DAKOTA COLLEGE AT BOTTINEAU

COURSE SYLLABUS

Course Prefix/Number/Title: PHYS 120/ Fundamentals of Physics Online

Number of Credits: 4

Course Description: An application of the concepts and principles of physics to the real world. Topics include mechanics, heat, optics, electricity, magnetism, atomic and nuclear structure.

Pre-/Co-requisites: HS algebra

Course Objectives: The primary goal of this course is to provide the students with an understanding of basic physical principles that will aid them in everyday lives and careers as informed members of society as well as in other courses. The students should attain a conceptual understanding of physics and math concepts so that they can readily apply their knowledge to real world problems and situations. Travel may be necessary to understand the role of physics in their everyday life.

Instructor: Angie Bartholomay

Office Hours: TBD, Contact me to set up office hour time

Email: angela.bartholomay@dakotacollege.edu

Lecture/Lab Schedule: TBA

Textbook(s): Physics; Paul G Hewitt, 9th Ed. 2012

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. Make sure that you take a picture of yourself doing the lab and submit it with your lab.

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%

Component	Points possible	Total
Unit Exams	5 * 80	400 points
Quizzes	6 * 20	120 points
Lab Reports	12 * 25	300 pints
	Total	820 points

Tentative Course Outline:

Time Line	Reading	Lab
Week #1	Chapter #1- Science, scientific method, structure of the solar system	Scientific method
Week #2	Chapter #2 & 3 - Motion in one dimension	Made for speed
Week #3	Chapter #4- Force, Newton's Laws of motion	Newtons Laws
Week #4	**Exam Unit #1** Chapter #6- momentum, work	momentum
Week #5	Chapter #7- energy, conservation of energy, power	Work vs power
Week #6	Chapter #8- rotational motion Chapter #9- gravity	simple machines
Week #7	Chapter #10 projection and satellite motion **Exam Unit #2**	Projectile motion
Week #8	Chapter #11- Atomic nature of matter & Chapter #12 gas laws	Gas Laws
Week #9	Chapter #13- liquids & Chapter #14- gases **Exam unit #3**	Bouyancy
Week #10	Chapter #15 Temperature, heat & expansion	Heat capacity
Week #11	Chapter #16 heat transfer	
Week #12	Chapter #17 Change of phase Chapter #18 Thermodynamics	
Week #13	**Exam Unit #4** Chapter #19 vibration and waves	waves lab
Week #14	Chapter #20 Sound Chapter #22 electrostatics	sound
Week #15	Chapter #23 electric current Chapter #24 magnetism	electricity
Week #16	Chapter #25 properties of light **Exam unit #5**	optics

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.

AI Student Policy:
Unless otherwise indicated in the course syllabus, or in individual instructions for course assignments, or in the absence of the express consent of the course instructor, students are not allowed to utilize generative AI to help produce any of their academic work. Any violation of this policy will be considered an act of academic dishonesty as outlined within the Dakota College Code of Student Life.

RESPONSIBILITIES

Students	• Responsible to follow the syllabus and assignment instructions regarding use of generative AI for all academic work. • Obtain permission of the instructor prior to the use of generative AI that is outside of the syllabus or assignment instructions. Provide appropriate rationale for how the use of generative AI will enhance the learning experience for the assignment. • In instances where generative AI is permissible, appropriately cite the generative AI program used and indicate where in the assignment it was used, in a brief submission statement.
Faculty	• Determine if the use of generative AI could enhance student learning in any assignment of project. • Clearly indicate in all course syllabi if generative AI is allowable for any academic work. • If allowable, give specific parameters for how and when generative AI may be used. • If a violation of generative AI for the individual course/syllabus is suspected, discuss the concern with the student. If violation is still suspected, inform the appropriate semester coordinator/program director.