

Physics 1501: Fundamentals of Physics I

Fall 2022: CRN 40487

Description: Topics include kinematics, forces, energy, momentum, rotational kinematics, torque, angular momentum, simple harmonic motion, and mechanical waves, fluids, sound. Not recommended for mathematics, chemistry, physics, or engineering majors.

Prerequisites: C or better in MATH 1507 or MATH 1510 and MATH 1511, or readiness for MATH 1571 or equivalent, or at least level 40 on the Mathematics Placement Test.

This course is a General Education course in the Natural Sciences Domain and emphasizes General Education goals.

Learning Outcomes:

Goal 1: Learn basic physical principles and their application.

Goal 2: Develop critical reasoning skills and quantitative reasoning skills through problem solving involving algebra.

Textbook: A. Giambattista, B. M. Richardson and R. C. Richardson, “*College Physics*” (McGraw Hill, NY) 7th edition, (2014).

Supplemental references available upon request.

Attendance: Attendance will be recorded, usually each class period in the form of a short online question pertinent to the class. There will be no makeups for exams, quizzes, and in class work that counts toward your grade, and so it is imperative that you are in class and ready to participate fully. The class will meet in room 2000 of Ward Beecher Hall at 12-1pm, MTW &F.

As the term progresses you will occasionally be asked to give feedback in the form of a self-assessment as to what is and isn't working well for your learning. It is the instructor's sincere hope to use these to emphasize and revisit topics that are identified through this mechanism to be particularly elusive to mastery.

Homework: In addition to book problems we will be using a FREE online homework site (written and managed by your instructor). By going to the class website (below) and logging in to that week's homework script, each student receives a unique problem set. A student is allowed multiple attempts (~5) at answering each question to receive full credit and can continue trying up to 10 times to receive partial credit. The online homework will also give you some immediate feedback and you will typically be given between 4-7 days to complete each online homework.

There are many options if you get stuck on a problem. **Please work together!** You will learn as much from each other, struggling through these problems together, as you will from me! **Check the course blog for hints.** After hours e-mailing your instructor with a question or to ask for a hint to get unstuck has turned out to be a very natural way to get timely aid. Sometimes sending a photograph of your written work also helps.

For the book problems, the answers to the odd numbered problems are in the back of the book, and of course, you can always Chegg the rest...DON'T DO IT, 'CAUSE YOU WON'T REALLY LEARN!! Clearly since each person has different numbers for each problem, I can pretty easily tell who has used Chegg and I will catch you and kick you out of the class for cheating (see Academic Integrity statement below). Chegg (and their ilk) = cheating.

Of course, your instructor will often provide on-line answer keys after the due date of the assignment. Since many of these questions (both from the online homework and from the book) will be the basis of quiz and exam problems it is really essential that YOU WORK through ALL of the assigned problems *and other ones like them in your book!*

Chapter Quizzes: There will be chapter quizzes, typically a few days after we finish a chapter (or two or so) in lecture. It will be announced before hand and there will not be a quiz for every chapter.

Each quiz will take about 30 minutes, and will test conceptual and analytical mastery of the chapter material. No cheat sheet (see below) will be allowed for these smaller in-class quizzes. Answer keys will be made available immediately to you on the course web site or in your hand on paper as you leave the quiz. The quiz problems and the assigned homework are likely to overlap significantly. There will be about 3-5 quizzes over the course of the semester.

There will be no make up quizzes and no surprise quizzes. There will be no exceptions to this rule. Most of the quizzes will happen on Wednesday or Friday.

Midterms: There will be three midterms; Each of these midterms will be a full class period (50 minutes) long. They are all closed book, though you will be allowed one 8'-by-11' inch "cheat sheet" (both sides) that you will sign and hand in with you exam. The midterm dates are

Friday, Sept. 23 (on chapters 1 through 3);

Friday, Oct. 21 (emphasizing chapters 4,5 and maybe 6) , and

Friday, Nov. 18 (emphasizing chapters 6, 7 and 8).

There will be no make up exams. If you miss one for a valid excuse (which must be agreed upon with the professor *before* the exam) the average of your other two exams will count as the missed exam.

Final Exam: The comprehensive final exam will cover chapters 1 through 9, and chapters 11 and 12. It will be a two hour exam on, Wednesday, Dec. 14, 10:30-12:30

Grading policy: Each midterm is worth 100 points. The quizzes will be averaged to a 100 point score (thus they will be worth approximately 25 points each), and the concept/attendance quizzes will account for about 50 points. The homework will also be averaged into a 300 point score. The final exam will count for 250, leading to a total of 1000 points.

The resulting grading scale will be

850+ A

750-850 B

600-750 C

500-600 D

500- F

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e-mail: dcphn@gmail.com ... **please do not use my YSU e-mail as I find it very clunky and check it only about once a week.**

Office Hours: Mondays 9-10 and 4-5, Wednesdays 9-10am and 3-4pm, and Fridays 8-9am, but any day also by appointment!

Course Web Site: go to <http://mjrcrescimanno.people.yzu.edu/> and pick the "PHYS 1501" link there.

What is on the web site? Everything...from the homework schedule, to the answer keys to lecture notes to (anonymous) grade sheets. Over the years of teaching this course students have generally found the web site useful.

University Policies:

University policies can be found online and provide you guidance on your rights as a student in this course. The links below take you directly to a specific policy. Should you have any questions about a policy, please do not hesitate to contact me using the information at the top of the syllabus.

(Online at <https://ysu.edu/institute-teaching-and-learning/syllabus-university-policies>)

Statement of Non-Discrimination from the University
Academic Integrity/Honesty
Student Accessibility
Incomplete Grade Policy
Attendance