



Lincoln University

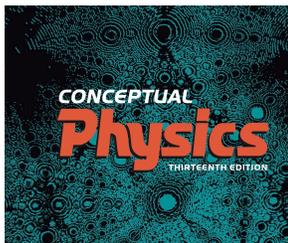
Sci 10 – Physical Science

COURSE SYLLABUS

Fall 2022

Professor: Dr. Andris Bune, PhD
Lecture Schedule: Monday, 3:30 PM – 6:15 PM,
Credits: 3 units (45 lecture hours)
Level: Introductory (I)
Office Hours: Via ZOOM by appointment.
e-mail: abune@lincolnuca.edu

Textbook: **Conceptual Physics,**
written and illustrated by Paul G. Hewitt.



Thirteenth edition. Pearson, 2021. *)

ISBN 9780135746264 (hardcover)

ISBN 9780135745847

written and illustrated by
Paul G. Hewitt
City College of San Francisco

*) previous editions of this book can be used as well



Last Revision: August 19, 2022

CATALOG DESCRIPTION

The study of matter and energy; principles and practical applications in physics, chemistry, mechanics, heat, sound, electricity, electronics, geosciences, and astronomy.
(3 units)

COURSE OBJECTIVES

To introduce students to the foundations of Physical Science, its major concepts, facts, phenomena, and measurements.

REQUIREMENTS

Continuous assessment is emphasized. Written or oral quizzes will be given every week. Reading and writing home tasks, problem solving, and “business case study” assignments will be made throughout the course. Students must complete all home tasks, other assignments, and take all quizzes, mid-term exam and final exam on the dates due. Zero tolerance to plagiarism and cheating is enforced. Plagiarism or cheating will result in grade “F” (with zero points) and a report to the administration.

ATTENDANCE

Students are expected to attend each class session. If you cannot attend class due to a valid reason, please notify the instructor prior to the class.

EXAMS

Both, midterm and final exams are multiple choice exams.

Exams will cover all assigned chapters, any additional readings or supplementary materials covered in class. The final exam is comprehensive, i.e. includes the whole course. The exams are neither “open book” nor “open notes.”

Cheating in exam results in immediate termination of the exam, grade “F” with ZERO points, and report to the dean.

The instructor reserves the right to replace the written exam with a verbal exam if finds appropriate.

GRADING AND SCORING

All activities will be graded according to the points as shown below.

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F
Points	93-100	90-92	87-89	83-86	80-82	77-79	73-76	70-72	67-69	60-66	0-59

In exams, every answer is graded by points from 0 to 100 and the total points for an exam are calculated as the average of the points received for all answers in the exam. A full and solid answer is graded with 95 points. Points 96-100 are reserved for extraordinary answers.

The final grade for the course will be given as the total weighted score for all activities according to the percentage shown in the table below.

Activity	Time	Percent
Classroom activities	Every day	30%
Mid-term exam	In the middle of the course	35%
Final exam	In two weeks after the course	35%

If both grades for the midterm and final exams are “F” the term grade for the course is “F” regardless of the grades for other activities.

MAKE-UP WORK

Assignments are to be completed on time during the course. Late assignments will result in a reduced grade. Mid-term and final exams and group presentations cannot be made up if missed unless there is a documented emergency.

CHEATING AND PLAGIARISM

Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving one's grade or obtaining course credit. Acts of cheating include, but are not limited to, the following:

- (a) plagiarism;
- (b) copying or attempting to copy from others during an examination or on an assignment;
- (c) communicating test information with another person during an examination;
- (d) allowing others to do an assignment or portion of an assignment;
- (e) using a commercial term paper service.

Penalties for cheating and plagiarism range from a 0 or F on an assignment, through an F for the course, to expulsion from the university. Anyone caught cheating or plagiarizing will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Dean of Students, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action.

COURSE SCHEDULE

Lectures		Topic	Chapters	
#	Date		Lectures	Textbook
1	22-Aug	Scientific Method. Physics. Units.	Ch. 1	Ch.1, App. A
2	29-Aug	Mechanics. Force and Motion	Ch. 2	Chs 2 to 5, App. D
-	5-Sep	Labor Day (Holiday) – no classes		
3	12-Sep	Work and Energy	Ch. 3	Chs 6 to 10
4	19-Sep	Properties of Matter	Ch. 4	Chs. 11 to 14
5	26-Sep	Temperature and Heat	Ch. 5	Chs. 15 to 18
6	3-Oct	Waves and Sound	Ch. 6	Chs. 19 to 21
7	10-Oct	Midterm Exam	Lectures: Chs. 1 to 6 Textbook: Chs, 1 to 21, App. A, D.	
8	17-Oct	Electricity.	Ch. 7	Chs 22 to 23
9	24-Oct	Electricity and Magnetism	Ch. 8	Chs 24 to 25
10	31-Oct	Optics	Ch. 9	Chs 26 to 31
11	7-Nov	Atomic and Nuclear Physics	Ch. 10	Chs 32 to 33
12	14-Nov	Nuclear Fission and Fusion	Ch. 11	Ch 34
13	21-Nov	Special Theory of Relativity	Ch. 12	Ch. 35
14	28-Nov	General Theory of Relativity. Final Conclusions.	Ch. 13	Ch. 36
15	5- Dec	Comprehensive Final Exam	Lectures: Chs. 1 to 13 Textbook: Chs, 1 to 36, App. A, D.	

OTHER COMMENTS

- Please participate. What you put into the class will determine what you get out of it – and what others get out of it. Please come on time.

- If you miss a class, you are responsible for getting notes/slide printouts on the material covered from a classmate or the instructor.
- To avoid distracting noise in class, cellular phones must be silenced.
- Questions and comments during the class are welcome. Do not hesitate to ask questions – do not leave anything unclear for you.

COURSE LEARNING OUTCOMES¹

	Course Outcome	Program LO	Institutional LO	Assessment
1	Students are expected to demonstrate the knowledge of the basic concepts and techniques of physics and the skills in solving physics problems.	PLO 1	ILO 1a, 2a, 3a	HW, Class assignments, class activity, tests
2	Students are expected to develop logic, application and interpretation of the most fundamental physics concepts. The class does not require previous knowledge of physics but requires the knowledge of college algebra, common sense and practical logic.	PLO 2	ILO 1a and 6a	HW, Class assignments, class activity, tests
3	Confidently communicate using physics symbols and terminology.	PLO 3		HW, Class assignments, class activity, tests.
4	Be able to choose an appropriate physics analysis for the type of data they plan to analyze, select an appropriate model, conduct and interpret the analysis, and write down the results.	PLO 4	ILO 1a, 2a, 5a	HW, Class assignments, class activity, tests

MODIFICATION OF THE SYLLABUS

The instructor reserves the right to modify this syllabus at any time during the semester. Announcements of any changes will be made in a classroom.

¹ Detailed description of learning outcomes and information about the assessment procedure are available at the [Center for Teaching and Learning](http://ctl.lincolnuca.edu) website (ctl.lincolnuca.edu).