Semester/Year: Spring 2016

Lecture Hours: 3  
Lab Hours: 2  
Credit Hours: 4

Lecture Time: 8:00 – 8:50 AM  
Lab Time: 8:00 – 9:50 AM  
Day: MWF  
Day: T  
Room: 216  
Room: 204

Instructor’s Name:  
Mr. Paul Marquard  
Office Phone: 268-2250  
Email: marquard@caspercollege.edu

Instructor's Contact Information: E-mail is the easiest way to get in touch with the instructor; e-mail is checked continuously while in the office and is checked at home multiple times. You may also call the instructor’s office at any time; if the instructor is not available, leave a voice mail and your call will be returned as soon as possible.

Office Hours: M 9 – 9:50 AM, TW 1 – 1:50 PM, WF 3 – 3:50 PM or By Appointment

Course Description: One semester introduction to the physical sciences (physics and chemistry) designed only for students majoring in elementary education. (Does not qualify as a lab science for non-elementary education majors.)

Statement of Prerequisites: None

Goal: The Department will instruct students on knowledge gathering techniques and the understanding of basic physical concepts at a level appropriate to the class level and the student’s individual career goals. A well instructed science student will be able to take a problem, analyze it both qualitatively and quantitatively, find a solution, and present the solution to others in an appropriate manner conducive to the knowledge level of the audience.

In PHYS 1090 students will gain a working knowledge of the basic physical world and the universe around them. Students will use both qualitative and quantitative problem solving skills to answer a variety of problems based around concepts in the physical sciences.

Outcomes:  
The outcomes below apply from the Casper College General Education outcomes.  
- Demonstrate effective oral and written communication  
- Use the scientific method  
- Solve problems using critical thinking and creativity  
- Appreciate aesthetic and creative activities  
- Use appropriate technology and information to conduct research  
- Describe the value of personal, civic, and social responsibilities  
- Use quantitative analytical skills to evaluate and process numerical data
Course Objectives:
Passing students should:

- Be proficient in SI unit conversions
- Understand physical properties of objects, such as volume, density, and weight/mass
- Understand at a qualitative level a multitude of physical laws (Newton’s Law, Archimedes’s Principle, Boyle’s Law, Kepler’s Laws, etc...)
- Qualitatively and quantitatively describe motion/force in one dimension
- Be able to recognize situations that involve conservation of energy and conservation of momentum
- Qualitatively and quantitatively describe pressure
- Understand the difference between heat and temperature
- Qualitatively and quantitatively describe a change in heat, and how it relates to temperature change and phase change
- Understand the basic features of the periodic table and be able to recognize the basic information it gives
- Be able to describe an atom and its atomic structure

Methodology: This course will be presented in a variety of methods. Most information will be presented in a lecture format, which will include board-work, power-point presentations and small group work activities. The students will then use the information taken from lecture and use it in a laboratory setting, where individual and small group work will be used as assessment tools.

Evaluation Criteria:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 4 Exams</td>
<td>400</td>
</tr>
<tr>
<td>Top 13 Homework</td>
<td>130</td>
</tr>
<tr>
<td>Top 11 Labs</td>
<td>110</td>
</tr>
<tr>
<td>Top 13 Quizzes</td>
<td>130</td>
</tr>
<tr>
<td>Lab Practical</td>
<td>30</td>
</tr>
<tr>
<td>Comprehensive Final</td>
<td>200</td>
</tr>
<tr>
<td>Total Points</td>
<td>1000</td>
</tr>
</tbody>
</table>

Casper College may collect samples of student work demonstrating achievement of the above outcomes. Any personally identifying information will be removed from student work.

Lab grading procedures will be presented during the first lab meeting.

Grading Scale for the Course:
900 ≤ A ≤ 1000
800 ≤ B ≤ 899
700 ≤ C ≤ 799
600 ≤ D ≤ 699
0 ≤ F ≤ 599

Calculator:
A standard calculator will suffice. Graphing calculators are allowed in lectures and labs, but not necessary nor required. The calculator on a cell phone is probably not sufficient and definitely not allowed on quizzes and exams.

Class Policies:
Homework will not be accepted after it is due.

Make-up Labs will not be given unless arranged prior to the scheduled lab.

Exams and quizzes: If you are aware that you will have to miss an exam, let the instructor know as early as possible. A make-up exam may be given if the situation merits, and will take place outside of the regularly scheduled class period. If class is canceled the day of an exam it will be given on the next class meeting. Quizzes will never be announced. A 3”x5” card is allowed for reference on all quizzes and exams.

Last day to change to an audit or withdraw from the course is April 14, 2016.

Student Rights and Responsibilities: Please refer to the Casper College Student Conduct and Judicial Code for information concerning your rights and responsibilities as a Casper College Student.

Chain of Command: If you have any problems with this class, you should first contact the instructor in order to solve the problem. If you are not satisfied with the solution offered by the instructor, you should then take your problem through the appropriate chain of command starting with the Department Head of Physics and Engineering, then the Dean of the School of Science, and lastly the Vice President for Academic Affairs.

Academic Dishonesty - (Cheating & Plagiarism) Casper College demands intellectual honesty. Proven plagiarism or any form of dishonesty associated with the academic process can result in the offender failing the course in which the offense was committed or expulsion from school. See the Casper College Student Code of Conduct for more information on this topic.

Official Means of Communication: Casper College faculty and staff will employ the student's assigned Casper College email account as a primary method of communication. Students are responsible to check their account regularly. This is also, where you will find course evaluation links during course evaluation periods.

ADA Accommodations Policy: If you need academic accommodations because of a disability, please inform me as soon as possible. See me privately after class, or during my office hours. To request academic accommodations, students must first consult with the college’s Disability Services Counselor located in the Gateway Building, Room 344, (307) 268-2557, bheuer@caspercollege.edu. The Disability Services Counselor is responsible for reviewing documentation provided by students requesting accommodations, determining eligibility for accommodations, and helping students request and use appropriate accommodations.
<table>
<thead>
<tr>
<th>Week</th>
<th>Chapter Section Readings</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 19 - 22</td>
<td>Chapter One</td>
<td>No lab this week</td>
</tr>
<tr>
<td>January 25 - 29</td>
<td>Chapters One and Two</td>
<td></td>
</tr>
<tr>
<td>February 1 - 5</td>
<td>Chapter Three</td>
<td></td>
</tr>
<tr>
<td>February 8 - 12</td>
<td>Chapter Four</td>
<td></td>
</tr>
<tr>
<td>February 16 - 19</td>
<td>Chapters Five and Six</td>
<td>No class Monday, no lab this week</td>
</tr>
<tr>
<td>February 22 - 26</td>
<td>Chapters Six and Seven</td>
<td></td>
</tr>
<tr>
<td>February 29 - March 4</td>
<td>Chapter Eight</td>
<td></td>
</tr>
<tr>
<td>March 7 - 11</td>
<td>Chapter Nine</td>
<td></td>
</tr>
<tr>
<td>March 14 - 18</td>
<td>Chapter Eight</td>
<td>Spring Break</td>
</tr>
<tr>
<td>March 21 - 24</td>
<td>Chapter Twenty Seven</td>
<td>No class Friday</td>
</tr>
<tr>
<td>March 28 - April 1</td>
<td>Chapter Ten</td>
<td></td>
</tr>
<tr>
<td>April 4 - 8</td>
<td>Chapter Eleven</td>
<td></td>
</tr>
<tr>
<td>April 11 – 15</td>
<td>Chapter Twelve</td>
<td></td>
</tr>
<tr>
<td>April 18 - 22</td>
<td>Chapter Thirteen</td>
<td></td>
</tr>
<tr>
<td>April 25 - 29</td>
<td>Chapter Fourteen</td>
<td></td>
</tr>
<tr>
<td>May 2 - 6</td>
<td></td>
<td>Lab practical TBA</td>
</tr>
<tr>
<td>May 9 - 13</td>
<td></td>
<td>Final Exams</td>
</tr>
</tbody>
</table>