

alg Physics I-1230 Syllabus Fall 2023

Clifton Murray (Dr., Mr., Professor)—UNM-Valencia

Prerequisites: Completion of Math 1240 (PreCalc) or Math1250 (Trig and Precalc) or Math 1430 (Applications of Calc I) or Math 1512 (Calc I) with a C or higher, or Accuplacer Math score 284-300, or Math ACT 28+ , or Math SAT 640-699.

Class meets: In Person Tuesdays & Thursdays 3:00-4:15 p, UNM-Valencia Arts & Sciences Bldg Rm A126

Credit Hours: 3 credit hours. It is recommended you plan to spend at least 6 hours per week for homework and study.

Instructor's Help Hours: MW 1:30-3:15p; T 4:15-5:15p; Th 11:45a-12:15p, 4:15-5:45p, or by appointment wcmurray@unm.edu, 505-925-8727

Useful things:

Textbook: *College Physics 8th ed. Vol One—Mechanics, Thermodynamics, Waves* by Wilson, Buffa, & Lou.

Calculator: Scientific type. Needed Immediately. (If it will do powers-of-ten numbers and has the basic trig functions sin, cos, and tan, it's scientific.). Basic scientific calculators are not very expensive—examples include the TI-30 series and Casio fx series--basic will do everything you need in Physics I & II.

Disabilities: If you have a documented disability that will interfere with learning, please contact UNM-Valencia Student Services, 505-925-8560, <https://valencia.unm.edu/students/student-services.html>

Academic Dishonesty: From the UNM-Valencia Catalog: “Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, including dismissal, against any student who is found responsible for academic dishonesty. Any student who has been judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.” “Academic dishonesty” includes, but is not limited to, “dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others...” See <http://pathfinders.unm.edu/campus-policies/academic-dishonesty.html>

Disruptive Behavior: Any behavior which interferes with other students' education. Examples include loud talking/laughing which require repeated warnings from the instructor, making fun of other students' answers in class, making derisive or sarcastic comments toward the instructor during class, etc. Continued disruptive or unruly behavior will result in the student's being dropped from the course.

Any *Sexual Misconduct or Gender Discrimination* brought to the professor's attention must be reported by the instructor to UNM's Office of Equal Opportunity and Title IX Coordinator. For information regarding what comprises sexual misconduct, see <http://policy.unm.edu/university-policies/2000/2740.html>

Attendance will be taken and will be a factor considered at semester's end if you are borderline between two grades. After five accumulated absences, a student may be dropped from the course altogether. (If you have an emergency or work conflict, contact the professor about options.)

Missed Test: Default policy is No Makeup Tests. For genuine emergencies, the professor may, at his discretion, make exceptions. No 2nd makeups will be given. (For unavoidable and pre-planned absences, consult with the Instructor; we may be able to arrange an *early* test without penalty.)

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Homework: Chapter homeworks are due at the start of class on Review days, done in your own handwriting, **grouped (stapled) BY CHAPTER**. Do not put problems from two different chapters on the same page. Even though some chapters problems may be split across two class days on the Calendar accompanying this document, do Not split the chapter at turn-in. Clearly separate problems, and clearly demarcate them—with an extra **BIG** main prob # (e.g. **7, 13, 21** a), b), c) etc. (do NOT make a,b,c extra big). A **Sketch** is expected (required) on all homework problems having to do with a physical or geometric situation—and nearly all problems are that way.

Late homework: minus 50% for first class day late; Zero % (not accepted) after that.

Grading :

| Accomplishment | Maximum possible points |
|---|-------------------------|
| 5 tests, worth 100 points each | 500 |
| Homework: Scaled to max possible of | 100 |
| Drop lowest one score of tests or homework | -100 |
| Final Exam* (comprehensive; score not dropped): | <u>150</u> |
| Maximum possible course total: | 650 |

***Note: Minimum Final Exam Score to pass course = 70%.**

x : end-of-semester score

| | |
|-----------------------|--|
| $634 \leq x \leq 650$ | A+ (unless a test is missed or homework score is less than 70%). |
| $601 \leq x < 634$ | A (unless a test is missed). |
| $585 \leq x < 601$ | A- |
| $569 \leq x < 585$ | B+ |
| $536 \leq x < 569$ | B |
| $520 \leq x < 536$ | B- |
| $504 \leq x < 520$ | C+ |
| $471 \leq x < 504$ | C |
| $455 \leq x < 471$ | C- *Note Below* |
| $390 \leq x < 455$ | D |
| $x < 390$ | F |

*Depending on your program of study, a C- may not meet the prerequisite for a future course or degree; for example, a C- does not qualify you to enroll in Physics II/1240. It is your responsibility to know what minimum grade you need for your individual academic pursuit.

Something else that might be Helpful: Tutoring may be available, for free, at the Tutoring Center. If interested, check out UNM Valencia Campus Tutoring Services: <http://valencia.unm.edu/campus/resources/the-learning-center/learning-center.html>.

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Course Learning Objectives:

By semester's end, you should be able to demonstrate that you understand and can solve quantitative problems involving:

- units of measure, and how to convert between units.
- constant-speed and accelerated motion in one and two dimensions (kinematics), including free-fall situations
- forces, esp. net force, as the cause of changes in motion (dynamics)
- the first, second, and third laws of motion
- the law of gravitation
- mechanical energy
- linear momentum
- circular motion, especially centripetal acceleration and force
- rotational motion, including torque, rotational kinetic energy, and angular momentum;
- vibrational and wave motion;
- sound;
- fluid pressure and fluid flow;
- thermal energy, heat and thermodynamics.

