

University of North Texas at Dallas
Spring 2011
SYLLABUS

Course Abbreviation/Number/Title/Semester Hrs			
PHYS 1210D: Conceptual Physics 3Hrs			
Department of	Life & Health Sciences	Division of	Liberal Arts & Life Sciences
Instructor Name:	Ana Firan		
Office Location:	DAL2 Room 302/305		
Office Phone:	214-768-1666		
Email Address:	ana.firan@unt.edu		
Office Hours:	M 6:00-7:00P M		
Virtual Office Hours:	F 5:00-6:00 PM		
Classroom Location:	Lecture: DAL2 241; Lab: DAL2 247		
Class Meeting Days & Times:	Lecture: MW 7:00-8:20 PM; Lab: R 7:00 – 9:50 PM		
Course Catalog Description:	This course will guide you in a study of the basic concepts and principles describing our physical world. We will start with mechanics by studying single particle motion, Newton's laws and uniform circular motion. The motion of systems of particles and the concepts of conservation of momentum and energy will be then discussed. We continue with topics like electric charge and electric force as well as current and magnetic force. This will lead to the discussion of light as an electromagnetic phenomenon and a discussion of reflection and refraction of light waves. There will be an emphasis on in-class problem solving techniques.		
Prerequisites:	Math 1100 or higher and interdisciplinary studies (elementary education) major status		
Co-requisites:			
Required Text:	Conceptual Physics 11 th edition, Paul G. Hewitt, Addison Wesley Physics 1210 Laboratory Manual		
Recommended Text and References:			
Access to Learning Resources:	UNT Dallas Library: phone: (972) 780-3625; web: http://www.unt.edu/unt-dallas/library.htm UNT Dallas Bookstore: phone: (972) 780-3652; e-mail: 1012mgr@fheg.follett.com		
Course Goals or Overview:	The goal of this course is to provide students with understanding of basic physics concepts and laws.		
Learning Objectives/Outcomes:	At the end of this course, the student will be able to		
1	demonstrate good understanding of physics concepts <ul style="list-style-type: none"> ○ Be able to accurately define basic physics concepts and laws. ○ Have a solid understanding of the relationship between the mathematical representations and the associated physical concepts and principles ○ Demonstrate the ability to use those physics law and concepts in solving problems. ○ Demonstrate the ability to combine concepts in solving multiple-step problems. 		

2	develop effective problem-solving skills <ul style="list-style-type: none"> o Satisfactorily solve standard textbook problem o Develop the ability to solve multi-step or multi-concept problems
	develop cognitive attitudes: <ul style="list-style-type: none"> o See physics as a coherent framework of ideas that can be used to understand the world around us. o See what they are learning in the classroom as useful and strongly connected to the real world o Be familiar with the scientific method and how to apply it.
4	have the laboratory skills for the analysis of physical systems including data and error analysis, instrumentation, statistics and dimensional analysis.
5	have appropriate oral and written communication skills to explain their work to people from a wide variety of backgrounds.

Course Outline

This schedule is subject to change by the instructor. Changes to this schedule will be communicated in class.

TOPICS		TIMELINE
1.	Course Introduction	<i>Week of Jan. 17,</i>
2.	Ch. 1 About Science .Ch. 2 Newton's 1st Law of Motion	<i>Week of Jan. 22</i>
3.	Ch. 3 Linear Motion	<i>Week of Jan. 29</i>
4.	Ch. 4 Newton's Second Law of Motion Circular Motion Ch. 5 Newton's Third Law of Motion	<i>Week of Feb. 5</i>
5.	Ch. 6 Momentum Ch. 7 Energy	<i>Week of Feb. 12</i>
6.	Ch. 9 Gravity EXAM 1	<i>Week of Feb. 19</i> <i>Feb. 16</i>
7.	Ch. 10 Projectile Motion Ch. 11-14 Properties of Matter: Atomic Nature of Matter, Density	<i>Week of Feb. 26</i>
8.	Pressure & Buoyancy Ch. 15 Temperature, Heat, and Expansion	<i>Week of Mar. 5</i>
9.	Spring Break - No classes	
10.	Ch. 15 con't Ch. 16 Heat Transfer	<i>Week of Mar. 19</i>
11.	Ch. 17 Change of Phase Ch. 19 Vibrations and Waves	<i>Week of Mar. 26</i>
12.	Ch. 20 Sound EXAM 2	<i>Week of Apr. 2</i> <i>Apr. 4</i>
13.	Ch. 21 Musical Sounds Ch. 22 Electrostatics	<i>Week of Apr. 9</i>
14.	Ch. 23 Electric Current Ch. 24 Magnetism	<i>Week of Apr. 16</i>
15.	Ch. 26 Properties of Light EXAM 3	<i>Week of Apr. 23</i> <i>Apr. 27</i>
16.	Ch. 28 Reflection & Refraction FINAL	<i>Week of Apr 30</i> <i>May. 11</i>

Laboratory schedule

Fall 2011 Dates	Spring	Experiment
Jan. 27	Week 2	1. Measurement Skills
Feb. 3	Week 3	2. Motion
Feb. 10	Week 4	3. Momentum
Feb. 17	Week 5	4. Center of Mass
Feb. 24	Week 6	5. Projectile Motion
Mar. 3	Week 7	6. Density
Mar. 11	Week 8	7. Heat
Mar. 24	Week 9	8. Change of Phase
Mar. 31	Week 10	9. Speed of Sound
Apr. 7	Week 11	10. Electric Current
Apr. 14	Week 12	11. Simple Electric Circuits
Apr. 21	Week 13	12. Magnetic Fields
Apr. 28	Week 14	13. Light

Course Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

Exams – *written tests designed to measure knowledge of presented course material*

There will be three exams and one comprehensive final exam. Exam questions will be taken from class notes, homework and textbook.

- *Exams are close-book and close-note*
- *Use of your own calculator is required*
- *Constants and conversion factors will be provided but formulas will not*
- *You are allowed to bring one letter size paper with anything written on both size.*
- *There are no makeup exams.*

Homework – *written assignments designed to supplement and reinforce course material*

- Homework is assigned after each lecture and must be turned in at the beginning of the lecture on the due date to gain credit
- A homework question receives full credit only if the answer is correct and includes correct units.
- A homework question receives ½ credit if an honest attempt was made to find the solution.
- You must show your work explicitly and neatly as answers without work shown will receive no credit.

Quizzes – in class evaluation

- *Simple multiple choice quizzes will be given at the beginning of each lecture.*

- They will be based on lecture material

Labs

Each week, starting with the second week of classes, there is a lab that illustrates the material covered in lectures. You are responsible to read information from the lab manual and complete the Pre-lab assignment. There are no makeup labs.

Grading Matrix:

Instrument	Value (points or percentages)	Total
Homework	Each homework is graded out of 10 points	10 %
Quizzes	Each quiz is graded out of 5 points	5 %
Labs	Labs are graded out of 20 points each	20 %
Exams	3 exams 15 points each	45 %
Final Exam	Exam is graded out of 20 points	20 %
Total:		100 %

Grade Determination:

- A = 90% or better
- B = 80 – 89 %
- C = 70 – 79 %
- D = 60 – 69 %
- F = less than 60%

University Policies and Procedures

Students with Disabilities (ADA Compliance):

The University of North Texas Dallas faculty is committed to complying with the Americans with Disabilities Act (ADA). Students' with documented disabilities are responsible for informing faculty of their needs for reasonable accommodations and providing written authorized documentation. For more information, you may visit the Office of Disability Accommodation/Student Development Office, Suite 115 or call Laura Smith at 972-780-3632.

Student Evaluation of Teaching Effectiveness Policy:

The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider the SETE to be an important part of your participation in this class.

Assignment Policy:

Homework will be assigned weekly and due by Monday (at the beginning of lecture). No late homework will be accepted. Lowest 2 quizzes, 1 lab, and 2 homework scores are dropped when computing final course grade.

Exam Policy:

Exams should be taken as scheduled. No makeup examinations will be allowed except for documented emergencies (See Student Handbook).

Academic Integrity:

Academic integrity is a hallmark of higher education. You are expected to abide by the University's code of conduct and Academic Dishonesty policy. Any person suspected of academic dishonesty (i.e., cheating or plagiarism) will be handled in accordance with the University's policies and procedures. Refer to the Student Code of Conduct at http://www.unt.edu/csrr/student_conduct/index.html for complete provisions of this code.

Bad Weather Policy:

On those days that present severe weather and driving conditions, a decision may be made to close the campus. In case of inclement weather, call UNT Dallas Campuses main voicemail number (972) 780-3600 or search postings on the campus website www.unt.edu/dallas. Students are encouraged to update their Eagle Alert contact information, so they will receive this information automatically.

Attendance and Participation Policy:

The University attendance policy is in effect for this course. Class attendance and participation is expected because the class is designed as a shared learning experience and because essential information not in the textbook will be discussed in class. The dynamic and intensive nature of this course makes it impossible for students to make-up or to receive credit for missed classes. Attendance and participation in all class meetings is essential to the integration of course material and your ability to demonstrate proficiency. Students are responsible to notify the instructor if they are missing class and for what reason. Students are also responsible to make up any work covered in class. It is recommended that each student coordinate with a student colleague to obtain a copy of the class notes, if they are absent.

Diversity/Tolerance Policy:

Students are encouraged to contribute their perspectives and insights to class discussions. However, offensive & inappropriate language (swearing) and remarks offensive to others of particular nationalities, ethnic groups, sexual preferences, religious groups, genders, or other ascribed statuses will not be tolerated. Disruptions which violate the Code of Student Conduct will be referred to the Center for Student Rights and Responsibilities as the instructor deems appropriate.