Syllabus. Principles of Physics I. Physics 1408-003 (Spring 2012)

Instructor
Dominique Gagnon, Ph.D.

Lecture time
TR 12:30 pm - 1:50 pm

Lecture Location
SC 007

Office
SC 003

Office hours
TR 11:00-11:30 am, 2:00 pm - 3:30 pm or by appointment

E-mail
dominique.gagnon@ttu.edu

Phone
(806) 742-3971

Materials/tools
1. Physics for scientists and Engineers with Modern Physics, Pearson 4th edition by Giancoli
3. Blackboard (www.blackboard.ttu.edu)

Course topics
This is a calculus-based course covering i) kinematics, ii) Newton’s laws, iii) energy, iv) momentum, v) rotation, vi) waves, and additional selected topics. We will cover chapters 1-11, and selected topics of chapters 12-20.

Learning Outcomes
Throughout the semester, the students will learn and discuss orally or by written some of the major concepts in the Natural Sciences. The students will learn basic laws and principles of physics, in classical mechanics in particular and apply logical skills commonly used in sciences and engineering to solve problems. The students will develop a general understanding of physical science, in preparation for upper division science and engineering classes or any other field. A detailed list of learning outcomes per chapter will be provided.

Evaluations
The evaluations comprise weekly assignments (homework and quizzes), lab and discussion sessions and 3 in-class tests as well as a final exam. The tests focus on the notions learned in the designated chapters, and the final exam covers all topics. The students should know that the course builds on, in other words, knowledge and understanding of the early chapters is implicit and expected when moving on to the later chapters. The tests and final exam are comprehensive: students will have to answer conceptual questions and solve problems similar to those done in class, homework and quizzes, or in the discussion. No book, calculator or note is accepted during any test or exam, but you will be provided with a reminder sheet of the major equations needed. The students are required to take every test and exam, or will fail the course. Finally, lab sessions will be taught by a teaching assistant (TA).

The 3 tests and the final exam will contribute to 10%, 15%, 10% and 25% of the final score, respectively. The homework, quizzes and discussion combined will contribute the 20% of the course score. The instructor assigns 20% of the course grade for the lab sessions, as provided by the TA. The instructor will evaluate in percentage and convert it to the institutional Grading scale (points 1-4; 4 and 1 being excellent and inferior, respectively). In general, A (85-100%), B (75-85%), C (65-75%), D (55-65%). Cutoffs may be subject to slight change.

Calendar

<table>
<thead>
<tr>
<th>Test</th>
<th>Date</th>
<th>Chapters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1</td>
<td>Thursday Feb. 23</td>
<td>Ch. 1-4</td>
</tr>
<tr>
<td>Test 2</td>
<td>Tuesday Mar. 20</td>
<td>Ch. 5-7</td>
</tr>
<tr>
<td>Test 3</td>
<td>Tuesday Apr. 17</td>
<td>Ch. 8-11 (12)</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Tuesday May 15</td>
<td>Ch. 1-20</td>
</tr>
</tbody>
</table>

Core Competency Statement
Students graduating from Texas Tech University should be able to explain some of the major concepts in the Natural Sciences and should be able to demonstrate an understanding of scientific approaches to problem solving and ethics.
Studying physics
This course is worth 4 credits. Thus, you should expect to spend minimally 10-12 hours of personal work per week (studying the book, class notes, doing the homework, quizzes and solve problems (lots of problems!)). (The laboratory is extra). If you don’t, you will most likely receive a lower grade than you are capable of obtaining. You will find it easier to reach an understanding of the physical principles and learn to apply them to specific situations, than memorizing solutions. Ideally, the students should read the textbook prior to class.

IMPORTANT! Academic Integrity
It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and a high standard of integrity. Plagiarism is not tolerated. As stipulated in Texas Tech Academic Regulations «“Plagiarism” includes, but is not limited to, the appropriation of, buying, receiving as a gift, or obtaining by any means material that is attributable in whole or in part to another source, including words, ideas, illustrations, structure, computer code, other expression and media, and presenting that material as one’s own academic work being offered for credit. Any student who fails to give credit for quotations or for an essentially identical expression of material taken from books, encyclopedias, magazines, Internet documents, reference works or from the themes, reports, or other writings of a fellow student is guilty of plagiarism.» For more details on Texas Tech University Academic Regulation, visit http://www.depts.ttu.edu/officialpublications/catalog/_AcademicsRegulations.php.

Any student who, because of a disabling condition, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Student should present appropriate verification from Student Disability Services during the instructor’s office hours. Please, note instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, you may contact the Student Disability Services office at 335 West Hall or 806-742-2405.

Classroom guidelines
1. Attendance in class is not mandatory, but strongly encouraged.
2. Be considerate of others’ desire to learn in a proper environment. Stay quiet, and raise your hands for questions to the instructor.
3. Arrive promptly and plan to stay for the class period. If you must leave early, notify the instructor before class and sit where your exit will cause minimum disruption.
4. No open laptops.
5. Cell phones on vibrate and stowed away.
6. Be intellectually involved during class. That means to take notes in a notebook, to follow the calculations yourself (sometimes, you can track typos of your instructor and notify her!), to ask questions to your instructor when needed (and, please raise your hand).

Specific to tests periods
i. It is your responsibility to arrive promptly for a test. Late arrival of more than 10 minutes to a test will not be tolerated.
ii. You won’t be allowed to leave the classroom during a test, except in the last 10 minutes of the test period. Please, remain silent at your seat and don’t disturb your classmates.
iii. No retake tests or exam will be given!! However, acceptable reasons for permission to a retake test are medical reasons, death of a close relative and emergencies. The dates of the tests are fixed early during the semester. Please, plan your vacations, family trips, and work obligations accordingly and discuss them with your instructor, when needed. Make arrangement with the instructor as soon as possible if for any of the reasons mentioned above, you cannot take a test or exam at the date scheduled.

Disclaimer
The instructor reserves the right to amend test/exam dates, topics or other planed activity of the course. If any, the changes will be announced in class and/or by email. It is the student’s responsibility to keep up-to-date with the calendar and adjust consequently.