LINCOLN UNIVERSITY
FALL 2017 COURSE SYLLABUS

Course Number:	**SCI 10**
Course Title:	**Physical Science**
Course Credit:	**3 Units (45 hours of lectures)**
Class Hours:	**Friday 9:00 to 11:45 AM**
Instructor:	**Chris T. Nguyen, Ph.D. (*)**

COURSE DESCRIPTION

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

This course introduces the basic Concepts, Principles, Laws, and Formula of fundamental Physics. It covers various topics such as Mechanics, Electricity and Magnetism, Heat, Sound, Light, Atomic Structure, etc. Experiments and applications related to fundamental Physics, and additionally, as mathematical tools, basic Functions such as Sin, Cos, Tan, Log and Exp are also introduced.

COURSE OBJECTIVES AND STUDENT LEARNING OUTCOMES

Upon satisfactory completion of this Course, the students will be able to:

- Understand simple physical phenomena happening around us
- Understand the basic Concepts, Principles, and Laws of Physics related to the topics introduced in Class
- Learn basic Mathematical Functions used in Physics
- Perform simple calculations using basic Formula in fundamental Physics
- Understand simple experiments performed in Fundamental Physics
- Understand simple applications based on Concepts, Principles and Laws of fundamental Physics related to topics such as Motions, Solids, Fluids, Gases, Electricity and Magnetism, Heat, Sound, Light, Atomic Structure…

INSTRUCTIONAL METHODS

Instructional methods will include Instructor lectures and educational material presentations. Classroom activities are collective – students may and should discuss with and help each other. The Instructor will be available to help students with all tutorials, assignments, and exercises. Students are expected to attend 45 hours of Lecture and to actively participate in Class discussions.

EVALUATION

1. WEEKLY Homework and Quiz: Written homework assignments will be given, and additionally unannounced Review Quizzes will be given during class time.
2. Class attendance and participation
3. MID-TERM Exam and FINAL Exam.

GRADING SCALE:

Class Attendance	10%
Homework & Quizzes	25%
Mid-Term Exam	25%
Final Exam	40%
	100%

90 - 100%	A
80 - 89%	B
70 - 79%	C
60 - 69%	D
Below 60%	F

To successfully complete this Course, the student must attend regularly the Lecture, pass the Quiz, Homework and Final Exam portions with a total score of 70% or higher.

RESOURCE MATERIALS

Textbook:
College Physics by Frederick J. Bueche, Ph.D., and Eugene Hecht, Ph.D.,
Schaum's Outline Series – McGraw-Hill, 11th edition (2011)
ISBN-10: **0071754873**, ISBN-13: **978-0071754873**

Additional Materials:
Handouts to be provided in class

CONTACT: cnguyen@lincolnuca.edu or chinguyen39@gmail.com
Home Phone: 510-489-8727 or Cell. Phone: 498-439-3448

OFFICE HOURS: Contact Dr. Chris T. Nguyen for appointment

(*) INSTRUCTOR AFFILIATIONS

- Member of AIUM (American Institute of Ultrasound in Medicine
- ASE (American Society of Echocardiography)
- HMS-PGA (Harvard Medical School Postgraduate Association)
- ISEECG (International Society of Electrocardiography)
- Member of CFA (California Faculty Association)
- A Reviewer for "Journal of Ultrasound in Medicine" since 2010 (3 times Distinguished Reviewer, top 5%)
- A Reviewer for "Journal of Ultrasound in Medicine and Biology" since 2006
- Advisory Editorial Board Member of the Journal of Ultrasound in Medicine and Biology (Third term).

(Updated: July 2017)

APPENDIX. Program and Institutional Learning Outcomes.

Institutional Learning Outcomes (ILOs)	
Graduates of the BA program of Lincoln University should be able to:	
1a	Develop the habits and skills necessary for processing information based on intellectual commitment, and using these skills to guide behavior.
2a	Raise important questions and problems, and formulate them clearly and precisely in oral or written communication
3a	Act with dignity and follow the principles concerning the quality of life of all people, recognizing an obligation to protect fundamental human rights and to respect the diversity of all cultures.
4a	Focus on individual and organizational benefits; communicate to co-workers and company's leadership in facilitation of collaborative environment; to be honest and transparent with regard to their work, and to be respectful of the work of others.
5a	Display sincerity and integrity in all their actions, which should be based on reason and moral principles; to inspire others by showing mental and spiritual endurance
6a	Show creativity by thinking of new and better goals, ideas, and solutions to problems; to be resourceful problem solvers.
7a	Define and explain the boundaries, divisions, styles and practices of the field, and define and properly use the principal terms in the field

Program Level Outcomes (PLOs)	
Students completing General Education courses in BA program will be able to:	
1	Demonstrate proficiency in college-level mathematics, English, sciences, humanities, and social sciences.
2	Represent mathematical information symbolically, visually, numerically, and verbally. Being able to interpret and apply arithmetical, algebraic, and geometric methods to solve problems.
3	Communicate effectively in multiple creative and academic writing genres by applying Standard American English.
4	Think critically and apply common sense in approaching and solving real-world problems.
5	Demonstrate proficiency in skills that sustain lifelong learning, particularly to think critically and responsibly in assessing, evaluating, and integrating information.
6	Understand the responsibilities of active citizenship, community engagement, and social responsibility.

Institutional Learning Outcomes (ILOs)	
Graduates of the BS program of Lincoln University should be able to:	
1a	Develop the habits and skills necessary for processing information based on intellectual commitment, and using these skills to guide behavior.
2a	Raise important questions and problems, and formulate them clearly and precisely in oral or written communication
3a	Act with dignity and follow the principles concerning the quality of life of all people, recognizing an obligation to protect fundamental human rights and to respect the diversity of all cultures.
4a	Focus on individual and organizational benefits; communicate to co-workers and company's leadership in facilitation of collaborative environment; to be honest and transparent with regard to their work, and to be respectful of the work of others.
5a	Display sincerity and integrity in all their actions, which should be based on reason and moral principles; to inspire others by showing mental and spiritual endurance
6a	Show creativity by thinking of new and better goals, ideas, and solutions to problems; to be resourceful problem solvers.
7a	Define and explain the boundaries, divisions, styles and practices of the field, and define and properly use the principal terms in the field

Program Level Outcomes (PLOs)	
Students completing General Education courses in BS program will be able to:	
1	Demonstrate proficiency in college-level mathematics, English, sciences, humanities, and social sciences.
2	Being able to interpret and apply arithmetical, algebraic, and statistical methods to solve problems
3	Communicate effectively in diagnostic field by applying Standard American English. Be able to use appropriate terminology accepted in DI field.
4	Think critically and apply common sense in approaching and solving DI and real-world problems.
5	Demonstrate proficiency in skills that sustain lifelong learning, particularly to think critically and responsibly. Be able to evaluate and integrate DI information.
6	Understand the responsibilities of active citizenship, community engagement, and social responsibility.
7	Develop basic understanding of bioethics' standards acceptable in the field of diagnostic imaging.