SYLLABUS

ELEMENTS OF PHYSICS

spring 2022

Last modified: April 4, 2022

Course description: Physics 1010 *Elements of Physics* a is conceptual course in introductory physics for students majoring in fields other than science, mathematics, or engineering. The course covers scientific principles and quantitative relationships involving mechanics, energy, heat and temperature, waves, electricity and magnetism, and the theory of the atom. A laboratory provides hands-on experience with the principles of physics. The mathematical level of the course is kept to a minimum, with some limited use of algebra and geometry.

Course Goals:

- Provide students with an appreciation of the laws of physics and their implications for events in daily life
- Familiarize students with the process of developing and evolution of scientific concepts
- Increase students' ability for critical, abstract, and analytic thinking
- Help understand the workings of modern science and technology
- **Course format:** in-person instructions; the first two weeks of the semester all UConn classes are online-only

Lectures: MoWeFr 8:00AM – 8:50AM, in Gant West 002

Instructor: Michael Rozman

email:	michael.rozman@uconn.edu	
office hours:	Mo 3 PM – 4 PM in GS-119,	
	We 2 PM – 3 PM in BPB-130,	
	and by appointment	

- **Textbook:** *Physics: A Conceptual World View*, 7th edition, by L. D. Kirkpatrick and G. E. Francis – optional
- **Exams:** Three midterm class-time exams (aka hour exams, aka monthly exams), and a cumulative final exam. The exams are multiple-choice with questions involving both conceptual understanding and problem solving skills.

There will be no make-ups for missed hour exams. If you have an approved written explanation for your absence which documents an unforeseen medical or family emergency, then the grade you get on the final exam will be used for the missed hour exam.

Exam dates and approximate content:

Midterm I	Friday, February 18	Ch. 1–7
Midterm II	Friday, March 25	Ch. 11-13, 20
Midterm III	Friday, April 22	Ch. 21-23, 15
Final Exam	TBA	Cumulative

- **Quizzes:** Weekly quizzes are taken online at HuskyCT website. They are usually available on Monday and are due the following Thursday 11:59 pm US Eastern Time. The last quiz of the semester is available on the day of the last lecture of the semester. Due dates for quizzes are not extended to individual students (but may be extended to the whole class). Individual emergencies are covered by dropping the quiz with the lowest grade.
- **Class participation:** attendance of the lectures, review sessions, office hours; paying attention to the class rules, as specified in the syllabus and course announcements
- Laboratory: Laboratory is an essential and required part of the course.
- **Grading scheme:** Course grades are based on academic achievement as measured by your performance on examinations, quizzes, and laboratory exercises. The course grade will be calculated using the following scheme.

Lab	20%
Weekly Quizzes (quiz with the lowest grade dropped)	20%
Class Participation	5%
3 Midterms	35%
Final Exam	20%

Class schedule:

Week of	Lecture	Laboratory
Jan 17	Describing Motion, Ch. 2	No Lab
Jan 24	Explaining Motion, Ch. 3	No Lab
Jan 31	Momentum, Ch. 6; Energy, Ch. 7	The Scientific Method
Feb 7	Circular Motion, Ch. 4; Gravity, Ch. 5	Measurements in Physics
Feb 14	Structure of Matter, Ch. 11	Forces
Feb 21	States of Matter, Ch. 12	Motion
Feb 28	Thermal Energy, Ch. 13	Fluids
Mar 7	Electricity, Ch. 20	Heat
Mar 14	Spring Break	No Lab
Mar 21	Electric Current, Ch. 21	Illumination
Mar 28	Electromagnetism, Ch. 22	Electricity & Magnetism
Apr 4	Vibrations and Waves, Ch. 15, Ch. 22	Standing Waves
Apr 11	The Early Atom, Ch. 23	Atoms
Apr 18	The Modern Atom, Ch. 24	Lab Review
Apr 25	The Nucleus, Ch. 25	Lab Final

Communications: talking in person is the preferred method to communicate with the instructor; email is an option to schedule an appointment or to ask/answer a very short question.

- use your UConn email for class communications.
- please include the tag ``[phys 1010]'' (without quotes) in the subject of your email, e.g. "[phys 1010] midterm II review session".
- the subject line of your email should communicate exactly what the email is about so that the recipient can prioritize the email's importance without opening it. E.g. "[phys 1010] Tacoma bridge collapsed cannot come to the exam" would be a good email subject (assuming email existed in 1940...); "urgent", "important", "a question" are bad ones. Do not use your name as subject the sender name is

already visible as a part of email header.

- do not send emails with attachments or embedded graphics unless requested by the instructor.
- do not include commercial advertising into your emails
- **Student responsibilities and academic policies:** Students at the University of Connecticut are held to certain standards and academic policies. Review these important standards and policies the links are provided on the course website.