



# Lincoln University

## Sci 10 – Physical Science

### COURSE SYLLABUS

Spring 2024

**Professor:** Dr. Andris Bune, Ph.D

**Lecture Schedule:** Monday, 3:30 PM – 6:15 PM (online)

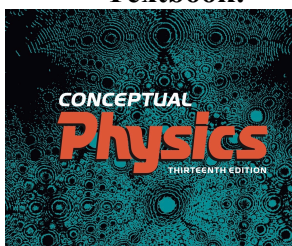
**Zoom:** <https://lincolnuca-edu.zoom.us/j/88261680185?pwd=233350>  
Meeting ID: 88261680185  
Passcode: 233350

**Credits:** 3 units (45 lecture hours)

**Level:** Introductory (I)

**Office Hours:** Via ZOOM by appointment.  
e-mail: [abune@lincolnuca.edu](mailto: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:** January 10, 2024

### 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

Please install ZOOM application provided by Lincoln University prior to the first lecture. 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.

Assignments and projects require students to actively use resources of the library and the Computer Lab. Detailed guide to business *resources of the library* as well as the description of Lincoln University approach to *information literacy* are available at the [LU Library website \(lincolnuca.libguides.com\)](http://lincolnuca.libguides.com).

## ATTENDANCE

Students are expected to attend each class session via ZOOM app. 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.

Grades	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 week	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 weekly, on time during the course. Late assignments will be not graded since answers will be discussed in class. Mid-term and final exams and 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-Jan	Scientific Method. Physics. Units.	Ch. 1	Ch.1, App. A
2	29-Jan	Mechanics. Force and Motion	Ch. 2	Chs 2 to 5, App. D
3	5-Feb	Work and Energy	Ch. 3	Chs 6 to 10
4	12-Feb	Properties of Matter	Ch. 4	Chs 11 to 14
-	19-Feb	President's Day – no classes		
5	26-Feb	Temperature and Heat	Ch. 5	Chs 15 to 18
6	5-Mar	Waves and Sound	Ch. 6	Chs 19 to 21
7	12-Mar	Midterm Exam	Lectures: Chs 1 to 6 Textbook: Chs 1 to 21, App. A, D.	
8	19-Mar	Electricity	Ch. 7	Chs 22 to 23
9	26-Mar	Electricity and Magnetism	Ch. 8	Chs 24 to 25
10	2-Apr	Optics	Ch. 9	Chs 26 to 31
11	9-Apr	Atomic and Nuclear Physics	Ch. 10	Chs 32 to 33
12	16-Apr	Nuclear Fission and Fission	Ch. 11	Ch. 34
13	23-Apr	Special Theory of Relativity General Theory of Relativity	Ch. 12	Ch. 35, Ch. 36
14	30-Apr	The Map of Physics Final Conclusions	Ch. 13	Chs 1 to 36
15	7-May	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. Use ZOOM built-in chat when possible.

**COURSE LEARNING OUTCOMES<sup>1</sup>**

	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.

<sup>1</sup> Detailed description of learning outcomes and information about the assessment procedure are available at the [Learning Outcomes Assessment](#) section of LU website.