



General Physics II 1402.882 FE

Course Syllabus: Summer II 2019

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"Northeast Texas Community College exists to provide responsible, exemplary learning opportunities."

| Office Hours | Monday | Tuesday | Wednesday | Thursday | Friday | Online |
|--------------|-----------------------------|----------------------------|-----------------------------|-----------------------------|-----------------------------|--------|
| | 10:00 –11:00 6:00 – 8:30 | 10:00 –11:00 6:00 –8:30 | 10:00 –11:00 6:00 – 8:30 | 10:00 –11:00 6:00 – 8:30 | 10:00 –11:00 6:00 – 8:30 | |

The information contained in this syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

Catalog Course Description: 4 credit hours.

Prerequisite: PHYS 1401

This course is for pre-dental, biology, pre-medical, pre-pharmacy, pre-architecture majors, and other students who need a two-semester technical course in physics. Topics include electricity, magnetism, and modern physics.

Required Textbook(s):

This course will utilize Webassign online resources for homework and exams. Access to the assignments and the electronic copy of the textbook Serway and Vuille, *College Physics*, Tenth Edition, Cengage Learning, Stamford, CT, 2015 is provided by access to Webassign on the internet.

Publisher: Cengage Learning

ISBN Number: 978-1-285-73702-7

Calculator: You will need a scientific calculator or graphing calculator for this class.

Student Learning Outcomes:

Upon successful completion of this course, students should (1) *understand qualitative concepts*, and (2) *solve trigonometric problems* of physics relating to:

1402.1 Electric charge, electric fields, electric potential, electric potential energy, potential difference, Coulomb's Law, and Gauss' Law

1402.2 Electric circuits, electric power, capacitance, resistance, Ohm's Law, Kirchhoff's Rules

1402.3 Magnetism, magnetic fields, magnetic force, Ampere's Law, Faraday's Law, Lenz's Law

1402.4 Electromagnetic waves, reflection, Snell's Law, Brewster's Law, lenses, diffraction

1402.5 Modern physics including atomic physics, nuclear physics, quantum mechanics, and relativity.

1402.6 Upon successful completion of this course, students should understand physics laboratory techniques to collect, manipulate, analyze, and draw conclusions from data representing physical phenomenon while working individually and in teams.

Core Curriculum Purpose and Objectives:

Through the core curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world; develop principles of personal and social responsibility for living in a diverse world; and advance intellectual and practical skills that are essential for all learning. Courses in the foundation area of mathematics focus on quantitative literacy in logic, patterns, and relationships. In addition, these courses involve the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experience.

College Student Learning Outcomes:

Critical Thinking Skills

CT.1 Students will demonstrate the ability to 1) analyze complex issues, 2) synthesize information, and 3) evaluate the logic, validity, and relevance of data.

Communication Skills

CS.1 Students will effectively develop, interpret and express ideas through written communication.

Empirical and Quantitative Skills

EQS.1 Students will manipulate numerical data or observable facts by organizing and converting relevant information into mathematical or empirical form

EQS.2 Students will analyze numerical data or observable facts by processing information with correct calculations, explicit notations, and appropriate technology.

Teamwork

TW.1 Students will consider different viewpoints as a member of a team and work with others to support and accomplish a shared goal.

Lectures & Discussions:

Chapter 15: Electric Forces and Electric Fields

Chapter 16: Electrical Energy and Capacitance

Exam #1

Chapter 17: Current and Resistance

Chapter 18: Direct-Current Circuits

Exam #2

Chapter 19: Magnetism

Chapter 20: Induced Voltages and Inductance

Chapter 21: Alternating-Current Circuits and Electromagnetic Waves

Exam #3

Chapter 22: Reflection and Refraction of Light

Chapter 23: Mirrors and Lenses

Chapter 24: Wave Optics

Chapter 25: Optical Instruments

Chapter 26: Relativity

Chapter 28: Atomic Physics

Chapter 29: Nuclear Physics

Final Exam

Evaluation/Grading Policy:

Homework will represent 15% of your grade. Laboratory exercises on Blackboard will represent 10% of your grade. There will be 3 Unit Exams and a comprehensive Final Exam. The average of the exams will represent 75% of your grade. NTCC policy requires that 40% of the final grade in an online course be completed in a proctored setting, therefore the Unit 2 and Unit 3 Exam as well as the Final Exam will be administered in a proctored facility of your choice. Testing centers at other colleges and universities may access a fee. The letter grading system is: A (90-100%), B (80-89%), C (70-79%), D (60-69%), F (0-59%).

Online assignments are graded homework exercises posted on Webassign.

Homework problems can be reworked up to five times.

The last grade earned for each homework assignment will be posted for the final grade. There are no make-up assignments.

Online exams are each available on the website at scheduled times.

The final exam covers all of the course material and must be taken in a proctored testing center location.

Only one attempt is allowed for each online exam.

Make-up exams will be available in a proctored testing center location as needed. Course averages do not reflect 0's for missing exams until the final average is calculated. Course averages will be updated after each exam.

NTCC Academic Honesty Statement:

"Students are expected to complete course work in an honest manner, using their intellects and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. NTCC upholds the highest standards of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook."

Academic Ethics

The college expects all students to engage in academic pursuits in a manner that is beyond reproach. Students are expected to maintain complete honesty and integrity in their academic pursuit. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. Refer to the student handbook for more information on this subject.

ADA Statement:

It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to arrange an appointment with a College counselor to obtain a Request for Accommodations form. For more information, please refer to the NTCC Catalog or Student Handbook.

Family Educational Rights And Privacy Act (Ferpa):

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

6 Drop Rule:

“Students who enrolled in Texas public institutions of higher education as first-time college students during the Fall 2007 term or later are subject to section 51.907 of the Texas Education Code, which states that an institution of higher education may not permit a student to drop (withdraw with a grade of “W”) from more than six courses. This six-course limit includes courses that a transfer student has previously dropped at other Texas public institutions of higher education if they fall under the law. Students should be sure they fully understand this drop limit before they drop a course. Please visit the admissions office or counseling/advising center for additional information and assistance.”

Other Course Policies:

The college’s official means of communication is via your campus email address. I will use your campus email address and Blackboard to communicate with you outside of class. Make sure you keep your campus email cleaned out and below the limit so you can receive important messages