This course syllabus is intended as a set of guidelines for PHYS 1415. Both North Lake College and your instructor reserve the right to make modifications in content, schedule, and requirements as necessary to promote the best education possible within prevailing conditions affecting this course.

Instructor Information:

Neda Zargar
nzargar@dcccd.edu
972-273-3244
Office Location: C303B
Office Hours: MTWR 8:30AM - 9:30AM

Course Information
Course title: Physical Science I
Course number: PHYS 1415
Section number: 75426
Credit hours: 4
Class meeting time: Lec INET M T W R F S
Lab INET M T W R F S

Course description: Conceptual level survey of topics in Physics intended for liberal arts and other non-science majors. Topics include physics, chemistry, geology, astronomy, and meteorology. The history of scientific developments and their impact on daily life are discussed. Also included are laboratory experiments that emphasize a conceptual understanding of Physics.

Course prerequisites: College level ready in Reading
**Required or Recommended Textbooks and Materials**

**Textbook:**

You have to choices:

- MasteringPhysics (*w/eText Access Code*) Edition: 12th
  
  **Author:** Hewitt  
  **ISBN:** 9780321940582  
  **Copyright Year:** 2015  
  **Publisher:** Pearson

or

- Conceptual Physics (*w/Mastering Physics Access Code*) Edition: 12th
  
  **Author:** Hewitt  
  **ISBN:** 9780321908605  
  **Copyright Year:** 2015  
  **Publisher:** Pearson

**PROGRAM-LEVEL OBJECTIVES FOR PHYSICS 1415**

Physics 1415 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 1405**

Following the successful completion of this course, students will:

1. Demonstrate knowledge of the basic laws of Physics that pertain to the study of motion, forces, energy, waves, electricity, magnetism, and light
2. Demonstrate knowledge of the basic laws of modern Physics that pertain to the study of elementary particles, nuclei, and atoms.
3. Demonstrate knowledge of the Periodic Table of the Elements and chemical reactions.
4. Apply the principles of Physics and Chemistry to explain everyday phenomena.
5. Relate the contributions of important scientists and describe methods used by them to explain their observations.
6. Perform lab experiments and exercises that illustrate important principles of Physics and Chemistry, gather and analyze data and reach conclusions.
7. Develop the ability to work together in collaborative groups while performing labs and other classroom activities.

**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.

**Means of Assessment of Course Learning Outcomes**

There will be two tests in this course. The final exam is comprehensive. The tests will be a combination of multiple choices and free response problems.
**Evaluation Procedures**

**EXAMS**
There will be 2 exams (*Include final*) in this course. The tests will be multiple choices.

**LABORATORY GRADE**
this is 100% online course, but you can meet me in campus if you need help at dates that I mentioned in ecampus. **The lab will be done individual.** The grade is determined by the accuracy and quality of the lab work. Each student will post a **laboratory report** that is clear and concise and follows the guidelines. Will have problem solving sessions with assignments that will count toward the lab grade.

**Virtual classroom**
Please introduce yourself and please provide relevant contact information. You can post this information under this "Start Here" forum by filing the form. (you need to download the form first and fill it and then post it again on ecampus). Please note that all communication and posts must follow proper academic classroom etiquette. Your posts should include the following:
1- First and last name
2- Email address:
3- Telephone (optional):
4- Major:
5- Any other information you would like to share with the instructor and classmates such as your preferred time for working on assignments etc.
6- Attach photo of yourself (optional)

Please complete these introductions before the **JUNE 8.** These introductions will count towards your class attendance for financial aid purposes, and will also earn one extra point.

**HOMEWORK** All Homewors assigned at Ecampus.

**Exams and Assignments**

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<tbody>
<tr>
<td>Tests</td>
<td>=55%</td>
</tr>
<tr>
<td>Lab grade</td>
<td>=25%</td>
</tr>
<tr>
<td>Homework</td>
<td>=20%</td>
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**Service Learning**

*What is Service Learning?* Service Learning (SL) is a program in which you will learn and develop through thoughtfully organized service experiences by participating in meeting real community needs. The program combines academic instruction along with active community service that utilizes both critical and reflective thinking skills that assist you in examining your civic responsibilities in the world in which you live.

See your eCampus classroom for enrollment instructions. For questions or concerns, contact the Service Learning Coordinator, Katherine Villarreal, at kvillarreal@dccc.edu or nlcsl@dccc.edu.
**Grading Scale**

Your final grade will be determined as follows:

<table>
<thead>
<tr>
<th>Final Average</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90-100</td>
<td>A</td>
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<tr>
<td>80-89</td>
<td>B</td>
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<tr>
<td>70-79</td>
<td>C</td>
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<tr>
<td>60-69</td>
<td>D</td>
</tr>
<tr>
<td>0-59</td>
<td>F</td>
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**Discipline/ Course/ Department/Policies:**

**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.

**Contact information**

Center Phone: 972-273-3273
Coordinator: Tara Arrington
[http://www.northlakecollege.edu/services-and-resources/learningresources/Pages/Science-Learning-Center.aspx](http://www.northlakecollege.edu/services-and-resources/learningresources/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)

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### Learning Activities, Outcomes, and Assessment

1. **Learning Activity:** The students will review and analyze Newton’s Laws as they are applied to solving problems.  
   **Learning Outcomes:** Students will calculate the acceleration in the uniform accelerated motion. **Assessment:** test problem

2. **Learning Activity:** The students will review and analyze the conservation laws as they are applied to solving problems.  
   **Learning Outcomes:** Students will determine the kinetic, potential and total energy of an object in free fall energy.  
   a. **Assessment:** test problem

3. **Learning Activity:** Lab activity in which the students will investigate how the electric current in a circuit is changing with the applied voltage.  
   a. **Learning Outcomes:** Students will apply Ohm’s to determine the value of an unknown resistance using graphical representation of $I$ vs $V$  
   b. **Assessment:** lab report