

University of North Texas at Dallas
Spring 2016
SYLLABUS

PHYS 1420, General Physics II, 3hrs	
Department of	Life and Health Sciences
Division of	Liberal Arts and Life Sciences
Instructor Name:	Dr. Eric Strong
Office Location:	
Office Phone:	972.238.8911
Email Address:	Eric.Strong@untdallas.edu
Office Hours:	Tuesday, 7- 8pm
Virtual Office Hours:	
Classroom Location:	DAL2, Room 337 for Lecture, DAL2, Room 248 for Laboratory Exercises
Class Meeting Days & Times:	TR 5:30-6:50 PM for Lecture, Th 7-9:50pm for Laboratory Exercises
Course Catalog Description:	Non-calculus based physics sequence suitable for life sciences majors and preprofessional students. Principles and applications of electricity, magnetism, optics, and atomic physics.
Prerequisites:	Proficiency in algebra and trigonometry
Co-requisites:	None.
Required Text:	Knight, Jones, & Field; College Physics, A Strategic Approach (3rd edition); Published Jan 2014; ISBN-13: 978-0321879721; Addison-Wesley (Pearson)
Recommended Text and References:	
Access to Learning Resources:	UNT Dallas Library: phone: (972) 780-3625; web: http://www.unt.edu/unt-dallas/library.htm
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	
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	Students should develop effective problem-solving skills <ul style="list-style-type: none"> • Satisfactorily solve standard textbook problem • Develop the ability to solve multi-step or multi-concept problems
3	Develop student cognitive attitudes: <ul style="list-style-type: none"> • See physics as a coherent framework of ideas that can be used to understand the world around us. • See what they are learning in the classroom as useful and strongly connected to the real world • Have the laboratory skills for the analysis of physical systems including data and error analysis, instrumentation, statistics and dimensional analysis.
4	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

	<u>Date</u>	<u>Lecture</u>	<u>Homework</u>	<u>Lab</u>
Week 1	Tuesday 19Jan16	Course Introduction Ray Optics (Chapter 18)	Chapter 18: p594-597 Q: 12, 17-19, 21; P: 1, 10, 14, 20, 32, 34, 44	Lab Safety
	Thursday 21Jan	Ray Optics, continued (Chapter 18)	Chapter 18: p595-598, Q: 20,22, 26; P: 5, 18, 38, 40, 42	
Week 2	Tuesday 26Jan	Electric Fields and Forces (Chapter 20)	Chapter 20: TBD	TBD
	Thursday 28Jan	Electric Fields and Forces (Chapter 20)	Chapter 20: TBD	
Week 3	Tuesday 2Feb	Electric Potential (Chapter 21)	Chapter 21: TBD	TBD
	Thursday 4Feb	Electric Potential (Chapter 21)	Chapter 21: TBD	
Week 4	Tuesday 9Feb	Current and Resistance (Chapter 22)	Chapter 22: TBD	TBD
	Thursday 11Feb	Circuits (Chapter 23)	Chapter 23: TBD	
Week 5	Tuesday 16Feb	Circuits (Chapter 23)	Chapter 23: TBD	TBD
	Thursday 18Feb	Magnetic Fields and Forces (Chapter 24)	Chapter 24: TBD	
Week 6	Tuesday 23Feb	Exam #1 (Chapters 18-24)	None.	TBD
	Thursday 25Feb	Magnetic Fields and Forces, continued (Chapter 24)	Chapter 24: TBD	
Week 7	Tuesday 1Mar	Electromagnetic Induction (Chapter 25)	Chapter 25: TBD	TBD
	Thursday 3Mar	Electromagnetic Induction, continued (Chapter 25)	Chapter 25: TBD	
Week 8	Tuesday 8Mar	AC Electricity (Chapter 26)	Chapter 26: TBD	TBD
	Thursday 10Mar	Review for Exam #2	Prepare for Exam #2	

	<u>Date</u>	<u>Lecture Preparation</u>	<u>Homework Assigned</u>	<u>Lab</u>
	14-18Mar	Spring Vacation – Class does not meet		
Week 9	Tuesday 22Mar	Exam #2	None.	TBD
	Thursday 24Mar	AC Electricity, continued (Chapter 26)	Chapter 26: TBD	
Week 10	Tuesday 29Mar	Relativity (Chapter 27)	Chapter 27: TBD	TBD
	Thursday 31Mar	Relativity, continued (Chapter 27)	Chapter 27: TBD	
Week 11	Tuesday 5Apr	Quantum Physics (Chapter 28)	Chapter 28: TBD	TBD
	Thursday 7Apr	Quantum Physics, continued (Chapter 28)	Chapter 28: TBD	
Week 12	Tuesday 12Apr	Atoms and Molecules (Chapter 29)	Chapter 29: TBD	TBD
	Thursday 14Apr	Review for Exam #3	Prepare for Exam #3	
Week 13	Tuesday 19Apr	Exam #3	None.	No Lab
	Thursday 21Apr	Nuclear Physics (Chapter 30)	Chapter 30: TBD	
Week 14	Tuesday 25Apr	Nuclear Physics, continued (Chapter 30)	Chapter 30: TBD	No Lab
	Thursday 28Apr	TBD	TBD	
Week 15	Tuesday 3May	TBD	TBD	No Lab (Dead Week)
	Thursday 5May	Course Review	Prepare for Final Examination	
Finals Week	Tuesday TBD	FINAL EXAMINATION (Comprehensive)		

Course Evaluation Methods

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

Examinations – *written tests to measure knowledge of material presented in lecture and laboratory exercises.*

- *There will be three exams and one comprehensive final exam.*
- *Exams are closed book.*
- *Use of a student supplied calculator is permitted.*
- *You are permitted both sides of one letter size sheet of paper (8.5" by 11") containing written or typed notes.*
- *There are no makeup exams.*

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

- *Homework is assigned for lecture and must be turned in at the beginning of the next lecture.*
- *You must show your work explicitly and neatly as answers without work shown will receive no credit.*

Quizzes – *short multiple-choice quiz to measure student's preparation for the lecture*

- *They will be based on the material for that day's lecture.*

Laboratory Exercises

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 prior to the lab. There are no makeup labs

Grading Matrix:

Instrument	Value (points or percentages)	Total
Homework	10 points for each assignment	15%
Laboratory	25 points for each Lab	20%
Exam 1		15 %
Exam 2		15 %
Exam 3		15 %
Final Examination		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. Grades assigned before an accommodation is provided will not be changed as accommodations are not retroactive. For more information, you may visit the Student Life Office, Suite 200, Building 2 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 assignments are due at the beginning of class.

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 Academic Integrity 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 Academic Integrity at <http://www.unt.edu/unt-dallas/policies/Chapter%2007%20Student%20Affairs,%20Education,%20and%20Funding/7.002%20Code%20of%20Academic%20Integrity.pdf> for complete provisions of this code. In addition, all academic work submitted for this class, including exams, papers, and written assignments should include the following statement:

On my honor, I have not given, nor received, nor witnessed any unauthorized assistance that violates the UNTD Academic Integrity Policy.

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 Office of Student Life as the instructor deems appropriate.