listed in the lab manual’s table of contents.

Student Learning Outcomes:

Demonstrate proficiency in construction and assemble of experimental apparatuses
Conduct and analyze measurements of physical phenomena.
Assess experimental uncertainty and make meaningful comparisons between experiment and theory.

Cheating
A violation of the academic integrity policy (AP 5550) is handled by your instructor and submitted to SBCC administration. Your instructor may assign a zero to any exam or assignment on which you violated the policy and will report each violation to the Dean of Student Affairs. The Dean of Student
Affairs may withdraw you from the course, or from SBCC for up to a year for any violation of the academic integrity policy.