Instructor Information:

Dr. Maria Hossu
mhossu@dcccd.edu

Course Information
Course title: Gen Physics
Course number: PHYS 1401
Section number: 75426
Credit hours: 4
Class meeting time: Lecture INET
Lab INET

Course description: This course is for pre-dental, biology, premedical, pre-pharmacy, and pre-architecture majors and other students who need a two-semester technical course in physics. Fundamental concepts are presented in lecture and laboratory including the kinematics, dynamics, conservation of energy and momentum, fluid statics, simple harmonic motion and wave with applications to sound.

Course prerequisites:
MATH 1314 (Algebra), DREA 0093 or English as a Second Language (ESOL) 0044 or have met the Texas Success Initiative (TSI) standard in Reading.
Required or Recommended Textbooks and Materials


   Or


3. Internet connection and media player software are required to access the ecampus course materials and Mastering Physics resources. The browser and the players like Java, QuickTime player, Adobe reader, Power point viewer depend on your operating system. To find your system requirements follow “Test your Browser”, the last link at the bottom left side of the page under ecampus and “My DCCCD”. Under”Software” folder on ecampus you will find external links that will allow you to download the required players.

PROGRAM-LEVEL OBJECTIVES FOR PHYSICS 1401

Physics 1401 develops the following objectives from the Texas Higher Education Coordinating Board:

- Communication Skills
- Critical Thinking Skill
- Empirical and Quantitative Skills
- Teamwork

COURSE-LEVEL STUDENT LEARNING OUTCOMES FOR PHYSICS 1401

Physics 1401 supports the following learning outcomes from the Texas Higher Education Coordinating Board. At the end of the course students will be able to:

1. Determine the components of linear motion (displacement, velocity, and acceleration)
2. Apply Newton’s laws to linear and circular motion.
3. Solve problems using principles of energy.
4. Use principles of impulse and linear momentum to solve problems.
5. Solve problems in rotational kinematics and dynamics
6. Describe the components of a wave and relate those components to mechanical vibrations.
7. Demonstrate an understanding of equilibrium, including the different types of equilibrium, by solving specific problems.
8. Discuss simple harmonic motion and its application to quantitative problems or qualitative questions.
10. Solve basic fluid mechanics problems.

Learning Outcomes for Laboratory:
Demonstrate techniques to set up and perform experiments, collect data from those experiments, and formulate conclusions from an experiment.
Record experimental work completely and accurately in laboratory notebooks, and communicate experimental results clearly, in written reports.

Course Outline

Please see Appendix A and ecampus.

Evaluation Procedures

EXAMS

There will be four exams in this course. The problems in the tests will be similar with the HW, reviews, the sample problems posted on ecampus for each section, and solved problems from the book. A formula sheet and scratch paper will be provided by the testing center for each test and you should have a pencil and a calculator. The tests are 3 h and you can take them just once. Plan your testing time carefully and always check the testing center hours and policies. All the exams are completed through ecampus in a DCCCD testing center. If you don’t live in the DFW area you can take the tests at a local school’s testing center. If you want to nominate and gain approval for a proctor you will have to submit a form in the first week of the semester. The proctor nomination form is posted on ecampus under “Course Materials”.
There is no makeup test for a missed test.

LABORATORY GRADE

A passing grade (average of 60 or above) is required for the lab in order to pass the course. The grade is determined by the accuracy and quality of the lab work reflected by the lab report. Each laboratory report should follow the guidelines posted on ecampus. Late lab reports will be accepted, but with 20 points off penalty.

HOMEWORK
Problems, questions, video will be assigned for each chapter through ModifiedMasteringPhysics. You need to register for the class using the Course ID provided on ecampus and you need to have the access code. If you buy the code independently of the book make sure you choose the correct edition. Deadlines are posted for each chapter on MasteringPhysics. There is no credit for late HW.

**Exams and Assignments**

Tests  = 60%  Lab grade  = 25%  HW  = 15%

**Grading Scale**

Your final grade will be determined as follows.

<table>
<thead>
<tr>
<th>Final Average</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>A</td>
</tr>
<tr>
<td>80-89</td>
<td>B</td>
</tr>
<tr>
<td>70-79</td>
<td>C</td>
</tr>
<tr>
<td>60-69</td>
<td>D</td>
</tr>
<tr>
<td>50-59</td>
<td>F</td>
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</tbody>
</table>

The **Science Learning Center** (SLC) provides student services in the following subjects (majors and non-majors): Biology, Botany, Microbiology, Anatomy and Physiology, Chemistry, Geology, Physics and Ecology. The center is located in P-333 & P-334 and offers various resources all of which are free to the students. The SLC features tutors, software, videos, CDROM’s, internet, models, places to study quietly, places for group work, and other materials to assist in science classes. In order to access resources of the SLC a North Lake College ID Card is required. The subject specific schedule of tutors is updated every semester.

When students attend SLC we ask that they sign in and out. This data helps us keep the center stocked, running, and most of all, free of charge!

[http://www.northlakecollege.edu/services-and-resources/learning-resources/Pages/Science-Learning-Center.aspx](http://www.northlakecollege.edu/services-and-resources/learning-resources/Pages/Science-Learning-Center.aspx)

**INSTITUTIONAL POLICIES**

Institutional Policies relating to this course can be accessed from the following link:

[http://www.northlakecollege.edu/syllabipolicies](http://www.northlakecollege.edu/syllabipolicies)
<table>
<thead>
<tr>
<th>Learning Activity</th>
<th>Learning Outcomes</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The student will review and analyze Newton’s Laws as they are applied to solving problems.</td>
<td>Students will calculate the acceleration in the linear uniform accelerated motion</td>
<td>Test problem</td>
</tr>
<tr>
<td>2. Student will investigate the principle of Conservation of energy.</td>
<td>Students will calculate the KE, PE, total energy for an object in free fall</td>
<td>Test problem</td>
</tr>
<tr>
<td>3. Students will investigate how the period of the gravitational pendulum is changing with length.</td>
<td>Students will calculate the acceleration due to gravity using the experimental data</td>
<td>Lab report</td>
</tr>
</tbody>
</table>