



Course Prefix/Number/Title: PHY 211/ College Physics Lab

Number of Credits: 4

Course Description: This non-calculus general physics course sequence recommended for pre-medical and pre-professional students. Topics: vibration and waves, electricity and magnetism, light and optics, and an introduction to modern physics. Includes lab.

Pre-/Co-requisites: Pre-requisite: Math 103

Course Objectives: Students will use reasoning skills to analyze and solve problems.

1. Students will apply physics principles to real world situations and/or future academic pursuits.
2. Students will work effectively within a collaborative group to achieve a distinct result.
3. Students will be able to Integrate learning theory with laboratory performance.

Instructor: Angie Bartholomay

Office: NSC 111

Office Hours: MWF 9:00-10:00am, MF 1:00-2:00pm or by arrangement

Phone: 701-228-5471

Email: [angela.bartholomay@dakotacollege.edu](mailto:angela.bartholomay@dakotacollege.edu)

Lab Schedule: Tuesdays 12pm-2pm

Textbook(s): Physics; College Physics, 9th edition, Serway & Vuille,

Course Requirements:

In order for you to be successful in physics you will need to review the notes, complete practice assigned problems, conduct the labs and read the text.

Grades will be assigned based on the following scheme:

A- 90-100%; B 80-89.4% ; C- 70-79.4%; D- 60-69.4%; F < 60%

12 Lab Reports at 25 points each = 300 total points

Tentative Course Outline:

|        |                                                                 |
|--------|-----------------------------------------------------------------|
| Week 1 | No Lab                                                          |
| Week 2 | Lab 1-Accuracy and Precision in Measure, essentials of graphing |
| Week 3 | Lab 2-Made for Speed                                            |
| Week 4 | Lab 3-Newton's Laws of Motion                                   |
| Week 5 | Lab 4-Work vs Energy                                            |
| Week 6 | Lab 5-Momentum                                                  |
| Week 7 | Lab 6-Torque                                                    |

|         |                         |
|---------|-------------------------|
| Week 8  | Lab 7-Projectile Motion |
| Week 9  | Lab 8- Gravitation      |
| Week 10 | Lab 9- Wave Motion      |
| Week 11 | Lab 10- Calorimetry     |
| Week 12 | Lab 11- Thermodynamics  |
| Week 13 | Lab 12- Heat Engines    |
| Week 14 | No Lab                  |
| Week 15 | Final Lab Project       |
| Week 16 | Final Lab Project       |

General Education Competency/Learning Outcome(s) OR CTE Competency/Department Learning Outcome(s): #1 Identifies the interrelationships between humans and their environment  
 Learning Outcome #1 Applies scientific methods of inquiry

Relationship to Campus Focus: This course addresses the campus theme by incorporating the role that physics plays in our everyday life and the impact it has on our natural world. In addition, students will use technology to conduct labs as well as study how technology can be used in physics. The course will address the role of physics in their everyday life as well as in their future.

Classroom Policies: The use of calculator software on cell phones, tablets and laptops will not be permitted on exams. There will be a 30% deduction for any exam not taken on time unless prior arrangements have been made with the instructor, and the exam must be made up within one week. Labs & Quizzes cannot be made up, unless special circumstances exist and prior approval has been made with the instructor.

Student Email Policy: Dakota College at Bottineau is increasingly dependent upon email as an official form of communication. A student's campus-assigned email address will be the only one recognized by the Campus for official mailings. The liability for missing or not acting upon important information conveyed via campus email rests with the student.

Academic Integrity:

According to the DCB Student Handbook, students are responsible for submitting their own work. Students who cooperate on oral or written examinations or work without authorization share the responsibility for violation of academic principles, and the students are subject to disciplinary action even when one of the students is not enrolled in the course where the violation occurred. The Code detailed in the Academic Honesty/Dishonesty section of the Student Handbook will serve as the guideline for cases where cheating, plagiarism or other academic improprieties have occurred.

Disabilities or Special Needs:

Students with disabilities or special needs (academic or otherwise) are encouraged to contact the instructor and Disability Support Services.

Title IX:

Dakota College at Bottineau (DCB) faculty are committed to helping create a safe learning environment for all students and for the College as a whole. Please be aware that all DCB employees (other than those designated as confidential resources such as advocates, counselors, clergy and healthcare providers) are required to report information about such discrimination and harassment to the College Title IX

Coordinator. This means that if a student tells a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the College's Title IX Coordinator. Students wishing to speak to a confidential employee who does not have this reporting responsibility can find a list of resources on the DCB Title IX webpage.